CUSD Board of Education
Regular Meeting Agenda

Marsh Junior High School, Multi-Purpose Room
December 14, 2016
CLOSED SESSION – 5:00 P.M.
REGULAR BOARD MEETING – 6:00 P.M.

Board Members
Eileen Robinson, President
Dr. Kathleen Kaiser, Vice President
Gary Loustale, Clerk
Elizabeth Griffin, Member
Linda Hovey, Member

Kelly Staley, Superintendent

This Agenda is Available at:
Chico Unified School District
1163 E. 7th Street
Chico, CA 95928
(530) 891-3000
Or Online at:
www.chicouesd.org

Posted: 12/09/16
The Chico Unified School District Board of Education welcomes you to this meeting and invites you to participate in matters before the Board.

INFORMATION, PROCEDURES AND CONDUCT OF CUSD BOARD OF EDUCATION MEETINGS

No disturbance or willful interruption of any Board meeting shall be permitted. Persistence by an individual or group shall be grounds for the Chair to terminate the privilege of addressing the meeting. The Board may remove disruptive individuals and order the room cleared, if necessary. In this case, further Board proceedings shall concern only matters appearing on the agenda.

CONSENT CALENDAR
The items listed on the Consent Calendar may be approved by the Board in one action. However, in accordance with law, the public has a right to comment on any consent item. At the request of a member of the Board, any item on the consent agenda shall be removed and given individual consideration for action as a regular agenda item. Board Policy 9322.

STUDENT PARTICIPATION
At the discretion of the Board President, student speakers may be given priority to address items to the Board.

PUBLIC PARTICIPATION FOR ITEMS ON THE AGENDA (Regular and Special Board Meetings)
The Board shall give members of the public an opportunity to address the Board either before or during the Board's consideration of each item of business to be discussed at a regular or special meetings.
- Speakers will identify themselves and will direct their comments to the Board.
- Each speaker will be allowed three (3) minutes to address the Board.
- In case of numerous requests to address the same item, the Board may select representatives to speak on each side of the item.

PUBLIC PARTICIPATION FOR ITEMS NOT ON THE AGENDA (Regular Board Meetings only)
The Board shall not take action or enter into discussion or dialog on any matter that is not on the meeting agenda, except as allowed by law. (Government Code 54954.2) Items brought forth at this part of the meeting may be referred to the Superintendent or designee or the Board may take the item under advisement. The matter may be placed on the agenda of a subsequent meeting for discussion or action by the Board.
- Public comments for items not on the agenda will be limited to one hour in duration (15 minutes at the beginning of the meeting and 45 minutes at the end of the meeting).
- Initially, each general topic will be limited to 3 speakers.
- Speakers will identify themselves and will direct their comments to the Chair.
- Each speaker will be given three (3) minutes to address the Board.
- Once 2 speakers have shared a similar viewpoint, the Chair will ask for a differing viewpoint. If no other viewpoint is represented then a 3rd speaker may present.
- Speakers will not be allowed to yield their time to other speakers.
- After all topics have been heard, the remainder of the hour may be used by additional speakers to address a previously raised issue.

WRITTEN MATERIAL:
The Board is unable to read written materials presented during the meeting. If any person intends to appear before the Board with written materials, they should be delivered to the Superintendent's Office or delivered via e-mail to the Board and Superintendent 10 days prior to the meeting date.

COPIES OF AGENDAS AND RELATED MATERIALS:
- Available at the meeting
- Available on the website: www.chousd.org
- Available for inspection in the Superintendent's Office prior to the meeting
- Copies may be obtained after payment of applicable copy fees

AMERICANS WITH DISABILITIES ACT
Please contact the Superintendent's Office at 891-3000 ext. 149 should you require a disability-related modification or accommodation in order to participate in the meeting. This request should be received at least 48 hours prior to the meeting in order to accommodate your request.

Pursuant to Government Code 54957.5, if documents are distributed to board members concerning an agenda item within 72 hours of a regular board meeting, at the same time the documents will be made available for public inspection at the Chico Unified School District, Superintendent's Office located at 1163 East Seventh Street, Chico, CA 95928 or may be viewed on the website: www.chousd.org.
CHICO UNIFIED SCHOOL DISTRICT BOARD OF EDUCATION
Regular Meeting – December 14, 2016
Closed Session – 5:00 p.m.
Regular Session – 6:00 p.m.
Marsh Junior High School, Multi-Purpose Building
2253 Humboldt Rd., Chico, CA 95928

AGENDA

1. CALL TO ORDER
   1.1. Public comment on closed session items

2. CLOSED SESSION
   2.1. Update on Labor Negotiations
        Employee Organizations:
        CUTA
        CSEA, Chapter #110
        CUMA
        Representatives:
        Kelly Staley, Superintendent
        Kevin Bultema, Asst. Superintendent
        Jim Hanlon, Asst. Superintendent
        Joanne Parsley, Asst. Superintendent

   Conference with Legal Counsel –
   Anticipated Litigation
   Per Subdivision (b) of Government
   Code §54956.9 (two cases)

If Closed Session is not completed before 6:00 p.m., it will resume immediately following the
regular meeting.

3. RECONVENE TO REGULAR SESSION
   3.1. Call to Order
   3.2. Report Action Taken in Closed Session
   3.3. Flag Salute

4. SWEARING IN CEREMONY
   4.1. Administer Oath of Office to Newly Elected Board Members of the Chico Unified School
        District, Elizabeth Griffin and Linda Hovey, by BCOE Superintendent Tim Taylor

5. ORGANIZATIONAL MEETING
   5.1. Elect President
   5.2. Elect Vice President
   5.3. Elect Clerk
   5.4. Appoint Secretary to the Board
   5.5. Set Date, Time and Place of Regular Meetings
   5.6. Agenda Layout

6. STUDENT REPORTS

7. SUPERINTENDENT’S REPORT AND RECOGNITION

8. ANNOUNCEMENTS

9. ITEMS FROM THE FLOOR

10. REPORTS FROM EMPLOYEE GROUPS REGARDING NEGOTIATIONS
    10.1. CSEA
    10.2. CUMA
    10.3. CUTA
    10.4. District

11. CONSENT CALENDAR
    11.1. GENERAL
    11.1.1. Consider Approval of Minutes of Regular Session on November 16, 2016
    11.1.2. Consider Approval of Items Donated to the Chico Unified School District
AGENDA: Regular Session - Board of Education – December 14, 2016

11.2. EDUCATIONAL SERVICES

11.2.1. Consider Expulsion of Students with the following IDs: 62152, 65739, 74067, 74871, 76185, 80554, 81906, 83161, 86432

11.2.2. Consider Approval of the Field Trip Request for Emma Wilson 5th Grade Trip to Shady Creek Environmental Camp from 05/22/17 to 05/26/17

11.2.3. Consider Approval of the Field Trip Request for Hooker Oak 5th Grade Trip to Whiskeytown Environmental Camp from 04/18/17 to 04/21/17

11.2.4. Consider Approval of the Field Trip Request for Sierra View 5th Grade Trip to Shady Creek Environmental Camp from 01/17/17 to 01/20/17

11.2.5. Consider Approval of the Field Trip Request for Chico High School A Cappella Choir to Attend the Disneyland Heritage Choral Festival in Anaheim, CA from 03/30/17 to 04/02/17

11.2.6. Consider Approval of the Field Trip Request for Chico High School Musical Theater Team to Attend the Junior Theater Festival West Coast in Sacramento, CA from 02/10/17 to 02/12/17

11.2.7. Consider Approval of the New Course Proposal – Expository Reading and Writing Course (ERWC)

11.2.8. Consider Approval of the New Textbook Proposals (2) for Expository Reading and Writing Course: Brave New World and Into the Wild

11.2.9. Consider Approval of the New Course Proposal – AP Psychology

11.2.10. Consider Approval of the New Textbook Proposal for AP Psychology: Myer's Psychology for AP

11.2.11. Consider Approval of the New Course Proposals (3) for Sequence of Band Classes: Concert Band, Symphonic Band, and Wind Ensemble


11.2.13. Consider Approval of the Proposed Name Change for Existing CTE Course from Medical Terminology and Intro Anatomy to Medical Terminology and Careers

11.2.14. Consider Approval of the New Course Proposal – Heroes Teach

11.2.15. Consider Approval of the New Textbook Proposal for Heroes Teach: Teaching

11.2.16. Consider Approval of the New Course Proposal – Fashion and Retail Merchandising

11.2.17. Consider Approval of the New Course Proposal – Biology and Sustainable Agriculture

11.2.18. Consider Approval of the New Course Proposal – Chemistry and Agriscience


11.2.20. Consider Approval of the New Course Proposal – Advanced Interdisciplinary Science for Sustainable Agriculture


11.2.22. Consider Approval of the New Course Proposal – Floral Design

11.3. BUSINESS SERVICES

11.3.1. Consider Approval of Accounts Payable Warrants

11.3.2. Consider Approval of Independent Contractor Agreements

11.3.3. Consider Approval of Contracts

11.3.4. Consider Approval of Nord Country School – Lot Line Adjustment
11.4. HUMAN RESOURCES
11.4.1. Consider Approval of Certificated Human Resources Actions
11.4.2. Consider Approval of Classified Human Resources Actions

12. DISCUSSION/ACTION CALENDAR
12.1. EDUCATIONAL SERVICES
12.1.1. Discussion/Action: College Readiness Block Grant Expenditure Plan (John Bohannon)
12.1.2. Discussion/Action: Extended School Year – Waiver Request (Eric Snedeker)

12.2. BUSINESS SERVICES
12.2.1. Discussion/Action: 2016-17 1st Interim Budget (Kevin Bultema)

12.3. HUMAN RESOURCES
12.3.1. Discussion/Action: Resolution 1359-16, Elimination of Classified Services and Ordering Layoffs in the Classified Service for the 2016-17 School Year (Jim Hanlon)

12.4. BOARD
12.4.1. Discussion/Action: Nomination of CSBA Delegate Assembly for Region 4-B (Eileen Robinson)
12.4.2. Discussion/Action: Approval of Revised/Updated/New Board Policies (Administration)
  0520.2 Title I Program Improvement Schools
  0520.3 Title I Program Improvement Districts
  1230 School-Connected Organizations
  1312.3 Uniform Complaint Procedures
  2121 Superintendent's Contract
  3230 Federal Grant Funds - New
  3311 Bids
  3320 Claims and Actions Against the District
  3513.3 Tobacco-Free Schools
  3541.2 Transportation for Students with Disabilities
  3555 Nutrition Program Compliance
  3580 District Records
  4112.2 Certification
  4113 Assignment
  5116.1 Intradistrict Open Enrollment
  5131.62 Tobacco
  5145.3 Nondiscrimination/Harassment
  5145.7 Sexual Harassment
  6173 Education for Homeless Children
  6179 Supplemental Instruction
  7220 California Environmental Quality Act (CEQA)
  9321 Closed Session Purposes and Agendas

13. ITEMS FROM THE FLOOR

14. ANNOUNCEMENTS

15. ADJOURNMENT
1. **CALL TO ORDER**
   At 5:00 p.m. Board President Robinson called the meeting to order at Marsh Jr. High School in the Multi-Purpose Building at 2253 Humboldt Rd. and announced the Board was moving into Closed Session.

   **Present:** Robinson, Kaiser, Loustale, Griffin, Hovey
   **Absent:** None

2. **PUBLIC COMMENT ON CLOSED SESSION ITEMS**
   There was no public comment.

3. **CLOSED SESSION**
   2.1. **Update on Labor Negotiations**
       Employee Organizations:

       Representatives:

       CUTA
       CSEA, Chapter #110
       Kelly Staley, Superintendent
       Jim Hanlon, Asst. Superintendent
       Joanne Parsley, Asst. Superintendent
       Kevin Bulterma, Asst. Superintendent

   2.2. **Conference with Legal Counsel – Anticipated Litigation**
       Per Subdivision (b) of Government Code §54956.9 (two cases)

3. **RECONVENE TO REGULAR SESSION**
   3.1. **Call to Order**
       At 6:05 p.m. Board President Robinson called the meeting to order.

   3.2. **Report Action Taken in Closed Session**
       Board President Robinson announced the Board had been in Closed Session and there was nothing to report.

   3.3. **Flag Salute**
       Board President Robinson led the salute to the flag.

4. **STUDENT REPORTS**
   At 6:06 p.m. Sierra View Principal Mele Benz introduced the following students who presented information on "The Leader in Me" program, a program which reinforces that every child can be a leader: Benjamin Montgomery, 3rd grade; Emily Pinck, 3rd grade; Jonathan Schweitzer, 5th grade; Zenya Anjum, 2nd grade; and Maggie Alexander-Graff, 2nd grade.

   Board Clerk Loustale announced Board Meetings are being live streamed and could be followed on our website at: [https://www.youtube.com/channel/UCLYGEm0fOSIBL3unlhjQfpw](https://www.youtube.com/channel/UCLYGEm0fOSIBL3unlhjQfpw)

5. **SUPERINTENDENT'S REPORT AND RECOGNITION**
   At 6:15 p.m. Superintendent Staley thanked the community for passing Measure K and stated the 70% approval says a lot about how much our community supports our schools. She thanked Assistant Superintendent Kevin Bulterma and Director Julie Kistle for their work in spearheading the campaign. Superintendent Staley announced she had attended the Chico Police Department Press conference this morning regarding acts of violence due to the national election and wanted to assure parents and the community that CUSD along with the Chief of Police, the Butte County Sheriff's Office, the Butte County District Attorney's Office, and all Butte County law enforcement have made a commitment to protecting the rights of every individual and will serve each of our communities with fairness and compassion. The Superintendent's Award was presented to: The Career Technical Education Team of Kristin Lower, Priscilla Burns, and Anita Homesley by Director John Bohannon; and to Manager Maria Campos by Director Julie Kistle. Board President Robinson stated after attending a CTE training recently, she was in awe of the amount and variety of programs offered, the teachers, and the coordination efforts.
6. **ANNOUNCEMENTS**

At 6:23 p.m. Board Vice President Kaiser announced several schools had participated in the Parade of Lights and photos are now posted on the Parade of Lights Facebook page. Board President Robinson wished to acknowledge the following supporters for their donations towards the new Kindergarten Playground at Chapman Elementary: The Love Chapmantown Community Coalition, Paul and Debra Abbot, Richelle Alisi, Annie B's Drive, Lois Ardell, Polly Bisaga, Chico Breakfast Lions Club, Chico Rotary Club, CSU Chico Students, Chico Velo, Discovery Shoppes, Adrienne Edwards, Carol Lincheld, North Valley Community Foundation, David O'Neil, Bryce Pulliam, Leslie Johnson, Safeway Foundation, Soroptimist International of Bidwell Rancho, John Staples, Stephen Tchudi, Susan Tchudi, Trucks-Roni, Mark Volstad, and Larry Wahl, along with the M&O team for installing.

7. **ITEMS FROM THE FLOOR**

At 6:27 p.m. Parent Ryan Tietz shared concerns about bicycle thefts at CHS and asked the Board to please consider fencing in an area on the campus for bicycles. Superintendent Staley thanked Mr. Tietz for his input and noted CUSD was reviewing this issue and would keep the Board and families updated.

8. **REPORTS FROM EMPLOYEE GROUPS REGARDING NEGOTIATIONS**

At 6:30 p.m. Assistant: Superintendent Jim Hanlon announced CUSD met with CSEA yesterday, will meet with CUTA tomorrow, and conversations have been very constructive.

9. **CONSENT CALENDAR**

At 6:31 p.m. Board President Robinson asked if anyone would like to pull a Consent Item for further discussion. Board Clerk Loustale pulled Item 9.2.5. Board Member Griffin moved to approve the remaining Consent Items; seconded by Board Vice President Kaiser.

9.1. **GENERAL**

9.1.1. The Board Approved the Minutes of Regular Session on October 19, 2016 and Special Meeting on November 2, 2016

9.1.2. The Board Approved the Items Donated to the Chico Unified School District

9.2. **EDUCATIONAL SERVICES**

9.2.1. The Board Approved the Expulsion of Students with the following IDs: 60759, 65675, 71665, 74842, 80554

9.2.2. The Board Approved the Field Trip Requests (2) for Marigold and Sierra View 4th Graders to Attend Environmental Education in Monterey, CA from 05/16/17 to 05/19/17

9.2.3. The Board Approved the Field Trip Request for 5th Grade Students from Rosedale Elementary to Attend Science Camp at Shady Creek Camp from 02/21/17 to 02/24/17

9.2.4. The Board Approved the Field Trip Request for Student Exchange with Japan International Cooperation Center from 01/16/17 to 01/24/17

9.2.5. This item was pulled for further discussion.

9.3. **BUSINESS SERVICES**

9.3.1. The Board Approved the Accounts Payable Warrants

9.3.2. The Board Approved the Independent Contractor Agreements

9.3.3. The Board Approved the Contracts

9.3.4. The Board Approved the Superintendent or designee to enter into the Environmental Oversight Agreement with the Department of Toxic Substance Control (CTSC) for the Shasta Elementary School Expansion at 193 Leora Court

9.3.5. The Board Approved the Notice of Completion for Multiple Site Lighting Improvement Projects at: Parkview, Little Chico Creek, MJHS, Marigold, Loma Vista, PVHS, Neal Dow, McManus, FVHS, Shasta, CHS, Rosedale, Chapman, and the District Office.
9.4. **HUMAN RESOURCES**

9.4.1. The Board Approved the Certificated Human Resources Actions

<table>
<thead>
<tr>
<th>Employee</th>
<th>Assignment</th>
<th>Effective</th>
<th>Comment</th>
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</thead>
<tbody>
<tr>
<td>Fisher, Jamie</td>
<td>Secondary</td>
<td>8/30/16-6/07/17</td>
<td>0.2 FTE</td>
</tr>
<tr>
<td>Hiller, Angela</td>
<td>Elementary</td>
<td>8/30/16-6/07/17</td>
<td>0.6 FTE</td>
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<td>Mathrole, Robert</td>
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<td>Morrissey, Stacia</td>
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<td>Petersen, Angelee</td>
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<td>Ray, Katherine</td>
<td>Secondary</td>
<td>8/31/16-6/07/17</td>
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<tr>
<td>Taylor, Larry</td>
<td>Secondary</td>
<td>8/30/16-6/07/17</td>
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Probationary/Permanent Appointments – 2016/17

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<tr>
<td>Ferneau, Rachel</td>
<td>Elementary</td>
<td>8/16/16</td>
<td>1.0 FTE Probationary 1</td>
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Leave Requests – 2016/17

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<tr>
<td>Allen, Kelsey</td>
<td>Secondary</td>
<td>9/29/16-11/11/16</td>
<td>1.0 FTE Child Bonding</td>
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<tr>
<td>Winslow, Melanie</td>
<td>Elementary</td>
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<td>1.0 FTE Child Bonding</td>
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Resignations/Retirements

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<tr>
<td>Smith, Katherine</td>
<td>Elementary</td>
<td>8/626/16</td>
<td>Resigning 0.05 FTE of Probationary 0 position</td>
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9.4.2. The Board Approved the Classified Human Resources Actions

<table>
<thead>
<tr>
<th>ACTION NAME</th>
<th>CLASS/LOCATION/ASSIGNED HOURS</th>
<th>EFFECTIVE</th>
<th>COMMENTS</th>
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<tbody>
<tr>
<td>Alexander Graf, Kimberly</td>
<td>Instructional Assistant/Citrus/2.5</td>
<td>9/6/2016</td>
<td>New Position</td>
</tr>
<tr>
<td>Anderson, Sarah</td>
<td>Health Assistant/Neal Dow/5.0</td>
<td>8/29/2016</td>
<td>Vacated Position</td>
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<tr>
<td>Avalos Huerta, Mayra</td>
<td>Instructional Assistant/Chapman/2.0</td>
<td>8/31/2016</td>
<td>New Position</td>
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<td>Baker, Kelly</td>
<td>Parent Classroom Aide-Restr/Marigold/3.0</td>
<td>8/25/2016</td>
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<td>Barboza, Maria</td>
<td>IA-Bilingual/Citrus/4.0</td>
<td>9/6/2016</td>
<td>Vacated Position</td>
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<tr>
<td>Bates, Sierra</td>
<td>Sr Office Assistant/MJHS/2.0</td>
<td>8/18/2016</td>
<td>New Position</td>
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<tr>
<td>Bean, Emily</td>
<td>Parent Classroom Aide-Restr/Hooker Oak/2.5</td>
<td>8/18/2016</td>
<td>Vacated Position</td>
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<td>Belcher, Brenda</td>
<td>LT Sr Custodian/Loma Vista/8.0</td>
<td>7/1/2016-10/9/2016</td>
<td>During Absence of Incumbent</td>
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<td>Buenrostro, Deborah</td>
<td>IPS-Classroom/Emma Wilson/6.0</td>
<td>8/18/2016</td>
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<td>Campbell, Kimberly</td>
<td>Campus Supervisor/BJHS/1.0</td>
<td>8/19/2016</td>
<td>Vacated Position</td>
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<td>Carey, Sam</td>
<td>School Bus Driver 1/Transportation/5.5</td>
<td>8/18/2016</td>
<td>Existing Position</td>
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<td>Chantural-Woelbing, Shevinya</td>
<td>Elementary Guidance Specialist/Sierra View/3.0</td>
<td>8/29/2016</td>
<td>Vacated Position</td>
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<td>Collister, Tami</td>
<td>Registrar/FVHS/8.0</td>
<td>8/11/2016</td>
<td>Vacated Position</td>
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<td>Cummings, John</td>
<td>IA-Special Education/FVHS/5.0</td>
<td>9/15/2016</td>
<td>Vacated Position</td>
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<td>Instructional Assistant/McManus/1.0</td>
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<td>Esquerra, Cynthia</td>
<td>Cafeteria Assistant/MJHS/1.0</td>
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<td>Gizzi, Lynda</td>
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<td>9/6/2016</td>
<td>Vacated Position</td>
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<tr>
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<td>Position/Location</td>
<td>Date</td>
<td>Status</td>
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<td>Horgan, Erin</td>
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<td>9/6/2016</td>
<td>New Position</td>
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<td>Howard, Jennifer</td>
<td>Instructional Assistant/Chapman2.0</td>
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<td>Johnson-McPherson,</td>
<td>IA-Computers/FVHS/4.0</td>
<td>9/1/2016</td>
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<td>Monika</td>
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<td>Langston, Dennel</td>
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<td>9/6/2016</td>
<td>Vacated Position</td>
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<td>Lapp, Krista</td>
<td>Parent Classroom Aide-Restr/Hooker Oak/2.5</td>
<td>8/18/2016</td>
<td>Vacated Position</td>
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<td>Leone, Kimberly</td>
<td>Campus Supervisor/BJHS/2.0</td>
<td>8/18/2016</td>
<td>Vacated Position</td>
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<tr>
<td>Leone, Kimberly</td>
<td>School Bus Driver 1/Transportation/5.5</td>
<td>8/18/2016</td>
<td>Existing Position</td>
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<td>Long, Teresa</td>
<td>IA-Bilingual/Parkview/1.3</td>
<td>9/6/2016</td>
<td>Vacated Position</td>
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<td>Matthews, Amber</td>
<td>Cafeteria Cook Small School/MJHS/1.3</td>
<td>8/18/2016</td>
<td>New Position</td>
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<td>8/18/2016</td>
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<td>Mino, Mary</td>
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<td>New Position</td>
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<td>Morris, John</td>
<td>Grounds Worker/M &amp; O/8.0</td>
<td>8/16/2016</td>
<td>Existing Position</td>
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<td>Morton, Denise</td>
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<td>Oxford, Georgia</td>
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<tr>
<td>Phizackerly, Lisa</td>
<td>Parent Classroom Aide-Restr/Hooker Oak/3.0</td>
<td>8/19/2016</td>
<td>Vacated Position</td>
</tr>
<tr>
<td>Pisani, Debra</td>
<td>IPS-Healthcare/Loma Vista/3.0 &amp; 3.0</td>
<td>8/18/2016</td>
<td>Vacated Positions</td>
</tr>
<tr>
<td>Potoski, Dinah</td>
<td>LT School Bus Driver 2/Transportation/6.8</td>
<td>9/8/2016-11/18/2016</td>
<td>During Absence of Incumbent</td>
</tr>
<tr>
<td>Rojas, Isela</td>
<td>IA-Bilingual/McManus/4.0</td>
<td>8/18/2016</td>
<td>New Position</td>
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<tr>
<td>Rosales, Lidia</td>
<td>School Bus Driver 1/Transportation/5.8</td>
<td>8/18/2016</td>
<td>Existing Position</td>
</tr>
<tr>
<td>Rubio, Oscar</td>
<td>IA-Bilingual/Citrus/4.0</td>
<td>9/6/2016</td>
<td>New Position</td>
</tr>
<tr>
<td>Schell, Varlen</td>
<td>IA-Special Education/CHS/5.0</td>
<td>8/18/2016</td>
<td>Vacated Position</td>
</tr>
<tr>
<td>Soldano, Sun</td>
<td>School Office Manager/Citrus/8.0</td>
<td>8/18/2016</td>
<td>Vacated Position</td>
</tr>
<tr>
<td>Spini, Jared</td>
<td>IA-Special Education/MJHS/0.5</td>
<td>9/8/2016</td>
<td>New Position</td>
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<tr>
<td>Svahn, Kevin</td>
<td>IA-Special Education/CJHS/6.0</td>
<td>6/18/2016</td>
<td>Vacated Position</td>
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<tr>
<td>Swanson, Michael</td>
<td>School Bus Driver 2/Transportation/6.6</td>
<td>8/17/2016</td>
<td>Vacated Position</td>
</tr>
<tr>
<td>Trotter, Penny</td>
<td>School Bus Driver 1/Transportation/5.8</td>
<td>8/18/2016</td>
<td>Existing Position</td>
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<tr>
<td>Vinson, Kayleen</td>
<td>Campus Supervisor/MJHS/1.0</td>
<td>8/18/2016</td>
<td>Correct Position</td>
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</table>

**PROMOTION**

<table>
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<tr>
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<th>Date</th>
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<tbody>
<tr>
<td>Carrell, Kimberley</td>
<td>Elementary Guidance Specialist/Citrus3.0</td>
<td>8/29/2016</td>
<td>New Position</td>
</tr>
<tr>
<td>Carrell, Kimberley</td>
<td>Elementary Guidance Specialist/Shasta2.5 &amp; 1.0</td>
<td>8/29/2016</td>
<td>New Positions</td>
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**LEAVE OF ABSENCE**

<table>
<thead>
<tr>
<th>Name</th>
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<th>Date</th>
<th>Status</th>
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</thead>
<tbody>
<tr>
<td>Findlay, Janette</td>
<td>IPS-Healthcare/Loma Vista/4.0 &amp; 2.0</td>
<td>8/18/2016-2/18/2017</td>
<td>Per CBA 5.2.9</td>
</tr>
<tr>
<td>Libby, Amy</td>
<td>IPS-Visually Impaired/Hooker Oak/0.0</td>
<td>0/19/2010-2/18/2017</td>
<td>Per CDA 5.12</td>
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</tbody>
</table>

**RESIGNATION/TERMINATION**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position/Location</th>
<th>Date</th>
<th>Status</th>
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<tbody>
<tr>
<td>Gooderham, Taylor</td>
<td>IPS-Classroom/LCC/3.0</td>
<td>8/5/2016</td>
<td>Voluntary Resignation</td>
</tr>
<tr>
<td>Goodwin, Jr, Wayne</td>
<td>Cafeteria Assistant/BJHS/2.0</td>
<td>8/11/2016</td>
<td>Voluntary Resignation</td>
</tr>
<tr>
<td>Hall, Jessica</td>
<td>IA-Special Education/Forest Ranch/5.5</td>
<td>6/30/2016</td>
<td>Voluntary Resignation</td>
</tr>
<tr>
<td>Mitchel, Carol</td>
<td>IA-Special Education/Neal Dow/5.0</td>
<td>8/5/2016</td>
<td>Voluntary Resignation</td>
</tr>
</tbody>
</table>
Phillips, Cara  Parent Classroom Aide-Restr/Margold/3.0  8/24/2016  Voluntary Resignation

RESIGNED ONLY POSITION LISTED

Anderson, Sarah  Health Assistant/Chapman/4.0  8/28/2016  Increase in Hours
Baker, Kelly  Parent Classroom Aide-Restr/Margold/2.0  8/24/2016  Increase in Hours
Buenrostro, Deborah  IPS-Classroom/Emma Wilson/5.0  8/17/2016  Increase In Hours
Carrell, Kimberley  IA-Elementary Guidance/Citrus/3.0  8/28/2016  Promotion
Carrell, Kimberley  IA-Elementary Guidance/Shasta/2.5 & 1.0  8/28/2016  Promotion
Gizzi, Lynda  Sr Library Media Assistant/CHS/8.0  9/5/2016  Lateral Transfer
Marler, Jennifer  IA-Special Education/Wildflower/3.0  6/2/2016  Voluntary Resignation
Pisani, Debra  IPS-Healthcare/CJHS/3.5  8/17/2016  Voluntary Resignation
Schell, Varien  IPS-Healthcare/Citrus/6.0  8/17/2016  Lateral Transfer
Swanson, Michael  Custodian/M & O/8.0  8/12/2016  Voluntary Resignation

(Consent Vote)
AYES: Robinson, Kaiser, Loustale, Griffin, Hovey
NOES: None
ABSENT: None

10. DISCUSSION/ACTION CALENDAR
ITEMS REMOVED FROM CONSENT FOR FURTHER DISCUSSION

9.2.5. Consider Approval of the Career Technical Education Advisory Committee
Board Clerk Loustale noted he was recusing himself from the vote and left the room. Board Vice President Kaiser moved to approve the CTE Advisory Committee Recommendations; seconded by Board Member Griffin. After the vote, Board Clerk Loustale returned to the meeting.

AYES: Robinson, Kaiser, Griffin, Hovey
NOES: None
ABSTAIN: Loustale

10.1. EDUCATIONAL SERVICES

10.1.1. Information: Update from Attendees of the October 2016 California STEM Symposium
At 6:33 p.m. Director Michael Morris introduced Parkview Principal Holly McLaughlin who presented information on how Parkview is incorporating STEM into their curriculum. BJHS Teacher Carie Myers shared a shortened version of the PowerPoint she presented at the Symposium. PVHS Teacher Ray Barber spoke about the speakers. MJHS Teacher Kelly Coombe explained ways MJHS teachers are incorporating Technology into Science. Board Vice President Kaiser and Board Member Griffin shared information about presentations they attended and stated they hope all teachers who attended will share their experiences with teachers at other sites. They also encouraged new administrators and teachers to attend, even those working in preschool programs.

10.1.2. Discussion/Action: CUSD and California Department of Education Preschool 2017-18 Continued Funding Application
At 7:01 p.m. Director Ted Sullivan presented an update on the status of CUSD Preschools and explained one requirement of this program is to obtain School Board approval to apply for continued funding. Board Vice President Kaiser moved to approve the application for continued funding; seconded by Board Member Griffin.
AYES: Robinson, Kaiser, Loustate, Griffin, Hovey
NOES: None
ABSENT: None

10.1.3. **Information: College Readiness Block Grant Expenditure Plan**

At 7:04 p.m. Director John Bohannon explained a condition of receiving a one-time state allocation from the College Readiness Block Grant, the district must develop and adopt an expenditure plan prior to January 1, 2017. The one-time funding in the amount of $223,084 is to be spent over a three-year period. The plan must be explained in a public meeting of the governing Board and adopted at a subsequent Board meeting. Tonight is the explanation of the plan; the plan will return for approval at the December 14 Board meeting.

10.2. **BUSINESS SERVICES**

10.2.1. **Discussion/Action: Preauthorization for Bid Approval DROPS Grant East and West Projects**

At 7:11 p.m. Director Julie Kistle explained CUSD had been awarded a $445,220 Drought Response Outreach Programs for Schools (DROPS) Grant in May 2015 and the Board authorized Melton Design to produce construction drawings on April 20, 2016. CUSD will be constructing "Low Impact Development" at nine sites. On November 8, 2016 the projects were placed out for bid. Director Kistle explained she was asking for preauthorization from the Superintendent or designee to enter into an agreement with the lowest responsive bidder(s) for the DROPS Grant Projects not to exceed $245,700 combined. Board Vice President Kaiser moved to approve the preauthorization; seconded by Board Clerk Loustate.

AYES: Robinson, Kaiser, Loustate, Griffin, Hovey
NOES: None
ABSENT: None

10.2.2. **Discussion/Action: Adoption of Resolution 1358-16 for Exemption of the Development of Canyon View High School from the City of Chico's Zoning Ordinances**

At 7:15 p.m. Director Julie Kistle stated per Government Code section 53091(a), public entities are generally required to comply with municipal zoning ordinances. However, Government Code section 53094 provides an exception for school district's educational facilities. She explained unless exempted from the City’s zoning ordinances, the Project would be subject to undue delay, unreasonable requirements, or denial by the City of approvals under the City’s zoning ordinances that likely would hamper, interfere with, or jeopardize the viability of the Project. Board Vice President Kaiser moved to adopt Resolution 1358-16; seconded by Board Member Griffin.

AYES: Robinson, Kaiser, Loustate, Griffin, Hovey
NOES: None
ABSENT: None

10.3 **HUMAN RESOURCES**

10.3.1. **Discussion/Action: Approval of a Variable Term Waiver Request for an Early Childhood Special Education Credential for Gale Deome**

At 7:16 p.m. Assistant Superintendent Jim Hanlon provided information on the Variable Term Waiver Request. Board Member Griffin moved to approve the Waiver; seconded by Board Vice President Kaiser.

AYES: Robinson, Kaiser, Loustate, Griffin, Hovey
NOES: None
ABSENT: None
10.4 BOARD

10.4.1. Discussion/Action: Setting Date of Annual Organizational Meeting of the Governing Board of the Chico Unified School District – Proposed Date: December 14, 2016

At 7:16 p.m. Superintendent Staley noted the proposed date for the Annual Organization Meeting is December 14, 2016. Board Member Griffin moved to approve December 14, 2016, as the date for the Annual Organizational Meeting; seconded by Board Vice President Kaiser.

AYES: Robinson, Kaiser, Loustale, Griffin, Hovey
NOES: None
ABSENT: None

10.4.2. Information: First Reading of Revised/Updated/New Board Policies

At 7:19 p.m. Board President Robinson noted this is the first reading of the revised Board Policies and they would be returning for approval at the December 14 meeting. Board Member Griffin clarified that Board members are to review and send any questions or suggestions for change to Marsha who will send all suggestions to all Board members for review. It was determined that suggestions/changes are due to Marsha by December 7.

0520.2 Title I Program Improvement Schools
0520.3 Title I Program Improvement Districts
1230 School-Connected Organizations
1312.3 Uniform Complaint Procedures
2121 Superintendent’s Contract
3230 Federal Grant Funds
3311 Bids
3320 Claims and Actions Against the District
3513.3 Tobacco-Free Schools
3541.2 Transportation for Students with Disabilities
3555 Nutrition Program Compliance
3580 District Records
4112.2 Certification
4113 Assignment
5116.1 Intradistrict Open Enrollment
5131.62 Tobacco
5145.3 Nondiscrimination/Harassment
5145.7 Sexual Harassment
6173 Education for Homeless Children
6179 Supplemental Instruction
7220 California Environmental Quality Act (CEQA)
9321 Closed Session Purposes and Agendas

11. ITEMS FROM THE FLOOR

At 7:25 p.m. There were no items from the floor. Board Clerk Loustale asked if all schools had Justice for All posters. Director Vince Enserro stated all schools have these posters and noted more were available. Board Clerk Loustale felt it would be nice to have more than one at each site. Director Enserro stated he would email Principals and ask who would like more and would send additional posters to them.
At 7:27 p.m. Board President Robinson announced the Board was moving into Recess in order to hold the Annual Meeting of the Board of Directors of the Chico Unified School Financing Corporation.

12. **RECESS**  
During the Recess, the Annual Meeting of the Board of Directors of the Chico Unified School Financing Corp. will be held in accordance with that Agenda  
At 7:28 p.m. Board President Robinson called the meeting of the Board of Directors of the Chico Unified Financing Corporation to order. Assistant Superintendent Kevin Bultema presented the annual financial report and provided a status update. Board Vice President Kaiser asked if CUSD had the option of buying the solar units at Little Chico Creek. Assistant Superintendent Bultema said they will do the analysis and set up a special meeting at a later date to discuss options. At 7:30 p.m. Board Member Hovey moved to approve the Minutes from the November 19, 2015, Board of Directors Annual meeting; seconded by Board Clerk Loustale.

**AYES:** Robinson, Kaiser, Loustale, Griffin, Hovey  
**NOES:** None  
**ABSENT:** None

13. **RECONVENE TO REGULAR SESSION**  
At 7:31 p.m. Board President Robinson reconvened the regular meeting.

14. **ANNOUNCEMENTS**  
At 7:31 p.m. The Board discussed the importance of working/communicating with elected representatives regarding issues that affect school districts. It was suggested that Board members keep this as a focus while in attendance at the December CSBA conference as there are many unions/organizations that are present and should be made aware of concerns. It was agreed that Board Members will share CSBA experiences at a future Board meeting. Parent Representative Sheila Anderson announced the winners of the Parade of Lights were recently announced and out of 85 entries, Little Chico Creek Elementary was awarded 3rd place.

15. **ADJOURNMENT**  
At 7:39 p.m. Board President Robinson adjourned the meeting.

:mn

**APPROVED:**

__________________________  
Board of Education

__________________________  
Administration
### DONATIONS/GIFTS

<table>
<thead>
<tr>
<th>Donor</th>
<th>Item</th>
<th>Recipient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earthworm Soil Factory</td>
<td>Soil @ $2,927.00</td>
<td>CUSD Special Education</td>
</tr>
<tr>
<td>Mission Linen</td>
<td>Tablecloth Rental @ $100.00</td>
<td>CUSD</td>
</tr>
<tr>
<td>Stacy M. Piper</td>
<td>Books @ $200.00</td>
<td>Chapman Elementary</td>
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<tr>
<td>James &amp; Kimberly Humble</td>
<td>$75.00</td>
<td>Hooker Oak</td>
</tr>
<tr>
<td>Bonnie King</td>
<td>$40.00</td>
<td>Hooker Oak</td>
</tr>
<tr>
<td>B. Scott Hood DDS</td>
<td>$100.00</td>
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<tr>
<td>Jennifer Oloff-Lewis</td>
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<td>KZFR</td>
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<td>Shellie Liddell</td>
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<td>PG&amp;E</td>
<td>$90.00</td>
<td>Little Chico Creek</td>
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<tr>
<td>Robert Zdra, M.D.</td>
<td>Supplies @ $117.90</td>
<td>McManus Elementary</td>
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<tr>
<td>Shirley Wesghi</td>
<td>$20.00</td>
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<tr>
<td>Bryan &amp; Jenny Slinkard</td>
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<td>Sierra View Elementary</td>
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<td>Ahmed Abouesh &amp; Rania Nour</td>
<td>$100.00</td>
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<td>The Group Real Estate Brokers</td>
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<td>Frank Ross</td>
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<td>Don &amp; Bonnie Slinkard</td>
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<tr>
<td>Howard and Diane Slater</td>
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<td>Chico Jr. High</td>
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<td>B. Scott Hood, DDS</td>
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<td>The Discovery Shoppe League, Inc.</td>
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<tr>
<td>Chico Rotary Club Foundation</td>
<td>$471.75</td>
<td>Chico Jr. High</td>
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<tr>
<td>Feather Falls Lodge</td>
<td>144 Decks of Cards @ $432.00</td>
<td>Pleasant Valley High</td>
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<tr>
<td>Laurie LaPant / Transfer Flow</td>
<td>Gravel @ $1,192.00</td>
<td>Pleasant Valley High</td>
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<td>Tom George</td>
<td>Motion Detectors @ $390.00</td>
<td>Pleasant Valley High</td>
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<tr>
<td>Herman &amp; Amanda Ellis</td>
<td>Nordic Track Treadmill @ $963.80</td>
<td>Pleasant Valley High</td>
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<td>Bidwell Park Golf Club</td>
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</table>
AGENDA ITEM: Field Trip Request for Emma Wilson 5th Grade Trip to Shady Creek Environmental Camp from 05/22/17 to 05/26/17

Prepared by: Kimberly Rodgers, Principal

X Consent  Board Date  December 14, 2016

Information Only

Discussion/Action

Background Information
Each year our students have had the opportunity to attend Shady Creek Environmental Camp in Nevada City. This year our 5th graders will be attending from May 22-26. This is an outstanding program and an excellent experience for all those involved.

Educational Implications
We want our fifth graders to experience science in a hands on environment. Not only will students learn about our environment and the earth, they will also learn about themselves. They will grow and mature with this camp experience.

Fiscal Implications
This year the district will cover approximately $100 per student. All other monies are raised or donated.
FIELD TRIP REQUEST

TO: CUSD Board of Education
FROM: Kimberly Rodgers
School/Dept.: Emma Wilson
SUBJECT: Field Trip Request

Request is for 5th Grade
(grade/class/group)
Destination: Shady Creek Outdoor School Activity: Environmental Camp
from May 22, 2017 / 7:45 AM to May 26, 2017 / 1:30 PM
(dates) / (times)
Rationale for Trip: Meets 5th grade science standards

Number of Students Attending: 85 Teachers Attending: 3 Parents Attending: 0
Student/Adult Ratio: 7/1 (Counselors and Naturalist there as well)
Transportation: Private Cars 2 CUSD Bus 2 Charter Bus Name
Other:
All requests for bus or charter transportation must go through the transportation department - NO EXCEPTIONS.

ESTIMATED EXPENSES:
Fees $19,975.00 Substitute Costs $0 Meals $0
Lodging $0 Transportation $1364.00 Other Costs $2351.00

ACCOUNT NAME(S), NUMBER(S) and AMOUNT(S):
Name Shady Creek Acct. #: 01-9024-0-1110-1000-5800-250-1250 $12,338.50
Name Transportation Acct. #: 01-9024-0-1110-1000-5722-250-1250 $1364.00
Name Shady Creek Acct. #: 01-9890-0-1110-1000-5800-570-6400 $9987.50

Requesting Party
Kim
Site Principal

Director of Transportation

Date 11/3/16

Date 11/8/16

☐ Approve/Minor
☐ Do not Approve/Minor
☐ Recommend/Major
☐ Not Recommended/Major
(If transporting by bus or Charter)

IF MAJOR FIELD TRIP

Date 11/10/16

☑ Recommend
☐ Not Recommended
☐ Approved
☐ Not Approved

Board Action
AGENDA ITEM: Field Trip Request for Hooker Oak 5th Grade Trip to Whiskeytown Environmental Camp from 04/18/17 to 04/21/17

Prepared by: Rita Goedl and Laura Holman

X Consent

Board Date December 14, 2016

☐ Information Only

☐ Discussion/Action

Background Information
Every year our 5th grade students take an end of the year field trip. This year will be a return to traditional environmental camp. Hooker Oak students will attend Whiskeytown Environmental Camp from April 18 to April 21, 2017

Educational Implications
Whiskeytown Environmental Camp meets many of the standards in fifth grade science education. Classes include forest and stream ecology, survival skills, wildlife study and environmental science.

Fiscal Implications
This year Chico Unified will cover approximately $120 per student. All other monies are raised or donated.
TO: CUSD Board of Education  Date: October 31, 2016
FROM: Rita Goedl & Laura Holman  School/Dept.: Hooker Oak School
SUBJECT: Field Trip Request

Request is for: Hooker Oak 5th grade students
(grade/class/group)

Destination: Whiskeytown Environmental Camp Activity: Overnight field trip-Environmental School

From  April 18, 2017/8:00 am  to  April 21, 2017/2:30 pm
(dates) / (times)

Rationale for Trip: Environmental studies.

Number of Students Attending: 41 Teachers Attending: 2 Parents Attending: 6

Student/Adult Ratio: 7:1 in cabins

Transportation:  Private Cars X  CUSD Bus  Charter Bus Name
Other:

All requests for bus or charter transportation must go through the transportation department - NO EXCEPTIONS.

ESTIMATED EXPENSES:

Fees $265 per student Stipend $988. Meals $

Lodging $ Transportation $ Other Costs $

ACCOUNT NAME(S), NUMBER(S) and AMOUNT(S):

Name  District Account Acct. #: 01-6899-0-1110-1000-5800-570-6400 $4920.

Name  Hooker Oak Donation Acct. #: 01-9024-0-1110-1000-5800-160-1160 $5945

Requesting Party  11-9-16

Site Principal  11-4-16  □ Approve/Minor □ Do not Approve/Minor or
Recommend/Major  Not Recommended/Major

(If transporting by bus or Charter)

Director of Transportation

If MAJOR FIELD TRIP

Director of Educational Services  11/14/16  □ Recommend □ Not Recommended

Board Action

Date  □ Approved □ Not Approved

ES-7
Revised 8/04
AGENDA ITEM: Field Trip Request for Sierra View 5th Grade Trip to Shady Creek Environmental Camp from 01/17/17 to 01/20/17

Prepared by: Mele Benz, Principal

X Consent Board Date December 14, 2016

☐ Information Only
☐ Discussion/Action

Background Information
Last year was the first year Sierra View attended Shady Creek Environmental Camp. We are looking forward to attending again this year. This is an outstanding program and an excellent experience for all those involved.

Educational Implications
Shady Creek Environmental Camp meets many of the standards in science education. Classes include forest and stream ecology, survival skills, wildlife study and environmental science.

Fiscal Implications
This year the district will cover approximately $100 per student. All other monies are raised or donated.
CHICO UNIFIED SCHOOL DISTRICT
1163 East Seventh Street
Chico, CA 95928-5999
(530) 891-3000
11.2.4.
Page 2 of 2

FIELD TRIP REQUEST

TO: CUSD Board of Education  Date: November 2, 2017
FROM: Sierra View Elementary  School/Dept.: Sierra View Elementary
SUBJECT: Field Trip Request

Request is for ___5th grade students from Sierra View ___
(grade/class/group)

Destination: Shady Creek, Nevada City  Activity: Environmental Camp

from January 17, 2017 / 8:30 AM to January 20, 2017 / 11:00 AM
(dates) / (times)

Rationale for Trip: Science/Environmental Education

Number of Students Attending: 111  Teachers Attending: 4  Parents Attending: 0
Student/Adult Ratio: 7:1 (Counselors and naturalist there as well)
Transportation: Private Cars  CUSD Bus  X  Charter Bus Name
Other:

All requests for bus or charter transportation must go through the transportation department - NO EXCEPTIONS.

ESTIMATED EXPENSES:
Fees $214.00/Student  Teacher Stipends $2,714.62  Meals $0
Lodging $0  Transportation $650  Other Costs $0

ACCOUNT NAME(S), NUMBER(S) and AMOUNT(S):
Name  Camp  Acct. #: 01-9024-0-1110-1000-5720-280-1280  $11,877
Name  Bus  Acct. #: 01-9024-0-1110-1000-5800-280-1280  $650.00

Director of Transportation

IF MAJOR FIELD TRIP

Director of Educational Services

Board Action

BS-7
Revised 8/04
AGENDA ITEM: Field Trip Request for CHS A Cappella Choir to Attend the Disneyland Heritage Choral Festival in Anaheim, CA from 03/30/17 to 04/02/17

Prepared by: Jenise Coon

[ ] Consent  Board Date December 14, 2016
[ ] Information Only
[ ] Discussion/Action

Background Information
This year is a travel year for the A Cappella Choir. They are working hard to prepare for this special trip. We will attend the Heritage World Stride Choir Festival before spending time at Disneyland. There is a special awards ceremony or the participating choirs in Fantasyland. This is an excellent opportunity for learning by adjudication from a choral professional, observing their peers and other choirs from all over the country – as well as an opportunity to bond with their choir classmates and have fun while working hard.

Educational Implications
The students will be touching on these National Standards for music education: Singing, alone and with others, a varied repertoire of music; Reading and notating music; Listening to, analyzing, and describing music; Evaluating music and music performances; and Understanding relationships between music, the other arts, and disciplines outside the arts.

Fiscal Implications
We have most of the money to go in our ASB account. We are currently doing a See's candy fundraiser and will be continuing to fund raise through the year.
FIELD TRIP REQUEST

TO: CUSD Board of Education

FROM: Jenise Coon

Date: 11/4/16

School/Dept.: Chico High School

SUBJECT: Field Trip Request

Request is for: A Cappella Choir

Destination: Disneyland, Anaheim, CA

Activity: Disneyland Heritage Choral Festival

from March 30 2017 / Early AM to April 2 2017 / Late evening

Rationale for Trip: The World Strides Heritage Music Festival will provide a unique performance and learning opportunity for the CHS Choir. They will perform, receive an adjudication with feedback, be able to learn by observing other performing groups, then enjoy an awards ceremony in Disneyland.

Number of Students: 52

Teachers Attending: 1

Parents Attending: 8-10

Student/Adult Ratio: 47:4

Transportation: Private Cars CUSD Bus Charter Bus Name Silverado

Other:

All requests for bus or charter transportation must go through the transportation department - NO EXCEPTIONS.

ESTIMATED EXPENSES:

Fees $19,954.00
Substitute Costs $125.00
Meals $

Lodging $
Transportation $6,000
Other Costs $

ACCOUNT NAME(S), NUMBER(S) and AMOUNT(S):

Name ASB Choir
Acct. #: 401
$26,368.51

Name
Acct. #: $

Jenise Coon
Requesting Party

11/4/16

Site Principal

Date 11/6/16

Director of Transportation

11/8/16

Director of Educational Services

11/2/16

Board Action

Date

IF MAJOR FIELD TRIP

Recommend

Not Recommended

Approved

Not Approved

Approve/Minor

Do not Approve/Minor

Recommend/Major

Not Recommended/Major

(If transporting by bus or Charter)

BS-7
Revised 8/04
AGENDA ITEM: Field Trip Request for CHS Musical Theater Team to Attend the Junior Theater Festival West Coast in Sacramento, CA from 02/10/17 to 02/12/17

Prepared by: Jenise Coon

Consent

Board Date December 14, 2016

Information Only

Discussion/Action

Background Information

JTF brings together student musical theater troupes from all over the world for a weekend of musical theater mayhem and madness. Each troupe performs fifteen minutes from a Broadway Junior show for adjudication by a panel of musical theater experts. The weekend also features professional development for teachers, workshops for students and parents, a New Works Showcase featuring new musical adaptations soon to be released and concludes with a grand finale concert headlined by Broadway’s best! The Junior Theater Festival is sponsored by Playbill, Disney Musicals and Music Theatre International.

Education Implications

JTF gives everyone who attends the opportunity to experience the transformative power of musical theater through watching performances, attending workshops, and making connections with other musical theater groups from around the world. This will be the first-ever JTF for the Western United States. Schools and theater programs fly from all over the country to be part of this amazing event. Since Mrs. Coon is a personal friend and colleague of the founder, Tim McDonald, Chico High School has been asked to perform from West Side Story and Into the Woods in a special show at the end of the weekend. This is truly and honor, as there will be around 5,000 attendees. An educational opportunity for the CHS Musical Theater students that is sure to help rebuild the Musical Theater program.

Fiscal Implications

There is plenty of money in the Musical Theater ASB account to cover these costs as well as enough to produce our Spring Musical this year.

Additional Information

A team of 16 students will be chosen to represent CHS. Any student who is enrolled in Musical Theater may audition. We will have 4 adult chaperones including myself (Mrs. Coon) and cleared parent drivers to Sacramento. We are lucky that we live so close, as many schools have to fly in to this event! Students will also benefit from Mrs. Coon's ties to the producers, as we are honored to participate in a special performance. Students will come away from this event with a greater knowledge of Musical Theater performance and production.
TO: CUSD Board of Education  
Date: 11/4/16

FROM: Jenise Coon  
School/Dept.: Chico High

SUBJECT: Field Trip Request

Request is for CHS Musical Theater Team  
Destination: Sacramento  
(grade/class/group)  
Activity: Junior Theater Festival West Coast

from 2/10/17 / 8 AM to 2/12/17 / 10 PM  
(dates) / (times)

Rationale for Trip: Students will perform, receive adjudication, participate in workshops, and have been invited to be special performers in this very important musical theater event.

Number of Students Attending: 12  
Teachers Attending: 1  
Parents Attending: 3

Student/Adult Ratio: 3/1

Transportation:  
Private Cars 3  
CUSD Bus  
Charter Bus Name

All requests for bus or charter transportation must go through the transportation department - NO EXCEPTIONS.

ESTIMATED EXPENSES:

Fees $5,375  
Substitute Costs $125  
Meals $  
Lodging $2,200  
Transportation $0  
Other Costs $  

ACCOUNT NAME(S), NUMBER(S) and AMOUNT(S):

Musical Theater ASB Acc. #: 406 $16,801.65

Requesting Party  
Site Principal  
Director of Transportation

Approve/Minor  
Do not Approve/Minor

Recommend/Major  
Not Recommended/Major

IF MAJOR FIELD TRIP

Director of Educational Services  
Board Action

Recommend  
Not Recommended  
Approved  
Not Approved
AGENDA ITEM: New course proposal - Expository Reading and Writing Course (ERWC)

Prepared by: Stacia Morrissey / Deanna Holen

☐ Consent  
☐ Information Only  
☐ Discussion/Action  

12-14-16  

Board Date

Background Information

The California State University and California Community College systems currently use the Early Assessment Program (EAP) to determine students' level of college readiness while in high school. A student's EAP scores are equivalent to his/her Grade 11 CAASPP assessment scores in math and ELA/Literacy. The intent of the EAP program is to increase students' college readiness skills, which in turn would lead to greater levels of academic success for students while attending college.

The Expository Reading and Writing Course (ERWC) was developed by the CSU and meets UC approval for area "b" (English). It is a course designed for 12th grade college-bound students who demonstrate "Conditionally Ready" status (score of 3 on the CAASPP assessment) in ELA/Literacy. The course provides an opportunity for students to utilize their senior year to become more fully prepared for college level work.

PVHS currently offers Advanced Placement and International Baccalaureate courses that allow students to further develop their English skills and prepare them for college. The ERWC course would be an additional option available to students that is college preparatory in status but does not have an honors designation (such as AP or IB).

Educational Implications

Students who score "Conditionally Ready" (score of 3) on the CAASPP assessment as juniors can take this course during their senior year and earn an exemption from the California Community College and/or California State University English placement exams by earning a C or better in both semesters of their coursework.

Fiscal Implications

Associated costs such as teacher training and textbooks/materials will be covered by the College Readiness Block Grant and Educator Effectiveness funds.
NEW COURSE PROPOSAL OUTLINE

Course Title: English 12 / Expository Reading and Writing Course (ERWC - P)
Grade Level: 12
Required/Elective: Required (one of the options for senior English credit)
Length/Credits: Year-long / 10.0 credits
Prerequisites: Successful completion of an 11th grade English course

I. Course Rationale and Description:

See attached University of California course proposal for the CSU Expository Reading and Writing Course, 2013-14 version.

II. Instructional and Supplemental Materials:

Approved Core Instructional Materials:

*Expository Reading and Writing Course, Modules 1-12*

*Expository Reading and Writing Course: Student Reader, Second Edition*
Published 2013, 204 pages
ISBN 978-0-9818314-6-6 ($9.25 each plus sales tax, shipping and handling included)

*Novels:*
*Into the Wild*
*Brave New World*
1984

Supplemental Materials: (all materials listed above are core materials)
### III. Course Outline/Standards/Instructional Methods/Assessments:
Prepare a course outline that indicates the following: 1) name of unit; 2) time allocated for the unit; 3) standards addressed in each unit (please use Content Standards Framework numbering system and write out each standard); 4) Instructional strategies used in each unit; 5) Assessments utilized. (Use additional pages as needed.)

**See attached University of California course proposal for additional details.**

<table>
<thead>
<tr>
<th>Unit Name</th>
<th>Standards Addressed</th>
<th>Instructional Strategies</th>
<th>Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td>What's Next? Thinking About Life After High School</td>
<td>This course addresses all four of the English Language Arts Claims: - Reading - Writing - Speaking &amp; Listening - Research &amp; Inquiry</td>
<td>All units/modules follow the same recursive literacy processes in the ERWC Assignment Template: - prereading - reading - postreading - connecting - reading to writing - entering the conversation - writing - revising and editing</td>
<td>&quot;Letter of introduction&quot; to future employer or Personal essay for college application</td>
</tr>
<tr>
<td>Rhetoric of the Op-Ed Page</td>
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<td>Argumentative essay on a controversial issue of student's choice</td>
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<tr>
<td>Racial Profiling</td>
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<td></td>
<td>Reflective essay on value of life or passage-based argument essay (Steve Jobs' speech)</td>
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<tr>
<td>The Value of Life</td>
<td></td>
<td></td>
<td>Written proposal focusing on how to encourage healthy eating at school</td>
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<tr>
<td>Good Food / Bad Food</td>
<td></td>
<td></td>
<td>Timed essay related to content from the novel Into the Wild</td>
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<tr>
<td>Into the Wild</td>
<td></td>
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<td>Multi-genre portfolio of four to five texts authored by the student related to a topic the student knows well outside of school</td>
</tr>
<tr>
<td>Bring a Text You Like to Class: Bridging Out-of-School and In-School Literacies</td>
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<td>On-demand essay analyzing issues related to opposing legal arguments regarding minors</td>
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<td>Juvenile Justice</td>
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<td>Write a speech, letter, or public service announcement that proposes meaningful change within the community</td>
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<tr>
<td>Language, Gender, and Culture</td>
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<td>Summative writing</td>
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<td>1984</td>
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<tr>
<td>Brave New World</td>
<td>Assignment based on the novel 1984</td>
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<tr>
<td>Bullying</td>
<td>Argumentative essay related to topic from Brave New World as it relates to their own lives</td>
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<td></td>
<td>Collaborative writing assignment - anti-bullying guide for new students at their school</td>
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</table>
IV. **Instructional Methods:** Please indicate instructional methods to be used for special needs students, including Special Education, English Language Learners, and Honors.

See the attached University of California course proposal for the CSU ERWC, 2013-14.

V. **Grading Policy:**

A: 90-100%
B: 80-89%
C: 70-79%
D: 60-69%
F: 0-59%

Aligned with State Frameworks: (x) Yes  ( ) No
Course intended for a CTE Pathway: ( ) Yes*  (x) No
*If yes, which: ( ) Introductory  ( ) Concentrator  ( ) Completer
Already CUSD Board Approved: ( ) Yes, sites currently offering: __________________________ (x) No
Is course intended to meet CSU/UC Requirement: (x) Yes**  ( ) No
**If yes, site must complete attached addendum
Chico Unified School District – Secondary New Course Proposal – Addendum

Date Submitted to Site Registrar: ________________

To be completed by Site Department Chair/Designee:

Course Title: Expository Reading and Writing Course (ERWC - P)
Department: English

Department member responsible for course description for Catalog/Student Handbook: Stacia Morrissey / Deanna Holen

UC/CSU A-G Subject Area (check one):

- A: History/Social Science
- B: English
- C: Mathematics
- D: Laboratory Science
- E: Language Other Than English
- F: Visual & Performing Art
- G: College Preparatory Elective

Department member responsible for UCOP submission: Deanna Holen / Michael Morris

UCOP Website/Directions = https://hs-articulation.ucop.edu/agcmp/login/

*UCOP portal opens Feb. 1. Final deadline is Sept. 15. Applies to initial and any re-submissions*

To be completed by Site Office Personnel:

<table>
<thead>
<tr>
<th>Action</th>
<th>Date of confirmation</th>
<th>Person who confirmed action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submission to UCOP portal</td>
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<tr>
<td>Status of submission:</td>
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<tr>
<td>Approved by UCOP (attach email)</td>
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<td>Rejected by UCOP</td>
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<tr>
<td>Resubmission, if necessary</td>
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<td>Rejected by UCOP</td>
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<td>In UC Doorways Course List</td>
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<td>Course Offerings Document Updated</td>
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<td>Course Catalog/Student Handbook Updated</td>
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</tbody>
</table>
Chico Unified School District – Secondary New Course Proposal - Signature Page

Course Title: Expository Reading and Writing Course (ERWC - P)
Submitted by: Deanna Holen
Department: English
School: Pleasant Valley High School / Chico High School
Planned Start Date: Fall 2017

Approvals (Signature & Date):

Dept. Chair/Admin. (High Schools)
Chico High
PVHS
Alt. Ed.
Inspire

Dept./Admin. (Jr. High)
Bidwell
Chico Jr.
Marsh
Alt. Ed.

Educational Services

- If rejected, return to originator with rationale or conditions for approval.
- If approved, date taken to board of education for board approval:

  Board of Education action:  □ Approve  □ Reject
University of California
English Course Proposal for the
California State University
Expository Reading and Writing Course
2013-14

Course Content

NOTE: The following questions are subject specific and ask for detailed information regarding the course curriculum. Since UC has developed their own criteria for the review of curricula, it is not necessary (and preferred) that the State Standards are not listed when submitting course descriptions to the University. When preparing the course submission, keep in mind that your audience is the UC High School Articulation unit and UC faculty. Include relevant information that would assist those reviewing the course and provide UC a better understanding and clarity about the intent of the curriculum. UC expects to see information that would show specific, detailed evidence of the course rigor and development of essential skills and habits of mind. Course template components need to be more expository and illustrative of the integration of each course component and how the overarching goals are being accomplished. The text boxes below will expand to accommodate additional text.

Course Purpose: What is the purpose of this course? Please provide a brief description of the goals and expected outcomes. Explain how the course aligns the seven goals of the English requirement. (How these will be accomplished should be reserved for the Course Outline, Key and Written Assignments, Assessments, and/or Instructional Methods.)

NOTE: More specificity than a simple recitation of the State Standards is needed.

The goal of the Expository Reading and Writing Course (ERWC) is to prepare college-bound seniors for the literacy demands of higher education. Through a sequence of eight to ten rigorous instructional modules, students in this yearlong, rhetoric-based course develop advanced proficiency in expository, analytical, and argumentative reading and writing. The cornerstone of the course—the ERWC Assignment Template—presents a scaffolded process for helping students read, comprehend, and respond to nonfiction and literary texts. Modules also provide instruction in research methods and documentation conventions. Students will be expected to increase their awareness of the rhetorical strategies employed by authors and to apply those strategies to their own writing. They will read closely to examine the relationship between an author's argument or theme and his or her audience and purpose; to analyze the impact of structural and rhetorical strategies; and to examine the social, political, and philosophical assumptions that underlie the text. By the end of the course, students will be expected to use this process independently when reading unfamiliar texts and writing in response to them.
The ERWC is closely aligned to the seven criteria of the UC English requirement. Students successfully completing this course develop skills, knowledge, processes, and dispositions in the following areas of academic literacy: reading rhetorically, writing rhetorically, listening and speaking rhetorically, and habits of mind. In alignment with the Common Core State Standards for English Language Arts and Literacy (CCSS for ELA/Literacy), key student learning outcomes for the ERWC include the ability to do the following:

**Reading Rhetorically Outcomes**
- Cite strong and thorough textual evidence to support analysis of what a text says and implies
- Analyze how ideas, events, and/or narrative elements interact and develop over the course of a text
- Determine the meaning of words or phrases as they are used in a text
- Analyze and evaluate the effectiveness of the structure an author uses in his or her exposition or argument
- Determine an author’s point of view or purpose in a text
- Analyze an author’s assumptions and appeals (e.g., ethos, pathos, and logos)
- Analyze the extent to which the writer’s arguments anticipate and address reader concerns and counterclaims
- Analyze the writer’s use of rhetorical devices and strategies
- Understand key rhetorical concepts such as audience, purpose, context, and genre through analysis of texts

**Writing Rhetorically Outcomes**
- Write a variety of text types for real audiences and purposes, making effective rhetorical choices in light of those audiences and purposes
- Contribute to an ongoing conversation in ways that are appropriate to the academic discipline and context
- Write reading-based arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence
- Develop academic/analytical essays that are focused on a central idea and effectively organized
- Incorporate the texts of others effectively and use documentation styles suitable to the task, genre, and discipline
- Edit for clarity and for standard written English grammar, usage, and mechanics
- Select words and phrases that express precise meaning concisely and effectively, taking into consideration the rhetorical purpose of the text
- Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience
- Demonstrate the ability to observe, evaluate, and regulate one’s development as a writer of expository texts, including the identification of areas needing further growth

**Listening and Speaking Rhetorically Outcomes**
- Initiate and participate effectively in a range of collaborative discussions with peers
- Prepare for the thoughtful, evidence-based, and well reasoned exchange of ideas
- Collaborate with peers to promote civil, democratic discussions, and decision-making
• Pose and respond to questions that probe reasoning and evidence; examine a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives.
• Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; identify and use rhetorical strategies in discussions; and determine what additional information or research is required to deepen the investigation or complete the task.
• Evaluate a speaker’s point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
• Present information, findings, and supporting evidence clearly, effectively, and appropriately.

Habits of Mind Outcomes
• Act as motivated, self-directed learners
• Persist during difficult academic tasks
• Consider new ways of thinking and being; see other points of view
• Apply prior knowledge to new learning
• Understand the collaborative and social aspects of writing processes
• Adapt to new situations, expectations, demands, and disciplines
• Learn to critique their own and others’ academic work
• Reflect on their learning and on the processes that shape knowledge
• Demonstrate the ability to be both open-minded and discerning
• Establish routines that support advanced literacy practices
• Challenge their own assumptions

By including specific outcomes for habits of mind, the ERWC recognizes that postsecondary success depends upon the development of a literate identity and a sense of academic agency. ERWC helps adolescents accomplish this by building task persistence and competence through engaging module topics, such as racial profiling, fast food, and juvenile justice, and appropriate instructional scaffolds. Coupled with the focus on rhetoric and critical thinking—the “real-work” of college and adults—ERWC is for many adolescents the first time they will adopt academic identities and see themselves as potentially successful college students. The course thus specifically targets the capacities of a literate individual identified by the CCSS for ELA/Literacy as defining traits of college readiness.

In addition to the preceding student learning outcomes, the course is also guided by a set of key principles of an effective expository reading and writing curriculum:

1. The integration of interactive reading and writing processes;
2. A rhetorical approach that fosters critical thinking and engagement through a relentless focus on the text;
3. Materials and themes that engage student interest;
4. Classroom activities designed to model and foster successful practices of fluent readers and writers;
5. Research-based methodologies with a consistent relationship between theory and practice;
6. Built-in flexibility to allow teachers to respond to varied students’ needs and instructional contexts; and
7. Alignment with California’s Common Core State Standards for English Language Arts and Literacy.

Course Outline: A detailed descriptive summary of all topics covered. All historical knowledge is expected to be empirically based; give examples. Show examples of how the text is incorporated into the topics covered. A mere listing of topics in outline form is not sufficient (i.e. textbook table of contents or California State Standards).

The twelve instructional modules in the ERWC—from which adopting schools select eight-to-ten—are organized by semester. Most modules include multiple reading selections on a topic, often representing different genres. Course texts include contemporary essays, newspaper and magazine articles, editorials, reports, interviews, memos, assorted public documents, scholarly studies, and other nonfiction texts. Three modules include full-length works—a work of nonfiction in semester one and two novels in semester two. Adopting schools must select one full-length work in each semester. Schools are strongly encouraged to select modules in sequence and to consider the balance of text types and writing assignments in the eight-to-ten modules they select. All modules integrate text-based grammar: study with rhetorical reading and writing; schools are strongly encouraged to incorporate these lessons based on the needs of their students. Formative assessments appear throughout each module to promote ongoing evaluation of student progress toward achievement of learning objectives. Written summative assessments and holistic scoring guides conclude each unit. Modules include instruction in critical reading, analysis of rhetorical strategies, vocabulary, research methods, documentation conventions, and analytical writing based on information learned from and in response to the assigned texts. The ERWC Assignment Template is fully aligned to the CCSS for ELA/Literacy and provides consistent structure and content for each module. The following is a brief outline of each module by semester.

Semester One

Introducing Students to the ERWC

For many students, the rhetorical approach to reading and writing embodied in the ERWC may be relatively new. This brief experience introduces students to the context, aims, and core elements of the course, as well as to its fundamental concepts and definitions. A reflective activity helps students build metacognitive awareness, establish learning goals, and frame their expectations for the course. An interactive experience engages students in the rhetorical analysis of an everyday visual text thus piquing students’ interest in the work of the course.

What’s Next? Thinking About Life After High School

As the opening module for the Expository Reading and Writing Course (college applications are usually due in October or November), this module focuses on establishing foundational attitudes toward college and adult-life language practices. Students will be asked to use reading, writing, and research to identify their post-high school goals, evaluate their readiness for such plans, and then effectively represent themselves to the community they wish to join.
Readings:


Rhetoric of the Op-Ed Page
This assignment sequence introduces the Aristotelian concepts of ethos, logos, and pathos and applies them to a rhetorical analysis of an op-ed piece by Jeremy Rifkin on animals’ capacity for experiencing human emotions. The concepts of Aristotelian rhetoric will be used throughout the course by all of the modules. Students also have the opportunity to critically engage opposing views on the issue. Culminating writing assignments include a letter to the editor in response to the Rifkin article and an animal “Bill of Rights.”

Readings:


Racial Profiling
This module has been designed to provoke students to take a stand on the controversial topic of racial profiling. Students identify, analyze, and evaluate the rhetorical moves Bob Herbert makes in his professional essay before determining the extent to which they will use similar strategies in their own essays.
Reading:

The Value of Life
This module asks students to synthesize their understanding of Hamlet’s “To be, or not to be” soliloquy; an excerpt from Chris Jones’s interview of Roger Ebert; an article by Amanda Ripley on the aftermath of 9/11; and a life insurance tool, the Human Life Value Calculator. Students are asked to add their voices to the discussion by creating a well-developed response to the question engaged by these sources: How should human life be valued? The summative writing assignment is a reading-based essay of 750 to 1,500 words.

Readings:


Good Food/Bad Food
The module was designed to evaluate three proposals which argue for different approaches for responding to the obesity epidemic. Students analyze the proposals and consider how they were constructed to convince their audience. They then gather additional evidence from Web sites and from a survey they design and administer. The final assignment asks them to write a proposal of their own for how to improve the eating habits of students at their school.

Readings:


Web sites:
Dr. Robert C. and Veronica Atkins Center for Weight and Health UC Berkeley: <http://cwh.berkeley.edu/resources/2/20/53/15%2C38%2C96>.


Into the Wild

The nonfiction, full-length work *Into the Wild*, by Jon Krakauer, was published in 1996. Engaging students in this biography/story based on Krakauer’s investigation of Christopher McCandless, a young idealistic college graduate, allows them to think deeply about human motivation and perhaps begin to understand something of the complexity of maturity. Excerpted in the book, students experience a taste of the works of the American Transcendentalists and Russian novelists, which so influenced McCandless’s life philosophy. Students conclude the assignment by writing a text-based academic essay on one of a number of themes from the work. Students are expected to write an essay of 1,500 to 2,500 words.

Reading:


Semester Two

Bring a Text You Like to Class: Bridging Out-of-School and In-School Literacies

This module builds on texts that students bring in to share with the class and serves to introduce the second semester. Throughout this sequence, students work on externalizing and building conscious awareness of their existing textual skills and knowledge and discovering ways that they can bring their current reading expertise from outside of school to bear on texts in school that they have never encountered before. Textual analysis begins with pieces from students’ own worlds representing a variety of subjects and genres. Then by finding scholarly articles on their topics, students call upon their background knowledge and strategic reading skills to comprehend the text. Writing assignments require students to annotate, map, chart, and summarize multiple readings. The final writing assignment asks them to develop a multi-genre portfolio consisting of four to five texts of different types that they author themselves about a topic they know well outside of school. Students then write a portfolio introduction of 400-500 words that orients readers to the variety of genres they’ve included. They also describe what they have learned about themselves as readers and writers and consider how to use this new knowledge to support their future reading and writing.

Juvenile Justice

The module explores a legal issue and the way in which scientific evidence and personal observations and experience contribute to different strongly held points of view on the topic. Students practice analyzing different genres of text from a rhetorical perspective. The final on-demand assignment asks students to respond to a recent Supreme Court decision on the topic and to construct their own argument on one or the other side.

Readings:


**Language, Gender, and Culture**

In this module, students interrogate gender norms and how those norms are enforced by social pressures. They begin by reflecting on their own experiences with gender-based social pressures, deepening their understandings of the relationships among language, gender, culture, and identity. They then read a transcript of and view a short talk by Judith Butler, which should help to prepare them to think more carefully about the concepts in the module. In addition to asking students to reflect on a range of topics including gender, identity, and race, the module readings ask students to consider how norms of behavior are enforced through language and social interaction and to analyze the ways they may have been silenced or witnessed others being silenced. The final writing assignment provides students with an opportunity to transform their own silence into language and social action.

**Readings:**


**1984**

This module explores George Orwell’s dark, complex, and controversial novel, 1984. The novel is full of big ideas and themes: totalitarian rule, surveillance technology, mind control, propaganda, the role of the individual versus the collective, the relation of language and thought, and even the nature of reality and perception. The novel is often read as a tragic story of an individual, Winston Smith, who tries to stand up to the totalitarian government and fails. This module is designed to help students go beyond the simple plotline and engage with some of the larger philosophical ideas and themes, in part by carefully reading parts of the novel that are often omitted: the chapters from the fictitious book by Emmanuel Goldstein, *The Theory and Practice of Oligarchical Collectivism*, and the appendix, “The Principles of Newspeak.” In effect, the novel integrates a literary narrative with fictional expository texts, which makes it ideal for use in an ERWC module. The culminating writing assignment offers a choice of four prompts, each of which explores one of the themes of the
novel. Students are asked to use material from their notes and annotations of the novel to support their position on the issue of the prompt.

**Reading:**


**Optional Texts:**


**Brave New World**

This module explores Aldous Huxley's dystopian science fiction novel *Brave New World* in light of Neil Postman's argument in *Amusing Ourselves to Death* that we are actually more in danger from hedonistic but mindless pleasures than from Orwellian totalitarianism. The culminating writing assignment offers a choice of four prompts, each of which explores one of the themes of the novel. Students are asked to use material from their notes and annotations of the novel to support their position on the issue of the prompt.

**Reading:**


**Bullying: A Research Project**

This module critically examines various forms and definitions of bullying, as well as divergent views of the causes and possible responses to bullying that can be made by schools, teachers, and students. Students also analyze their own school's bullying policy. For the summative assignment, students collaboratively write an anti-bullying guide for new students at their school so that they understand what bullying is and how best to respond to it, either as a target or as an observer. The guide must be based on academic and field research, be visually appealing (e.g., graphs, bullet points, etc.), and include a reference list of sources. The groups will also present their findings orally using either a video or PowerPoint.

**Readings:**


**Additional Readings:**


**Video:**


**Final Reflection on Learning: The ERWC Portfolio**

The final instructional sequence and capstone assessment for the ERWC is the “Final Reflection on Learning: The ERWC Portfolio.” In careful alignment with the ERWC goals, the portfolio includes a reading-based argument letter that serves as an analysis and reflection on the student-selected writing samples and the course.

**Key Assignments:** Detailed description of all Key Assignments which should incorporate activities and projects, as well as short answers and essay questions. How do assignments incorporate topics? Include all assignments that students will be required to complete. Assignments should be linked to components mentioned in the course outline and in the discussion of accomplishing the course goals. Explicitly indicate how the assignments support the Common Core College and Career Readiness Anchor Standards in Reading, Writing, Speaking and Listening, and Language. Courses must address them all in a balanced fashion. It is not appropriate or necessary to include instructions given to students regarding the execution of assignments (formatting, timelines, etc.). Do not include exams or assessments in this section.
Each of the twelve instructional modules uses a CCSS-aligned assignment template to guide students through the following processes: reading rhetorically, connecting reading to writing, and writing rhetorically. While the ERWC approaches the rigor of Advanced Placement and International Baccalaureate courses in terms of the quantity and quality of its texts and tasks, the course is carefully scaffolded for diverse populations of learners, including multilingual students. Please see the attached assignment template for more detail on specific assignments for each module.

Examples of common assignments include the following:
- Quickwrites to access prior knowledge
- Surveys of textual features
- Predictions about content and context
- Vocabulary previews and self-assessments
- Reciprocal reading and teaching activities, including summarizing, questioning, predicting, and clarifying
- Responding in speech and in writing to critical thinking questions
- Annotating and rereading texts
- Highlighting textual features
- Analyzing stylistic choices
- Mapping text structure
- Analyzing logical, emotional, and ethical appeals
- Peer response activities

In addition to offering frequent practice with the above common assignments, the ERWC also provides a summative writing assignment in each module. In general, essays/writing assignments range from 500 to 1,500 words depending on the nature of the writing assignment (whether it is timed or goes through multiple revisions) and the genre elicited. Types of writing vary across modules. In determining the length and organization of their compositions, students must evaluate the effectiveness of their choices for their given audience and purpose. Compositions are evaluated primarily on rhetorical effectiveness, rather than length. The following is a list of summative assignment descriptions:

Module 1: What’s Next? Thinking About Life After High School

During this module, students read about different aspects of career and college life, reflect and write on their own goals and plans, and participate in research about their personal vision for the future. The final expression of this reading, research, and writing is a letter or essay applying for acceptance into the community the student wishes to enter.

1. Those who believe they are more inclined to pursue a career or enter the work force will write a “letter of introduction” to the work community or job that they wish to pursue.
   OR

2. Those of you planning on entering college will write a personal essay for a college application.

The final letter or essay must be around 1000 words, typed, proofread, and ready to send out to either a school or employer.
Module 2: Rhetoric of the Op-Ed Page

A common way to respond to an editorial is to write a letter to the editor. After working extensively with the texts in the module, students write a well-informed response to Rifkin’s or Braithwaite’s ideas. Such a letter is an ideal vehicle for teaching audience, purpose, concision, and clarity. Students choose one of the following “letter-to-the-editor” assignments:

Response to Rifkin: After thinking about your reading, discussion, and analysis of Rifkin’s article and the letters in response to it, what do you personally think about Rifkin’s point? Do you think it is true, as Rifkin says, that “many of our fellow creatures are more like us than we had ever imagined”? Do you think we need to change the way we treat the animals around us? Or do you think Rifkin is wrong? Write a letter expressing your viewpoint to the editor of the newspaper.

Response to Braithwaite: Victoria Braithwaite argues that fish have nervous systems that are similar to humans and are very likely to feel pain the way we do. She says, “We should adopt a precautionary ethical approach and assume that in the absence of evidence to the contrary, fish suffer.” She also says, “Of course, this doesn’t mean that we necessarily must change our behavior. One could reasonably adopt a utilitarian cost-benefit approach and argue that the benefits of sportfishing, both financial and recreational, may outweigh the ethical costs of the likely suffering of fish.” Should we ban the use of barbed hooks? Should we change our fishing practices because fish might suffer? Or is Braithwaite making a big deal out of nothing? Write a letter expressing your viewpoint to the editor of the newspaper.

Module 3: Racial Profiling

Students must write an essay that presents their opinion on a controversial issue of their choice, beginning with a debatable thesis statement and then following the guidelines for writing an argument essay. Students must support their claims with well-chosen evidence. If students are responding to an event or topic in the media, they must attach a copy of the print or electronic source to their paper.

Module 4: The Value of Life

The summative writing assignment offers students two choices for responding to the central question in the reading selections: a reflective essay on the value of life or a passage-based argument essay. For the latter, students must explain Steve Jobs’s argument in his 2005 Stanford University Commencement Address and discuss the ways in which they agree or disagree with his views.

Module 5: Good Food/Bad Food

Desperate times call for desperate measures, but what measures are realistic and will really work to solve the problem of the obesity epidemic? This is the central question students must respond to in the key assignment for this module. For this project, students write a proposal focusing on how to encourage healthier eating at their school. The proposal should address a problem that the students have identified and be addressed to an audience that might help them solve the problem.

Module 6: Into the Wild

The writing assignment for this module requires students to complete an on-demand essay in 45 minutes. The prompt for this assignment asks students to consider the validity of various interpretations of Chris McCandless, the central figure in John Krakauer’s Into the Wild. This timed writing is treated as a prewriting for other possible writing assignments, including several research topics.
Module 7: Bring a Text You Like to Class: Bridging Out-of-School and In-School Literacies

The final writing assignment asks students to develop a multi-genre portfolio consisting of four to five texts of different types that they author themselves about a topic they know well outside of school. Students write a portfolio introduction of 400-500 words that orients readers to the variety of genres they have included. They also describe what they have learned about themselves as readers and writers.

Module 8: Juvenile Justice

In this on-demand writing assignment, students must compose an essay analyzing the issues raised by opposing legal arguments regarding minors being tried for criminal offenses as adults. Students must indicate which side they most strongly agree with in their response while supporting their position with reasons and examples from the required readings, class discussion, and their own experience and observations. Essays must be clearly focused, well organized, and carefully written.

Module 9: Language, Gender, and Culture

Among other issues, each of the articles in this module invites students to consider how we might respond to the ways that social environments and norms constrain us. After considering the questions and solutions or alternatives posed by the various reading selections in the module, students must write a speech, a letter, or a public service announcement that proposes meaningful change in their community. They must identify a specific audience to address—such as their classmates; parents; younger (or older) students; coaches; administrators; teachers; or church, city, or community officials—and compose an argument both describing a particular challenge and proposing changes that may improve the lives of others.

Module 10: 1984

The summative writing assignment in this module addresses a core question: Can a society based on hate survive? In preparation for responding to this question, students compare and contrast the perspectives of two characters from George Orwell's *1984*, Winston and O'Brien, through an analysis of key passages from the novel. Then, in a well-organized essay, students must discuss whether or not a society based on hate and suffering such as O'Brien describes could exist for very long. Would the intoxication of power and the thrill of victory be enough motivation for people to continue living without friendship or love? Could they live in such a society? Why or why not? In supporting their arguments, students must use evidence from the novel, other texts, and their own experience.

Module 11: Brave New World

The writing tasks in this module afford students the opportunity to engage one of four issues thematically critical to Aldous Huxley's novel *Brave New World*: "Entertainment as a Form of Control," "Community, Identity, Stability," "Gender Equality," or "Reading and Education." For the topic they choose, students must develop and support a principled argument, using evidence from both the text and their own lives.
Module 12: Bullying

After researching and analyzing their school's bullying policy, students collaboratively write an anti-bullying guide for new students at their school so that they understand what bullying is and how best to respond to it, either as a target or as an observer. Students must base their advice on the academic and field research they conducted and include a reference list of their sources. Their anti-bullying guide should be accessible and engaging for their audience of new students and should be revised and edited so that it is publishable. The groups will also present their findings orally using either a video or PowerPoint.

**Instructional Methods and/or Strategies:** Indicate how the Instructional Methods and/or Strategies support the delivery of the curriculum and the course goals. Explicitly indicate how the instructional approaches support the Common Core College and Career Readiness Anchor Standards in Reading, Writing, Speaking and Listening, and Language. Courses must address them all in a balanced fashion. What portions of the Course Outline are supported by the methods and strategies?

To a large extent, the course goals and the delivery of the curriculum are accomplished through the ERWC Assignment Template—a structured process for helping students comprehend and critique texts through integrated rhetorical reading and writing activities. The ERWC Assignment Template represents the “DNA” of each instructional module. All modules follow the same recursive literacy processes described by the template. These include prereading, reading, postreading, connecting reading to writing, entering the conversation, writing, and revising and editing. Within these interrelated stages, students practice a variety of skills, including the following:

- Surveying the Text
- Making Predictions and Asking Questions
- Understanding Key Vocabulary
- Reading for Understanding
- Considering the Structure of the Text
- Noticing Language
- Annotating and Questioning the Text
- Analyzing Stylistic Choices
- Summarizing and Responding
- Thinking Critically
- Reflecting on Your Reading Process
- Gathering Evidence to Support Your Claims
- Composing a Draft
- Using the Words of Others (and Avoiding Plagiarism)
- Negotiating Voices
- Revising Rhetorically
- Editing the Draft
- Responding to Feedback
- Reflecting on Your Writing Process
At the beginning of the course, teachers guide students through each step of the process. As students become familiar with the reading and writing strategies and internalize some of the basic processes, they will be able to complete more of the steps on their own. By the end of the course, students should be able to read texts on their own, without elaborate preparation, and write about them coherently. The College and Career Readiness Anchor Standards for reading, writing, speaking and listening, and language are important resources for the ERWC as are the capacities of a literate individual identified in the introduction of the CCSS for ELA/Literacy. Both are provided with the Assignment Template as appendices.

Aristotelian rhetoric also significantly informs the instructional methods and strategies of the ERWC. Students in the course have extensive practice analyzing and applying the three classical categories of rhetorical appeal: ethos, the presentation of the character and authority of the speaker; logos, the use of words and arguments; and pathos, the appeal to the emotions of the audience. These categories form the basis of rhetorical analysis in the ERWC, and, combined with other strategies, they give students a feeling of power over, and engagement with, complex texts.

To support all students in their acquisition of academic English, the twelve ERWC instructional modules are additionally accompanied by a supplemental resource on English grammar: Rhetorical Grammar for Expository Reading and Writing. Unique in its rhetorical approach to grammar, the grammar supplement uses curriculum readings and students' own writings to build competence in writing conventions and rhetorical power in language use. Strategies for modifying the ERWC curriculum to address the unique learning needs of English learners are offered in professional learning for teachers. Taken together, the text-based grammar supplement and the document, Modifying the ERWC Assignment Template for English Learners at the Emerging and Expanding Levels, provide significant resources to teachers that support students acquiring academic English.

Instructional resources on formative assessment and transfer of learning are also included with the course materials and ERWC professional learning program.

Knowledge and strategies to accomplish a deep analysis of individual texts, to synthesize multiple texts, and to integrate conflicting and contrary voices are critical across the spectrum of disciplines that students encounter throughout their college careers. The analytical skills students develop within and across ERWC modules build students’ capacities to discern whether outside texts are credible. When researching and selecting outside texts, their rhetorical abilities to evaluate sources help students determine not only which texts are credible but also how best to use them.

As a whole, the instructional methods and strategies of the ERWC are characterized by what course authors describe as “a relentless focus on the text.” In other words, texts are carefully selected to foster close study, build independence, and support principled, reading-based argumentation by adolescent learners.

**Assessments Including Methods and/or Tools:** Indicate the intent of each assessment and a brief description of how each relates to the Course Purpose and goals related to the development of critical thinking and other habits of mind skills described in the Common Core College and Career Readiness Anchor Standards in Reading, Writing, Speaking and Listening, and Language.
The ERWC uses a variety of diagnostic, formative, and summative assessments to measure students' progress toward mastery of the learning outcomes. Most assessment activities are based on the writing prompts and rubrics embedded in the twelve instructional modules. Scored sample papers are made available through the CSU ERWC Online Community (a teacher Web site), and professional learning sessions for teachers have included specific instruction in running holistic grading sessions with other teachers. The rubrics and sample papers should mean that grading standards will be consistent throughout the state. Further support and advice are available through the Online Community. Examples of specific assignment types to be assessed include the following:

- Persuasive essays
- Letters to the editor
- Argument analysis
- Descriptive outlines of assigned readings
- Reflective essays
- Text-based academic essays
- Research projects

Assessment is strategically integrated throughout the ERWC Assignment Template. Two "cells" or sections in the Assignment Template, in particular, call on students to make explicit connections between their academic performance and their development of habits of mind: "Reflecting on Your Reading Process" and "Reflecting on Your Writing Process." "Responding to Feedback" is another section in the Writing Rhetorically section of the template that provides important opportunities for assessment and reflection.

Diagnostic assessments occur during the prereading stage of the instructional modules, particularly through activities aimed at identifying students' familiarity with key vocabulary and concepts. The Rhetorical Grammar for Expository Reading and Writing materials also offer a diagnostic language assessment to be used at the start of each module.

Formative assessments are integrated throughout all the modules. These formative assessments are designed to give feedback to students that helps them clarify what purposes are driving the instruction they are receiving, what they know and still need to learn, and what next steps they want to take to further their knowledge and their use of learning strategies. These formative assessments, in contrast to summative assessments, often give students more opportunities to benefit from their teachers' support for self-regulated learning. In addition, formative assessments enable teachers to gather information about their students' learning so that instruction might be adjusted for a whole class, smaller groups, or individual students in a class.

Both on-demand and process essays are used to summatively assess students' proficiency in writing rhetorically. The final module, Bullying: A Research Project, requires students to incorporate multimedia into a researched policy recommendation. In- and out-of-class assignments (e.g., partner/group work, summaries, writing tasks, learning/reading journal entries, written and oral responses to critical reading questions, oral presentations, vocabulary work, and homework) are also assessed. In addition, passage-based multiple-choice items are used in formative assessment.

The capstone assessment for the ERWC is the "Final Reflection on Learning: The ERWC Portfolio." In careful alignment with the ERWC goals, the portfolio includes a reading-based argument letter that serves as an analysis and reflection on the student-selected writing samples and the course. The portfolio includes the following components:
• Sample of low-stakes writing
• Annotation of a reading selection
• Summary
• Three academic essays

**Reading:** Acceptable courses must require extensive reading of a variety of genres, non-literary as well as literary, including informational texts, classical and/or contemporary prose and poetry, and literary fiction and non-fiction. Reading of literary texts must include full-length works; excerpts from anthologies, condensed literature, et cetera, cannot substitute for full-length literary works. Students should be expected to read for literal comprehension and retention, depth of understanding, awareness of the text's audience, purpose and argument, and to analyze and interact with the text.

Aligned with both college-level expectations and the CCSS for ELA/Literacy, the ERWC's reading requirements emphasize a range of text types and complexity. Reading selections and tasks become more challenging as the course progresses, allowing students ample opportunities to achieve proficiency in the CCSS College and Career Readiness Anchor Standards for Reading—particularly those targeting the fluent and independent reading of complex informational texts. Because the modules all follow the same rhetorical reading process, students have extended experience developing and internalizing the following critical literacy practices:

• Activating prior knowledge and exploring key concepts
• Analyzing texts through annotation, outlining/charting text structure, and questioning strategies
• Examining and discussing relevant critical/analytical elements such as intended audience, possible author bias, and rhetorical effectiveness
• Working collaboratively and independently on analytical tasks
• Presenting aspects of their critical reading and thinking orally, as well as in writing
• Writing summaries, rhetorical précis, and responses to critical questions
• Engaging in note-taking activities, such as composing one-sentence summaries of paragraphs/passage, charting a text's main points, and developing outlines for essays in response to writing prompts.
• Completing compare/contrast and synthesis activities, increasing their capacity to make inferences and draw warranted conclusions, such as creating comparison matrixes of readings, examining significant points within texts, and analyzing significant textual features within thematically related material.

Students in the course learn that to “read rhetorically” means to focus not only on what the text says but also on the purposes it serves, the intentions of the author, and the effects on the audience. Reading rhetorically begins during the prereading phase when readers prepare to read a new text. This stage of the reading process involves surveying the text while considering its purpose, context, author, form, and language. This process helps readers set a purpose and plan for reading, anticipate what the text will discuss, and establish a framework for understanding the text when reading begins.

The rhetorical reading process modeled throughout the ERWC involves using the knowledge developed during prereading to understand a text and to confirm, refine, or refute the predictions that the reader has made about the text. Modules begin by asking students to read “with the grain.”
Once they have established their understanding of the text, students read "against the grain." Both processes help students comprehend a text more deeply.

Reading rhetorically in the ERWC concludes with postreading—the process that readers follow once they have read and reread the text. This stage can involve restating the central ideas of the text and responding to them from a personal perspective, but it also often includes questioning the text and its rhetorical strategies, evaluating its arguments and evidence, and considering how it fits into the larger conversation about the topic.

**Writing:** Courses must also require substantial, recurrent practice in writing extensive, structured papers directed at a variety of audiences and responding to a variety of rhetorical tasks. Students must demonstrate understanding of rhetorical, grammatical, and syntactical patterns, forms, and structures through responding to texts of varying lengths in unsupervised writing assignments. Courses should address basic issues of standard written English, including style, cohesion, and accuracy. Writing is taught as a recursive process involving invention, drafting, revision, and editing where writers return to these activities repeatedly rather than moving through them in discrete stages. Writing is also a way of learning and it should enhance the students' understanding of a subject.

Although the writing process can be divided into stages, writing, like reading, is essentially a recursive process that continually revisits previous moments. Students in the ERWC "write to learn" by using writing for taking notes, making marginal notations, mapping the text, making predictions, and asking questions. Students then build on the ongoing dialogue they have had with their sources, producing their own texts by using the words, ideas, and arguments that have been raised in reading and class discussion. In this transitional moment, their reading informs, inspires, and guides their writing as they shift from being an audience for writing to addressing an audience of their own in the process of making meaning.

Thinking of writing as a rhetorical activity calls for students to consider the importance of audience, purpose, ethos, situation, message, and genre as they write to affect readers in particular ways. The rhetorical approach used in this course calls for students to consider the contexts that inform the occasion for writing before deciding on a particular argument that gives shape to the writing. Thus writing rhetorically emphasizes contextualized thinking, sense-making, and persuasion as prerequisites for considerations about form or genre. As students begin to compose a first draft, they make an active contribution to the conversation of voices and texts they have been interacting with while reading. The writing is "reading-based"—a key requirement of the CCSS for ELA/Literacy—in that it synthesizes the viewpoints and information of various sources for the writer's own purposes.

The ERWC additionally emphasizes the importance of writing as communication. Writing can be a way of discovering what we think and working through our personal concerns, for example in diaries and journals, but most often we write to express our ideas to others. Texting, emailing, posting to a blog or a discussion board, tweeting, or using social media, such as Facebook, are all forms of writing. The academic essay, with an introduction, a thesis, body paragraphs, and a conclusion, is likewise a form for communicating thoughts, ideas, and arguments, but writing for an audience can include many other print and electronic forms such as letters, newspaper articles, memos, posters, reports, and Web sites.

The ERWC requires students to practice the multi-tiered, interrelated competencies related to academic writing in numerous ways:
Students write 750- to 1,500-word analytical essays based on prompts that require establishing and developing a thesis/argument and providing evidence to support that thesis by synthesizing and interpreting the ideas presented in texts. Some modules will require essays of greater length.

Students complete timed in-class writings based on prompts related to an author’s assertion(s), theme(s), purpose(s), and/or a text’s rhetorical features.

Students prepare a writing portfolio for the Final Reflection on Learning.

Listening and Speaking: Courses must allow students to develop essential critical listening skills and provide them ample practice speaking in large and small groups. Students are expected to be active, discerning listeners, to make critical distinctions between key points and illustrative examples, develop their ability to convey their ideas clearly, and listen and respond to divergent views respectfully, just as they must do when they read and write.

The ERWC’s focus on rhetoric helps students understand and apply principles of effective and ethical communication when listening and speaking. Oral language development is integrated throughout the curriculum and appears in the form of class discussions, presentations, dialogues, role play, surveys, pair conversations, Socratic Seminars, peer review activities, and guided compositions, among other activities. Because the instructional modules require students to be particularly attentive to the way acts of communication are impacted by their rhetorical context, students learn to listen and speak with a heightened awareness of audience, occasion, ethos, purpose, and persuasive strategies. The ERWC calls for students to respond respectfully to divergent views, to listen both supportively and critically, and to consider the needs and interests of their audience when speaking.

The oral discourse components of the ERWC are based on a foundational idea of the course—that reading and writing for academic purposes involves entering an ongoing conversation with others who have engaged the same question at issue. In order to participate in this conversation in an informed and responsible manner, students must first listen to the words of other writers; that is, they must read attentively and supportively with the intention of understanding a text. They must also frequently engage in discussion with their peers. In the ERWC, comprehension precedes critique, just as listening precedes (or ought to precede) speaking in civil discourse. Many activities in the modules help students play the “believing game” during their initial exploration of a topic—an approach that encourages students to postpone judgment and tolerate ambiguity when others are speaking. Students in the course thus have extensive practice “listening” to the views of others (both written and oral) in preparation for formulating their own responses.

Throughout the modules, students have frequent structured and informal opportunities to develop their oral language skills. Many of the class discussions, for instance, provide a stage for students to articulate their views in a classroom community and to have their views publically challenged or affirmed. For instance, several of the reflection activities in the modules also provide students with speaking practice. Reflection is an essential component in learning. Students benefit from discussing what they have learned about how to write and sharing that information with the rest of the class. The “Negotiating Voices” section of the Assignment Template further helps students develop their academic language competencies when engaging in class discussions by providing practice with sentence frames, or “templates,” common to academic discourse. Students practice the linguistic “moves” associated with argumentation as they engage the various viewpoints on an issue, including the views of students who disagree with them.
In addition to the activities in the modules themselves, Rhetorical Grammar for Expository Reading and Writing also offers explicit instruction in oral language development, most notably through the Guided Composition activity. In the Guided Composition, students listen carefully as their teacher reads a paragraph aloud from a selected text. During this first oral reading, students are listening for the "gist" of the piece. The teacher then reads the text aloud a second time while the students take notes, recording key words and phrases. The students next attempt to reconstruct the paragraph based on what they heard and recorded. Unlike the traditional dictation exercise students might experience in foreign language classes, the Guided Composition is a "dictocomp"; students are both comprehending and composing meaning through this facilitated listening and writing activity.
AGENDA ITEM: Textbook adoption - Expository Reading and Writing Course

Prepared by: Stacia Morrissey / Deanna Holen

Consent [x] Board Date 12-14-16

Information Only

Discussion/Action

Background Information

The California State University and California Community College systems currently use the Early Assessment Program (EAP) to determine students' level of college readiness while in high school. A student's EAP scores are equivalent to his/her Grade 11 CAASPP assessment scores in math and ELA/Literacy. The intent of the EAP program is to increase students' college readiness skills, which in turn would lead to greater levels of academic success for students while attending college.

The Expository Reading and Writing Course (ERWC) was developed by the CSU and meets UC approval for area "b" (English). It is a course designed for 12th grade college-bound students who demonstrate "Conditionally Ready" status (score of 3 on the CAASPP assessment) in ELA/Literacy. The course provides an opportunity for students to utilize their senior year to become more fully prepared for college level work. The required instructional materials for the course includes three novels, two of which are not currently on the CUSD Adopted Materials list. The two not yet approved are being submitted in this proposal.

Educational Implications

Students who score "Conditionally Ready" (score of 3) on the CAASPP assessment as juniors can take this course during their senior year and earn an exemption from the California Community College and/or California State University English placement exams by earning a C or better in both semesters of their coursework. Educational implications regarding the content of these novels is included in the New Course Proposal packet.

Fiscal Implications

Course materials costs will be covered by the College Readiness Block Grant.
**CHICO UNIFIED SCHOOL DISTRICT**  
**REQUEST FOR TEXTBOOK APPROVAL**

Page 1 of 7

Department:  
English  
Stacia Morrissey/Deanna Hoen

Course:  
ERWC  
PVHS

Grade Level:  
12

Contact Person:  

Campus:  

***Please include six copies of the text or instructional materials when submitting this form.***

A. New Adoption

1. Proposed Text

<table>
<thead>
<tr>
<th>Title:</th>
<th>Brave New World</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edition/# of Pages</td>
<td>123</td>
</tr>
<tr>
<td>Author:</td>
<td>Huxley, Aldous</td>
</tr>
<tr>
<td>Publisher:</td>
<td>HarperCollins</td>
</tr>
<tr>
<td>Copyright Date:</td>
<td>1958</td>
</tr>
<tr>
<td>Current List Price:</td>
<td>$16.01 each from Perma-Bound</td>
</tr>
</tbody>
</table>

Material is on the California Legal Compliance List?  
☐ YES  
☐ NO

2. Approximately how many classes will be using this text?  
4 sections

How many copies of the text will be purchased?  
160

3. List other districts using this text:  
All who have adopted the ERWC course

4. List other textbooks considered in the selection and their current list price:  
None - this is a required text for the adoption of the UC/CSU-approved course

5. The proposed text for all courses that have state approved standards must align with those standards. Indicate areas that are supported by the proposed text and areas where supplementary material will be needed. Attach a list of those standards and the corresponding text correlation.

<table>
<thead>
<tr>
<th>Check each criterion that applies in terms of the course and ability level to which the material is to be submitted</th>
<th>Excellent</th>
<th>Good</th>
<th>Average</th>
<th>Poor</th>
<th>Does not apply</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How well does the material align with Chico Unified School District Standards and Benchmarks?</td>
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<td>2. How well does the material align with California State Standards?</td>
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<td>3. How well does the material cover the scope of student and teacher needs at the grade level for which it is being considered?</td>
<td>x</td>
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<td>4. How well does material employ a variety of pedagogical methods of instruction?</td>
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<td>5. How well are the assessment tools linked to the content and instructional methodology?</td>
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<td>6. How successfully are formal, informal and alternative assessment systems incorporated into the teacher resource guide?</td>
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<td>7. How well does the material provide for the needs of English language learners?</td>
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<td>8. How appropriate are the supplementary materials in supporting the effective use of the text?</td>
<td>x</td>
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<tr>
<td>9. To what degree does the teacher resource material provide support and guidance?</td>
<td>x</td>
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<tr>
<td>10. Classify the ease of use of the teachers' manual?</td>
<td>x</td>
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</tbody>
</table>
6. Is supplementary material available for the adoption? □ YES  xx□ NO  
   Is it necessary for instructional purposes? xx□ YES  □ NO  
   If yes, why? It is a required reading to adopt the ERWC course/curriculum  
   What costs are involved? $16.01 per novel  

7. Textbook previously used  
   Title: N/A - new course  
   Author:  
   Publisher:  
   Copyright Date:  
   a. Date of initial adoption:  
   b. State reason for the previous text no longer serving the purpose for which it was originally adopted:
DEPARTMENT CHAIRPERSON APPROVAL TO USE TEXTBOOK

Chico High School Department Chairperson

Pleasant Valley High School Department Chairperson

Fair View High School Department Chairperson

Oakdale High School Department Chairperson

12-6-16
Date

12-6-14
Date

12-6-12
Date

CAMPUS PRINCIPAL APPROVAL

Chico High School Principal

Pleasant Valley High School Principal

Fair View High School Principal

Oakdale High School Principal

12-6-16
Date

12-1-16
Date

10-5-16
Date

12-5-16
Date

Consideration may be: approval or rejection. If rejected, it must be returned to originator with rationale.

CUSD Educational Services Approval

12-8-16
Date

Governing Board Approval

Date
CHICO UNIFIED SCHOOL DISTRICT  
REQUEST FOR TEXTBOOK APPROVAL  
Page 1 of 3  

11.2.8,  
Page 5 of 7

**Please include six copies of the text or instructional materials when submitting this form.**

A. New Adoption  
1. Proposed Text

<table>
<thead>
<tr>
<th>Title:</th>
<th>Into the Wild</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edition/# of Pages</td>
<td>207</td>
</tr>
<tr>
<td>Author:</td>
<td>Krakauer, Jon</td>
</tr>
<tr>
<td>Publisher:</td>
<td>Doubleday/Delacorte</td>
</tr>
<tr>
<td>Copyright Date:</td>
<td>1996</td>
</tr>
<tr>
<td>Current List Price:</td>
<td>$19.24 each from Perma-Bound</td>
</tr>
</tbody>
</table>

Material is on the California Legal Compliance List? □ YES  xx□ NO

2. Approximately how many classes will be using this text?  4 sections
   How many copies of the text will be purchased?  160

3. List other districts using this text:  All who have adopted the ERWC course

4. List other textbooks considered in the selection and their current list price:
   None - this is a required text for the adoption of the UC/CSU-approved course

5. The proposed text for all courses that have state approved standards must align with those standards. Indicate areas that are supported by the proposed text and areas where supplementary material will be needed. Attach a list of those standards and the corresponding text correlation.

<table>
<thead>
<tr>
<th>Check each criterion that applies in terms of the course and ability level to which the material is to be submitted</th>
<th>Excellent</th>
<th>Good</th>
<th>Average</th>
<th>Poor</th>
<th>Does not apply</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How well does the material align with Chico Unified School District Standards and Benchmarks?</td>
<td>x</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2. How well does the material align with California State Standards?</td>
<td>x</td>
<td></td>
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<td></td>
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<tr>
<td>3. How well does the material cover the scope of student and teacher needs at the grade level for which it is being considered?</td>
<td>x</td>
<td></td>
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<tr>
<td>4. How well does material employ a variety of pedagogical methods of instruction?</td>
<td>x</td>
<td></td>
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<tr>
<td>5. How well are the assessment tools linked to the content and instructional methodology?</td>
<td>x</td>
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<tr>
<td>6. How successfully are formal, informal and alternative assessment systems incorporated into the teacher resource guide?</td>
<td>x</td>
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<tr>
<td>7. How well does the material provide for the needs of English language learners?</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. How appropriate are the supplementary materials in supporting the effective use of the text?</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>9. To what degree does the teacher resource material provide support and guidance?</td>
<td>x</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>10. Classify the ease of use of the teachers’ manual?</td>
<td>x</td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
6. Is supplementary material available for the adoption? □ YES  xx□ NO
   Is it necessary for instructional purposes?  xx□ YES  □ NO
   If yes, why?  It is a required reading to adopt the ERWC course/curriculum
   What costs are involved?  $19.24 per novel

7. Textbook previously used
   Title:  N/A - new course
   Author:  
   Publisher:  
   Copyright Date:  
   a. Date of initial adoption:  
   b. State reason for the previous text no longer serving the purpose for which it was originally adopted:
DEPARTMENT CHAIRPERSON APPROVAL TO USE TEXTBOOK

Chico High School Department Chairperson

Pleasant Valley High School Department Chairperson

Fair View High School Department Chairperson

Oakdale High School Department Chairperson

Date

12-6-16

Date

12-6-16

Date

12-7-16

CAMPUS PRINCIPAL APPROVAL

Chico High School Principal

Pleasant Valley High School Principal

Fair View High School Principal

Oakdale High School Principal

Date

12/1/16

Date

12/1/16

Date

12/1/16

Date

12/1/16

Consideration may be: approval or rejection. If rejected, it must be returned to originator with rationale.

CUSD Educational Services Approval

Date

12/8/16

Governing Board Approval

Date
AGENDA ITEM: New course proposal - AP Psychology

Prepared by: Rob Mathrole / Beth Burton

☐ Consent                        Board Date 12-14-16
☐ Information Only
☐ Discussion/Action

Background Information

Pleasant Valley High School currently offers a wide variety of Advanced Placement courses in the subject areas of English, Mathematics, Science, Social Science, Visual and Performing Arts, and World Language. The course offerings in Social Science typically are responsible for the majority of our AP enrollments, and those enrollments are representative of a diverse group of students. As such, we are choosing to offer additional AP courses in this subject area.

We currently offer college preparatory Psychology, which has attracted many students over the years. College Board's AP Potential tool, which uses our students' PSAT scores to predict potential student success in AP courses, has consistently shown that nearly all students who have taken the PSAT would be successful in AP Psychology if we were to offer it. Thus, we are seeking to add it to the AP course offerings in the Social Science department.

Educational Implications

Students would have more opportunity to take an AP course with this offering, which would meet the UC "g" (elective) requirement. This would potentially lead to higher student grade point averages as well as more students experiencing college-level coursework and exams. Students who take the AP exam can also receive college credits and/or may be waived from college coursework if they earn a passing score on the exam.

Fiscal Implications

Associated costs such as teacher training and textbooks/materials will be covered by the College Readiness Block Grant and Educator Effectiveness funds.
NEW COURSE PROPOSAL OUTLINE

Course Title: AP Psychology
Grade Level: 11-12
Required/Elective: Elective
Length/Credits: Year, 10 credits
Prerequisites: NA

I. Course Rationale and Description:

The purpose of AP Psychology is to introduce students to the systematic and scientific study of the behavior and mental processes of human beings and other animals. Students are exposed to the psychological facts, principles, and phenomena associated with each of the major subfields within psychology. A variety of activities, demonstrations, and projects will be provided to meet this goal of instructing scientific and empirical approaches.

Objectives
- Students will analyze historical and modern approaches to psychology.
- Students will investigate the processes of ethical scientific psychological research and how it applies to findings in the field of psychology.
- Students will identify and explain key terminology, concepts, and evaluate theoretical models in the field of psychology.
- Students will analyze cultural, ethnic, and gender diversity as it relates to psychological theory.
- Students will develop independent critical thinking skills appropriate for the rigors of collegiate academics.

II. Instructional and Supplemental Materials:

Approved Core Instructional Materials:


Supplemental Materials:

### Course Outline/Standards/ Instructional Methods/Assessments:
Prepare a course outline that indicates the following: 1) name of unit; 2) time allocated for the unit; 3) standards addressed in each unit (please use Content Standards Framework numbering system and write out each standard); 4) Instructional strategies used in each unit; 5) Assessments utilized. (Use additional pages as needed.)

<table>
<thead>
<tr>
<th>Unit Name</th>
<th>Standards Addressed</th>
<th>Time</th>
<th>Instructional Strategies</th>
<th>Assessments</th>
</tr>
</thead>
</table>
| **Unit I:** History, Approaches, and Research Methods | A. Philosophy and History of Psychology  
B. Modern Fields, Approaches, & Perspectives  
C. Experimental, Correlational, and Clinical Research  
D. Statistics  
E. Research Methods and Ethics | 4 weeks | Quickwrites  
Think, pair, share  
Direct Instruction  
Cooperative Learning  
Jigsaw  
Role Playing  
Questioning  
Inquiry-Guided Learning  
Gaming | Unit Portfolio (includes assessment material from entire unit)  
Quizzes/Unit Exam Research Project |
| **Unit II:** Biological Basis of Behavior | A. Research Techniques (e.g., imaging, surgical, brain damage)  
B. Neural Anatomy  
C. Functional Organization of Nervous System  
D. Neural Transmission  
E. Endocrine System  
F. Genetics (Nature/Nurture) | 4 weeks | Quickwrites  
Think, pair, share  
Direct Instruction  
Cooperative Learning  
Jigsaw  
Questioning  
Inquiry-Guided Learning  
Gaming Debate (nature/nurture) | Unit Portfolio (includes assessment material from entire unit)  
Quizzes/Unit Exam Research Article  
Group Analysis |
| **Unit III:** Sensation and Perception | A. Threshold  
B. Sensory Mechanisms  
C. Sensory Adaptation  
D. Perceptual Processes | 3 weeks | Quickwrites  
Think, pair, share  
Direct Instruction  
Cooperative Learning  
Jigsaw  
Questioning  
Inquiry-Guided Learning  
Gaming | Unit Portfolio (includes assessment material from entire unit)  
Quizzes/Unit Exam Subliminal Ad Project |
| **Unit IV:** States of Consciousness | A. Sleep and Dreaming  
B. Meditation and Hypnosis  
C. Psychoactive Drug Effects | 2 weeks | Quickwrites  
Think, pair, share  
Direct Instruction  
Cooperative Learning | Unit Portfolio (includes assessment material from entire unit) |
<table>
<thead>
<tr>
<th>Unit V: Learning</th>
<th>Please see attached objectives:</th>
<th>Questioning Inquiry-Guided Learning Gaming</th>
<th>Quizzes/Unit Exam Dream Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Classical Conditioning</td>
<td>2 weeks</td>
<td>Quickwrites Think, pair, share Direct Instruction Cooperative Learning Questioning Inquiry-Guided Learning Gaming</td>
<td>Unit Portfolio (includes assessment material from entire unit) Quizzes/Unit Exam Creating a Lesson Plan Project</td>
</tr>
<tr>
<td>B. Operant Conditioning</td>
<td></td>
<td></td>
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<tr>
<td>C. Cognitive Processes in Learning</td>
<td></td>
<td></td>
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<tr>
<td>D. Biological Factors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Please see attached objectives:</td>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit VI: Memory</th>
<th>Please see attached objectives:</th>
<th>Questioning Inquiry-Guided Learning Gaming</th>
<th>Unit Portfolio (includes assessment material from entire unit) Quizzes/Unit Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Types of Memory</td>
<td>2 weeks</td>
<td>Quickwrites Think, pair, share Direct Instruction Cooperative Learning Questioning Inquiry-Guided Learning Gaming</td>
<td></td>
</tr>
<tr>
<td>B. Encoding and Retrieval</td>
<td></td>
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<tr>
<td>C. Other Memory Issues</td>
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<td></td>
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<tr>
<td>Please see attached objectives:</td>
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<table>
<thead>
<tr>
<th>Unit VII: Intelligence</th>
<th>Please see attached objectives:</th>
<th>Questioning Inquiry-Guided Learning Gaming</th>
<th>Unit Portfolio (includes assessment material from entire unit) Quizzes/Unit Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Intelligence Theories</td>
<td>2 weeks</td>
<td>Quickwrites Think, pair, share Direct Instruction Cooperative Learning Questioning Inquiry-Guided Learning Gaming</td>
<td></td>
</tr>
<tr>
<td>B. Measuring Intelligence</td>
<td></td>
<td></td>
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<tr>
<td>C. IQ Testing</td>
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<tr>
<td>D. Ethics and Standards in Testing</td>
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<tr>
<td>E. Heredity/Environment and Intelligence</td>
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<tr>
<td>Please see attached objectives:</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit VIII: Thinking and Language</th>
<th>Please see attached objectives:</th>
<th>Questioning Inquiry-Guided Learning Gaming</th>
<th>Unit Portfolio (includes assessment material from entire unit) Quizzes/Unit Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Language</td>
<td>2 weeks</td>
<td>Quickwrites Think, pair, share Direct Instruction Cooperative Learning Questioning Inquiry-Guided Learning Gaming</td>
<td></td>
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<tr>
<td>B. Thinking</td>
<td></td>
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<tr>
<td>C. Problem Solving and Creativity</td>
<td></td>
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<td>Please see attached objectives:</td>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit IX: Motivation and Emotion</th>
<th>Please see attached objectives:</th>
<th>Questioning Inquiry-Guided Learning Gaming</th>
<th>Unit Portfolio (includes assessment material from entire unit) Quizzes/Unit Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Theories of Motivation</td>
<td>3 weeks</td>
<td>Quickwrites Think, pair, share Direct Instruction Cooperative Learning Questioning Inquiry-Guided Learning Gaming</td>
<td></td>
</tr>
<tr>
<td>B. Biological and Social Needs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. Biological Motives (hunger, thirst, sexual behaviors)</td>
<td></td>
<td></td>
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<tr>
<td>D. Social Motives</td>
<td></td>
<td></td>
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<tr>
<td>E. Theories of Emotion</td>
<td></td>
<td></td>
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<tr>
<td>F. Functions of Emotions</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>G. Stress Appraisal and Physiological Responses</td>
<td></td>
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<tr>
<td>H. Causes of Stress</td>
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<td></td>
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</tr>
<tr>
<td>Unit X: Developmental Psychology</td>
<td>I. Coping with Stress Please see attached objectives:</td>
<td>3 weeks</td>
<td>Quickwrites Think, pair, share Direct Instruction Cooperative Learning Questioning Inquiry-Guided Learning Gaming</td>
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<tr>
<td>Unit XI: Personality</td>
<td>A. Personality Theories and Approaches Please see attached objectives:</td>
<td>2 weeks</td>
<td>Quickwrites Think, pair, share Direct Instruction Cooperative Learning Questioning Inquiry-Guided Learning Gaming</td>
</tr>
<tr>
<td>Unit XII - Abnormal Psychology</td>
<td>A. Definitions of Abnormality Please see attached objectives:</td>
<td>2 weeks</td>
<td>Quickwrites Think, pair, share Direct Instruction Cooperative Learning Questioning Inquiry-Guided Learning Gaming</td>
</tr>
<tr>
<td>Unit XIII: Treatment of Psychological Disorders</td>
<td>A. History Please see attached objectives:</td>
<td>2 weeks</td>
<td>Quickwrites Think, pair, share Direct Instruction Cooperative Learning Questioning Inquiry-Guided Learning Gaming</td>
</tr>
<tr>
<td>Unit XIV: Social Psychology</td>
<td>A. Interpersonal Perception Please see attached objectives:</td>
<td>2 weeks</td>
<td>Quickwrites Think, pair, share Direct Instruction Cooperative Learning</td>
</tr>
<tr>
<td>Influences</td>
<td>Questioning Inquiry-Guided Learning Gaming</td>
<td>Quizzes/Unit Exam</td>
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<tr>
<td>E. Aggression/Antisocial Behavior</td>
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</tbody>
</table>

Please see attached objectives:

**NOTES: The content standards for this course are based upon the standards outlined in the Advanced Placement: Psychology Course Description as published by College Board. They do not use a numbering system in the manner that California State Standards do. I have included the standard topic in the chart and the explicit objective-based standard to be addressed as an attached appendix.**
IV. Instructional Methods: Please indicate instructional methods to be used for special needs students, including Special Education, English Language Learners, and Honors.

This course will function with attention to a cooperative learning environment with opportunity for mixed-ability pairings.

The material developed for the course will varied material formats including graphic organizers whenever possible.

Additionally, all direct instruction will be supplemented by visuals including images and video when possible. Further, all powerpoint direct instruction will be available on my website for students to provide additional review or pre-viewing material.

Objectives will provided to students both orally and in written form at the beginning of each lesson and on the Unit Study Guide.

Class time will provide varied opportunities for reading, writing, and other active tasks that will address different learning styles.

Material will be modified in accordance with any IEP or EL needs, when appropriate.

V. Grading Policy:

Grading will be calculated using a total point scale, with test/quizzes comprising approximately 60% of the points for the course. The remaining points will be distributed among classwork, homework, and projects/papers.

Assignment and Homework Expectations: As this is a collegiate level course, students can expect a rigorous course load that consists of daily assignments and homework every night. While much of the reading will consist of textbook modules, additional video, web, and print resources will be used to supplement the course. Students should come to class fully prepared to interact effectively with the material in the classroom environment by completing assignments thoroughly and promptly. Additionally, students will be expected to take an active role in guiding the learning process by identifying and expressing questions about the material with classmates and the instructor. Work in this course will be assessed according to rigorous standards focusing on an in depth understanding and analysis of terminology, concepts, and theoretical models.

AP Psychology Binder: All notes, in-class, and homework assignments will be cataloged in a dedicated binder for this course. Individual assignments will be assessed as needed and returned to the binder. Binders will be collected and assessed at the end of each unit for a total score. This binder, along with the textbook, will serve as students’ most valuable study resource for the AP exam and should be kept in a consistent and safe location.

Aligned with State Frameworks: (x) Yes  ( ) No
Course intended for a CTE Pathway: ( ) Yes*  (x) No
*If yes, which: ( ) Introductory  ( ) Concentrator  ( ) Completer
Already CUSD Board Approved:
Yes, sites currently offering: [ ] Yes, sites not offering: [ ] No

Is course intended to meet CSU/UC Requirement: [ ] Yes**  [ ] No

**If yes, site must complete attached addendum

Chico Unified School District – Secondary New Course Proposal – Addendum

Date Submitted to Site Registrar: ______________________

To be completed by Site Department Chair/Designee:

Course Title: AP Psychology

Department: Social Science

Department member responsible for course description for Catalog/Student Handbook:

Rob Mathrole / Beth Burton

UC/CSU A-G Subject Area (check one):

A: History/Social Science

B: English

C: Mathematics

D: Laboratory Science

E: Language Other Than English

F: Visual & Performing Art

G: College Preparatory Elective

[ ] G: College Preparatory Elective

Department member responsible for UCOP submission: Rob Mathrole / Beth Burton

UCOP Website/Directions = https://hs-articulation.ucop.edu/agcmp/login#

UCOP portal opens Feb. 1. Final deadline is Sept. 15. Applies to initial and any re-submissions

To be completed by Site Office Personnel:

<table>
<thead>
<tr>
<th>Action</th>
<th>Date of confirmation</th>
<th>Person who confirmed action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submission to UCOP portal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status of submission:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approved by UCOP (attach email)</td>
<td></td>
<td></td>
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<tr>
<td>Rejected by UCOP</td>
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<tr>
<td>Resubmission, if necessary</td>
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</table>
Chico Unified School District – Secondary New Course Proposal - Signature Page

Course Title: AP Psychology
Submitted by: Rob Mathrole / Deanna Helen
Department: Social Science
School: Pleasant Valley High School
Planned Start Date: Fall 2017-18

Approvals (Signature & Date):

Dept. Chair/Admin. (High Schools)
Chico High
PVHS
Alt. Ed.
Inspire

Dept/Admin. (Jr. High)
Bidwell
Chico Jr.
Marsh
Alt. Ed.

Educational Services

- If rejected, return to originator with rationale or conditions for approval.
- If approved, date taken to board of education for board approval:

- Board of Education action: □ Approve □ Reject
Advanced Placement Psychology

Course Description: The purpose of AP Psychology is to introduce students to the systematic and scientific study of the behavior and mental processes of human beings and other animals. Students are exposed to the psychological facts, principles, and phenomena associated with each of the major subfields within psychology. A variety of activities, demonstrations, and projects will be provided to meet this goal of instructing scientific and empirical approaches.

Course Objectives

- Students will analyze historical and modern approaches to psychology.
- Students will investigate the processes of ethical scientific psychological research and how it applies to findings in the field of psychology.
- Students will identify and explain key terminology, concepts, and evaluate theoretical models in the field of psychology.
- Students will analyze cultural, ethnic, and gender diversity as it relates to psychological theory.
- Students will develop independent critical thinking skills appropriate for the rigors of collegiate academics.

Textbook

Additional Resources

Grading: Grading will be calculated using a total point scale, with test/quizzes comprising approximately 60% of the points for the course. The remaining points will be distributed among classwork, homework, and projects/papers.

Assignment and Homework Expectations: As this is a collegiate level course, students can expect a rigorous course load that consists of daily assignments and homework every night. While much of the reading will consist of textbook modules, additional video, web, and print resources will be used to supplement the course. Students should come to class fully prepared to interact effectively with the material in the classroom environment by completing assignments thoroughly and promptly. Additionally, students will be expected to take an active role in guiding the learning process by identifying and expressing questions about the material with classmates and the instructor. Work in this course will be assessed according to rigorous standards focusing on an in depth understanding and analysis of terminology, concepts, and theoretical models.

AP Psychology Binder: All notes, in-class, and homework assignments will be cataloged in a dedicated binder for this course. Individual assignments will be assessed as needed and returned to the binder. Binders will be collected and assessed at the end of each unit for a total score. This binder, along with the textbook, will serve as students’ most valuable study resource for the AP exam and should be kept in a consistent and safe location.

Tests/Quizzes: Each unit of study will be assessed with one unit test and one to two quizzes. With this schedule students can expect a test or quiz nearly every week of instruction. Additionally, pop-quizzes will be administered throughout year on an as-needed basis. To simulate the structure of the AP exam, unit exams will consist of a multiple choice section and a free response question to be completed in a timed format.

Projects
Individual and group projects/papers will be assigned throughout the semester and will vary depending on the unit. Students can expect research, analysis, and presentation as a common thread among all projects/papers.
Unit III: Sensation and Perception

A. Thresholds
B. Sensory Mechanisms
C. Sensory Adaptation
D. Perceptual Processes

Objectives

- Contrast the processes of sensation and perception.
- Distinguish between absolute and difference thresholds.
- Label a diagram of the parts of the eye and ear.
- Describe the operation of the sensory systems (five senses).
- Compare and contrast trichromatic and opponent-process theories of color vision.
- Explain relationship between amplitude, frequency, loudness, and pitch.
- Identify and explain how humans determine direction of sound, loudness, and pitch (place and frequency theory).
- Discuss the role of the vestibular system regulating balance.
- Discuss Gestalt psychology’s contribution to our understanding of perception.
- Discuss elements of perception, including processing, perceptual sets, organizational rules, perceptual cues, and optical illusions.
- Evaluate reported types of and controversy surrounding ESP.

Unit IV: States of Consciousness

A. Sleep and Dreaming
B. Meditation and Hypnosis
C. Psychoactive Drug Effects

Objectives

- Describe the sleep cycle and possible functions of sleep.
- Contrast NREM and REM sleep.
- Identify and describe major sleep disorders.
- Compare the major theories on the purpose and content of dreams.
- Identify characteristics of meditation in relation to consciousness.
- Discuss process and susceptibility of hypnosis, noting the behavior of hypnotized people and claims regarding its uses.
- Discuss the nature of substance abuse and dependence.
- Chart names, physiological effects, and psychological effects of depressants, stimulants, and hallucinogenic drugs.
Unit VII: Intelligence

A. Intelligence Theories
B. Measuring Intelligence
C. IQ Testing
D. Ethics and Standards in Testing
E. Heredity/Environment and Intelligence

Objectives

- Trace the origins of intelligence testing.
- Describe major theories on intelligence.
- Distinguish between aptitude and achievement tests.
- Describe test standardization and major standardized tests (e.g. Stanford-Binet, WAIS-III).
- Distinguish between the reliability and validity of intelligence tests.
- Analyze distribution of IQ scores for a normal population.
- Discuss evidence for both genetic and environmental influences on intelligence.
- Identify and analyze common criticisms of intelligence tests (e.g. cultural bias).

Unit VIII: Thinking and Language

A. Language
B. Thinking
C. Problem Solving and Creativity

Objectives

- Describe the nature and function of concepts and the role of prototypes in concept formation.
- Discuss problem solving through the use of trial and error, algorithms, heuristics, and insight.
- Explain how the representativeness and availability of heuristics influence our judgments.
- Contrast convergent and divergent thinking in the context of creative thinking.
- Describe the structure of language (phonemes, morphemes, syntax, and semantics).
- Identify language developmental stages (babbling, one word, etc.).
- Explain how the nature-nurture debate is illustrated in the theories of language development (e.g. critical language period versus social cognitive learning).
- Analyze the interaction between reason, thought, and language including Whorf’s theory of linguistic relativity.
- Contrast deductive and inductive reasoning.
- Describe the research on animal cognition and communication.
Unit XI: Personality
A. Personality Theories and Approaches
B. Assessment Techniques
C. Growth and Change

Objectives
- Identify and explain major components of Freud’s Psychodynamic Theory.
- Describe personality structure in terms of the interactions of the id, ego, and superego.
- Identify and explain Freud’s five stages of psychosexual development.
- Explain how defense mechanisms protect the individual from anxiety.
- Evaluate support and criticisms of Freud’s work.
- Describe the contributions of the neo-Freudians.
- Identify and explain major components of Roger’s Self Theory.
- Describe the significance of self-actualization and positive regard.
- Evaluate support and criticisms of Rogers’ and Maslow’s work.
- Discuss assessment options, uses, and limitations of personality assessments.
- Describe the social-cognitive perspective on personality including Bandura’s Social Cognitive Theory.
- Discuss the significance of locus of control, delayed gratification, self-efficacy, and learned helplessness.
- Evaluate support and criticisms for Social Cognitive Theory.
- Identify and explain major aspects of Trait Theory.
- Evaluate support and criticisms of Trait Theory.

Unit XII – Abnormal Psychology
A. Definitions of Abnormality
B. Theories of Psychopathology
C. Diagnosis of Psychopathology
D. Anxiety Disorders
E. Somatoform Disorders
F. Mood Disorders
G. Personality Disorders
H. Schizophrenic Disorders
I. Dissociative Disorders

Objectives
- Identify and evaluate definitions of abnormal behavior.
- Discuss the medical model of psychological disorders.
- Identify methods of assessing psychological disorders.
- Describe the aims and use of the most recent Diagnostic and Statistical Manual (DSM), and discuss the benefits and potential dangers of diagnostic labels.
- Apply basic diagnostic criteria in DSM for major disorders to sample case studies.
- Describe the causes, symptoms and treatment of anxiety disorders (GAD, Panic, Phobias, and OCD).
- Describe the causes, symptoms and treatment of somatoform disorders (Somatization, Conversion, Mass Hysteria).
- Describe the causes, symptoms and treatment of mood disorders (Depression, Bipolar, Dysthymia)
- Evaluate the controversy and effectiveness of ECT.
- Describe the nature of, symptoms and treatment personality disorders (Antisocial, Psychopath).
- Describe the causes, symptoms, and treatment of schizophrenic disorders (Paranoid, Disorganized, Catatonic, Type I versus Type II).
- Describe the characteristics and possible causes of dissociative disorders (Amnesia, Fugue, Identity).
AGENDA ITEM:  Textbook adoption proposal - AP Psychology

Prepared by:  Rob Mathrole / Beth Burton

☐ Consent  Board Date 12-14-16

☐ Information Only

☐ Discussion/Action

Background Information

Pleasant Valley High School currently offers a wide variety of Advanced Placement courses in the subject areas of English, Mathematics, Science, Social Science, Visual and Performing Arts, and World Language. The course offerings in Social Science typically are responsible for the majority of our AP enrollments, and those enrollments are representative of a diverse group of students. As such, we are choosing to offer additional AP courses in this subject area.

We currently offer college preparatory Psychology, which has attracted many students over the years. College Board’s AP Potential tool, which uses our students’ PSAT scores to predict potential student success in AP courses, has consistently shown that nearly all students who have taken the PSAT would be successful in AP Psychology if we were to offer it. Thus, we are seeking to add it to the AP course offerings in the Social Science department and are seeking Board approval for the textbook as described in the attached pages.

Educational Implications

Students would have more opportunity to take an AP course with this offering, which would meet the UC “g” (elective) requirement. This would potentially lead to higher student grade point averages as well as more students experiencing college-level coursework and exams. Students who take the AP exam can also receive college credits and/or may be waived from college coursework if they earn a passing score on the exam.

Fiscal Implications

Course materials could potentially be covered by the College Readiness Block Grant.
CHICO UNIFIED SCHOOL DISTRICT
REQUEST FOR TEXTBOOK APPROVAL
Page 1 of 3

Department: Social Studies Course: AP Psych Grade Level: 11/12
Contact Person: Campus: Pleasant Valley High School

***Please include six copies of the text or instructional materials when submitting this form.***

A. New Adoption
1. Proposed Text
   Title: Myer's Psychology for AP
   Author: David G. Myers
   Publisher: Worth
   Copyright Date: Feb 2014
   Current List Price: 124.09
   Material is on the California Legal Compliance List? □ YES □ NO

2. Approximately how many classes will be using this text? 2-3
   How many copies of the text will be purchased? 75
3. List other districts using this text: ____________________________________________
4. List other textbooks considered in the selection and their current list price:
   Plotnik, Rod: Introduction to Psychology $171.95
   Feldman, Robert: Understanding Psychology $255.67
   Hockenbury, Don: Discovering Psychology $157.99

5. The proposed text for all courses that have state approved standards must align with those standards. Indicate areas that are supported by the proposed text and areas where supplementary material will be needed. Attach a list of those standards and the corresponding text correlation.

<table>
<thead>
<tr>
<th>Check each criterion that applies in terms of the course and ability level to which the material is to be submitted</th>
<th>Excellent</th>
<th>Good</th>
<th>Average</th>
<th>Poor</th>
<th>Does not apply</th>
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<tbody>
<tr>
<td>1. How well does the material align with Chico Unified School District Standards and Benchmarks?</td>
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<td>2. How well does the material align with California State Standards?</td>
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<td>3. How well does the material meet the scope of student and teacher needs at the grade level for which it is being considered?</td>
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<td>4. How well does material employ a variety of pedagogical methods of instruction?</td>
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<td>5. How well are the assessment tools linked to the content and instructional methodology?</td>
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<td>6. How successfully are formal, informal and alternative assessment systems incorporated into the teacher resource guide?</td>
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<td>7. How well does the material provide for the needs of English language learners?</td>
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<td>8. How appropriate are the supplementary materials in supporting the effective use of the text?</td>
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<td>9. To what degree does the teacher resource material provide support and</td>
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DEPARTMENT CHAIRPERSON APPROVAL TO USE TEXTBOOK

Chico High School Department Chairperson
Date 12-6-16

Pleasant Valley High School Department Chairperson
Date 12-6-16

Fair View High School Department Chairperson
Date 12-7-16

Oakdale High School Department Chairperson
Date 12-7-16

CAMPUS PRINCIPAL APPROVAL

Chico High School Principal
Date 12-1-16

Pleasant Valley High School Principal
Date 12-1-16

Fair View High School Principal
Date 12-5-16

Oakdale High School Principal
Date 12-5-16

Consideration may be: approval or rejection. If rejected, it must be returned to originator with rationale.

CUSD Educational Services Approval
Date 12-8-16

Governing Board Approval
Date
AGENDA ITEM: Proposed Sequence of Band Classes at PVHS

Prepared by: Ryan Heimlich

X Consent Board Date 12/14/2016

Information Only

Discussion/Action

Background Information
The Pleasant Valley High School Band program has seen significant growth over the last few years, with numbers jumping from 18 to 85 students. With this growth has come a challenge to ensure that each student is in the correct class for their abilities, as there is only one band class available (two sections). The proposed classes will create three levels, so that students can enroll in the course that is most appropriate for them. The Levels are:

Concert Band (Freshmen, or 10-12th grade students starting a new instrument)
Symphonic Band (10th-12th Grade)
Wind Ensemble (9th-12th Grade, by audition only)

From a registrar and counselor standpoint, it will also make enrolling students much easier, as students will sign up for a specific course. Currently, students enrolled in band, and schedule changes were necessary in order to place students in the correct section.

All courses will use the same text books. I have included the textbook adoption documents as well.

Educational Implications
See above.

Fiscal Implications
If numbers allow, there is the potential for a third section of band.
NEW COURSE PROPOSAL OUTLINE

Course Title: Concert Band
Grade Level: 9, or 10-12 students who are beginning a new instrument
Required/Elective: Elective
Length/Credits: Year, 5 Credits
Prerequisites: None

I. Course Rationale and Description:
Concert Band is a course designed for all incoming 9th Graders and 10th-12th grade students who are beginning a new instrument. Music fundamentals, music notation, music theory, sight reading, music history, ear training, instrumental fundamentals, and technique (scales, arpeggios, etc.) are some of the topics that will be covered and reviewed. State and national curriculum standards will be covered throughout the year as well. We will have many performances during the year throughout the school, community, and North State.

The Concert Band will also be a part of the Marching Band.

II. Instructional and Supplemental Materials:

Approved Core Instructional Materials:
 Foundations for Superior Performance, by Richard Williams

Fussell Exercises for Ensemble Drill, by Raymond Fussell

Alfred's Essentials of Music Theory, by Andrew Surmani

Supplemental Materials:
Supplemental sheet music as selected by the Music Director

III. Course Outline/Standards/ Instructional Methods/Assessments:
Prepare a course outline that indicates the following: 1) name of unit; 2) time allocated for the unit; 3) standards addressed in each unit (please use Content Standards Framework numbering system and write out each standard); 4) Instructional strategies used in each unit; 5) Assessments utilized. (Use additional pages as needed.)

NOTE: Concert Band is a course that is designed around public performances that serve as performance assessments. Therefore, each year looks different, based on the abilities of the students, the needs of the school and the community, and available performance dates and opportunities. Thus, here is a rough look at what a year could look like:
<table>
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<th>Unit Name</th>
<th>Standards Addressed</th>
<th>Time</th>
<th>Instructional Strategies</th>
<th>Assessments</th>
</tr>
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</table>
| • Music Theory: completion of book 1 of Alfred's Essentials of Music Theory | 1.0: Artistic Perception: 1.1-1.6  
2.0: Creative Expression: 2.1-2.8                                               | First Semester                  | sing, listen, see, perform, write, compose, improvise, analyze, and apply both as individuals and groups | Written, performance, and aural |
| • Music Theory: completion of book 2 of Alfred's Essentials of Music Theory | 1.0: Artistic Perception: 1.1-1.6  
2.0: Creative Expression: 2.4-2.8                                               | Second Semester                 | sing, listen, see, perform, write, compose, improvise, analyze, and apply both as individuals and groups | Written, performance, and aural |
| • Performance                                                             | 1.0: Artistic Perception: 1.1-1.6  
2.0: Creative Expression: 2.4-2.8  
3.0: Historical & Cultural Context: 3.1-3.5  
4.0: Aesthetic Valuing: 4.1-4.4  
5.0: Connections, Relationships, Applications: 5.1-5.3                          | All Year, various dates          | sing, listen, see, perform, write, compose, improvise, analyze, and apply both as individuals and groups | Written, performance, and aural |
| • Keys up to 3 sharps/flats                                                |                                                                                      |                                |                                                                                          |                             |
| • Variety of supplemental music                                           |                                                                                      |                                |                                                                                          |                             |

IV. Instructional Methods: Please indicate instructional methods to be used for special needs students, including Special Education, English Language Learners, and Honors.

Class will be divided into music theory lessons, instrumental technical exercises, ensemble rehearsal on various pieces of music, discussion of aesthetics, and public performance. Students will sing, listen, see, perform, write, compose, improvise, analyze, and apply the concepts taught in this course.

Aside from the text, there are several Technology Aids that can prove to be very useful, including:
- Ricci Adams' Music Theory Website: www.musictheory.net
- MacGamut 2003 for Mac and Windows. Columbus, Ohio: www.macgamut.com
- Free download of Finale NotePad software at www.makemusic.com
- Free notation program: Noteflight.com

Accommodations for text analysis will be made according to the current level of the student and native language (if necessary).

V. Grading Policy: Grades will be based on a point system in the following categories:
Students will earn points on a point system in the following categories:
1. Music Theory/History/Listening Assignments:
2. Performance (playing/singing) Assessments: Students will earn points for various musical performance challenges.
3. Attendance: Please check the calendar for required dates and times (there are events that are not required). In the event of illness or emergency, please email me as soon as possible to alert me of what is going on. Students will earn points for each performance. In all instances, COMMUNICATION is the key – please communicate with me.
4. Preparation and Participation – Each student will earn points for being prepared and engaged in the ensemble.

Note: Late work will be accepted up to one week past the due date, with a deduction of one letter grade per day. The Pleasant Valley High School Grading Scale will be used to assign grades.

Aligned with State Frameworks: (x) Yes ( ) No
Course intended for a CTE Pathway: ( ) Yes* (x) No
*If yes, which: ( ) Introductory ( ) Concentrator ( ) Completer
Already CUSD Board Approved:
( ) Yes, sites currently offering: __________________________ (x) No
Is course intended to meet CSU/UC Requirement: (x) Yes** ( ) No
**If yes, site must complete attached addendum
Chico Unified School District – Secondary New Course Proposal – Addendum
Date Submitted to Site Registrar: ____________________

To be completed by Site Department Chair/Designee:

Course Title: Concert Band
Department: Visual and Performing Arts
Department member responsible for course description for Catalog/Student Handbook: Ryan Heimlich

UC/CSU A-G Subject Area (check one):
   ____A: History/Social Science
   ____B: English
   ____C: Mathematics
   ____D: Laboratory Science
   ____E: Language Other Than English
   x  ____F: Visual & Performing Art
   ____G: College Preparatory Elective

Department member responsible for UCOP submission: Ryan Heimlich

UCOP Website/Directions = https://hs-articulation.ucop.edu/agcmp/login#/.

UCOP portal opens Feb. 1. Final deadline is Sept. 15. Applies to initial and any re-submissions

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Chico Unified School District – Secondary New Course Proposal - Signature Page

Course Title: Concert Band
Submitted by: Ryan Heinrich
Department: Visual & Performing Arts
School: Pleasant Valley High School
Planned Start Date: 2017-18 School Year

Approvals (Signature & Date):

Dept. Chair/Admin. (High Schools)
Chico High [Signature]
PVHS [Signature]
Alt. Ed. [Signature]
Inspire [Signature]

Dept/Admin. (Jr. High)
Bidwell [Signature]
Chico Jr. [Signature]
Marsh [Signature]
Alt. Ed. [Signature]

Educational Services [Signature]

- If rejected, return to originator with rationale or conditions for approval.
- If approved, date taken to board of education for board approval:

Board of Education action: ☐ Approve ☐ Reject
NEW COURSE PROPOSAL OUTLINE

Course Title: Symphonic Band
Grade Level: 10-12
Required/Elective: Elective
Length/Credits: Year, 5 Credits
Prerequisites: Completion of Concert Band, or instructor approval

I. Course Rationale and Description:
Symphonic Band is a course designed for 10th-12th grade students who have had at least one year of experience playing an instrument or have successfully completed Concert Band. Music fundamentals, music notation, music theory, sight reading, music history, ear training, instrumental fundamentals, and technique (scales, arpeggios, etc.) are some of the topics that will be covered and reviewed. State and national curriculum standards will be covered throughout the year as well. We will have many performances during the year throughout the school, community, and North State.

The Symphonic Band will also be a part of the Marching Band.

II. Instructional and Supplemental Materials:
Approved Core Instructional Materials:
Foundations for Superior Performance, by Richard Williams
Fussell Exercises for Ensemble Drill, by Raymond Fussell
Alfred's Essentials of Music Theory, by Andrew Surmani

Supplemental Materials:
Supplemental sheet music as selected by the Music Director

III. Course Outline/Standards/ Instructional Methods/Assessments:
Prepare a course outline that indicates the following: 1) name of unit; 2) time allocated for the unit; 3) standards addressed in each unit (please use Content Standards Framework numbering system and write out each standard); 4) Instructional strategies used in each unit; 5) Assessments utilized. (Use additional pages as needed.)

NOTE: Symphonic Band is a course that is designed around public performances that serve as performance assessments. Therefore, each year looks different, based on the abilities of
the students, the needs of the school and the community, and available performance dates and opportunities. Thus, here is a rough look at what a year could look like:

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<th>Unit Name</th>
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<td>1.0: Artistic Perception: 1.1-1.6 2.0: Creative Expression: 2.1-2.8</td>
<td>All Year</td>
<td>sing, listen, see, perform, write, compose, improvise, analyze, and apply both as individuals and groups</td>
<td>Written, performance, and aural</td>
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<tr>
<td>Performance</td>
<td>1.0: Artistic Perception: 1.1-1.6 2.0: Creative Expression: 2.4-2.8 3.0: Historical &amp; Cultural Context: 3.1-3.5 4.0: Aesthetic Valuing: 4.1-4.4 5.0: Connections, Relationships, Applications: 5.1-5.3</td>
<td>All Year, various dates</td>
<td>sing, listen, see, perform, write, compose, improvise, analyze, and apply both as individuals and groups</td>
<td>Written, performance, and aural</td>
</tr>
</tbody>
</table>

IV. Instructional Methods: Please indicate instructional methods to be used for special needs students, including Special Education, English Language Learners, and Honors.

Class will be divided into music theory lessons, instrumental technical exercises, ensemble rehearsal on various pieces of music, discussion of aesthetics, and public performance. Students will sing, listen, see, perform, write, compose, improvise, analyze, and apply the concepts taught in this course.

Aside from the text, there are several Technology Aids that can prove to be very useful, including:
- Ricci Adams’ Music Theory Website: www.musictheory.net
- MacGamut 2003 for Mac and Windows. Columbus, Ohio: www.macgamut.com
- Free download of Finale NotePad software at www.makemusic.com
- Free notation program: Noteflight.com

Accommodations for text analysis will be made according to the current level of the student and native language (if necessary).

V. Grading Policy: Grades will be based on a point system in the following categories:

Students will earn points on a point system in the following categories:
1. Music Theory/History/Listening Assignments:
2. Performance (playing/singing) Assessments: Students will earn points for various musical performance challenges.
3. Attendance: Please check the calendar for required dates and times (there are events that are not required). In the event of illness or emergency, please email me as soon as possible to alert me of what is going on. Students will earn points for each performance. In all instances, COMMUNICATION is the key — please communicate with me.

4. Preparation and Participation — Each student will earn points for being prepared and engaged in the ensemble.

Note: Late work will be accepted up to one week past the due date, with a deduction of one letter grade per day. The Pleasant Valley High School Grading Scale will be used to assign grades.

______________________________

Aligned with State Frameworks: (x) Yes  ( ) No
Course intended for a CTE Pathway: ( ) Yes*  (x) No
*If yes, which: ( ) Introductory  ( ) Concentrator  ( ) Completer
Already CUSD Board Approved:
( ) Yes, sites currently offering: ______________________  (x) No
Is course intended to meet CSU/UC Requirement: (x) Yes**  ( ) No
**If yes, site must complete attached addendum
Chico Unified School District – Secondary New Course Proposal – Addendum

Date Submitted to Site Registrar: ____________________________

To be completed by Site Department Chair/Designee:

Course Title: Symphonic Band
Department: Visual and Performing Arts

Department member responsible for course description for Catalog/Student Handbook:
Ryan Heimlich

UC/CSU A-G Subject Area (check one):

_____ A: History/Social Science
_____ B: English
_____ C: Mathematics
_____ D: Laboratory Science
_____ E: Language Other Than English
x _____ F: Visual & Performing Art
_____ G: College Preparatory Elective

Department member responsible for UCOP submission: Ryan Heimlich

UCOP Website/Directions = https://hs-articulation.ucop.edu/agcmp/login#//

UCOP portal opens Feb. 1. Final deadline is Sept. 15. Applies to initial and any re-submissions

To be completed by Site Office Personnel:

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Chico Unified School District – Secondary New Course Proposal - Signature Page

Course Title: Symphonic Band
Submitted by: Ryan Heimlich
Department: Visual & Performing Arts
School: Pleasant Valley High School
Planned Start Date: 2017-18 School Year

Approvals (Signature & Date):

Dept. Chair/Admin. (High Schools)
Chico High
PVHS
Alt. Ed.
Inspire

Dept/Admin. (Jr. High)
Bidwell
Chico Jr.
Marsh
Alt. Ed.

Educational Services

- If rejected, return to originator with rationale or conditions for approval.
- If approved, date taken to board of education for board approval:

- Board of Education action: □ Approve □ Reject
NEW COURSE PROPOSAL OUTLINE

Course Title: Wind Ensemble
Grade Level: 9-12, by audition only (instructor approval)
Required/Elective: Elective
Length/Credits: Year, 5 Credits
Prerequisites: By audition only (instructor approval)

I. Course Rationale and Description:
Wind Ensemble is a course designed for 9th-12th grade students who have had significant experience playing an instrument. Admission to the course is by audition only (instructor approval). Music fundamentals, music notation, music theory, sight reading, music history, ear training, instrumental fundamentals, and technique (scales, arpeggios, etc.) are some of the topics that will be covered and reviewed. State and national curriculum standards will be covered throughout the year as well. We will have many performances during the year throughout the school, community, and North State.

The Wind Ensemble will also be a part of the Marching Band.

II. Instructional and Supplemental Materials:
Approved Core Instructional Materials:
Foundations for Superior Performance, by Richard Williams
Fussell Exercises for Ensemble Drill, by Raymond Fussell
Alfred’s Essentials of Music Theory, by Andrew Surmani

Supplemental Materials:
Supplemental sheet music as selected by the Music Director

III. Course Outline/Standards/ Instructional Methods/Assessments:
Prepare a course outline that indicates the following: 1) name of unit; 2) time allocated for the unit; 3) standards addressed in each unit (please use Content Standards Framework numbering system and write out each standard); 4) Instructional strategies used in each unit; 5) Assessments utilized. (Use additional pages as needed.)

NOTE: Wind Ensemble is a course that is designed around public performances that serve as performance assessments. Therefore, each year looks different, based on the abilities of...
the students, the needs of the school and the community, and available performance dates and opportunities. Thus, here is a rough look at what a year could look like:

<table>
<thead>
<tr>
<th>Unit Name</th>
<th>Standards Addressed</th>
<th>Time</th>
<th>Instructional Strategies</th>
<th>Assessments</th>
</tr>
</thead>
</table>
| - Music Theory: completion of book 3 of Alfred’s Essentials of Music Theory  
- Tonal Harmony                               | 1.0: Artistic Perception: 1.1-1.6  
2.0: Creative Expression: 2.1-2.8                                                  | All Year           | sing, listen, see, perform, write, compose, improvise, analyze, and apply both as individuals and groups | Written, performance, and aural |
| Performance                                   | 1.0: Artistic Perception: 1.1-1.6  
2.0: Creative Expression: 2.4-2.8  
3.0: Historical & Cultural Context: 3.1-3.5  
4.0: Aesthetic Valuing: 4.1-4.4  
5.0: Connections, Relationships, Applications: 5.1-5.3 | All Year, various dates | sing, listen, see, perform, write, compose, improvise, analyze, and apply both as individuals and groups | Written, performance, and aural |

IV. Instructional Methods: Please indicate instructional methods to be used for special needs students, including Special Education, English Language Learners, and Honors.

Class will be divided into music theory lessons, instrumental technical exercises, ensemble rehearsal on various pieces of music, discussion of aesthetics, and public performance. Students will sing, listen, see, perform, write, compose, improvise, analyze, and apply the concepts taught in this course.

Aside from the text, there are several Technology Aids that can prove to be very useful, including:
- Ricci Adams’ Music Theory Website: www.musictheory.net
- MacGamut 2003 for Mac and Windows. Columbus, Ohio: www.macgamut.com
- Free download of Finale NotePad software at www.makemusic.com
- Free notation program: Noteflight.com

Accommodations for text analysis will be made according to the current level of the student and native language (if necessary).

V. Grading Policy: Grades will be based on a point system in the following categories:

Students will earn points on a point system in the following categories:
1. Music Theory/History/Listening Assignments:
2. Performance (playing/singing) Assessments: Students will earn points for various musical performance challenges.
3. Attendance: Please check the calendar for required dates and times (there are events that are not required). In the event of illness or emergency, please email me as soon as possible to alert me of what is going on. Students will earn points for each performance. In all instances, COMMUNICATION is the key – please communicate with me.

4. Preparation and Participation – Each student will earn points for being prepared and engaged in the ensemble.

Note: Late work will be accepted up to one week past the due date, with a deduction of one letter grade per day. The Pleasant Valley High School Grading Scale will be used to assign grades.

______________________________

Aligned with State Frameworks: ( X ) Yes   ( ) No
Course intended for a CTE Pathway: ( ) Yes*   ( X ) No
*If yes, which: ( ) Introductory   ( ) Concentrator   ( ) Completer
Already CUSD Board Approved:
( ) Yes, sites currently offering: ____________________________ ( X ) No
Is course intended to meet CSU/UC Requirement: ( X ) Yes**   ( ) No
**If yes, site must complete attached addendum
Chico Unified School District – Secondary New Course Proposal – Addendum

Date Submitted to Site Registrar: ________________________

To be completed by Site Department Chair/Designee:

Course Title: Wind Ensemble
Department: Visual and Performing Arts

Department member responsible for course description for Catalog/Student Handbook:
Ryan Heimlich

UC/CSU A-G Subject Area (check one):

_____ A: History/Social Science
_____ B: English
_____ C: Mathematics

_____ D: Laboratory Science
_____ E: Language Other Than English

X _____ F: Visual & Performing Art
_____ G: College Preparatory Elective

Department member responsible for UCOP submission: Ryan Heimlich

UCOP Website/Directions = https://hs-articulation.ucop.edu/agcmp/login/

UCOP portal opens Feb. 1. Final deadline is Sept. 15. Applies to initial and any re-submissions

---

To be completed by Site Office Personnel:

<table>
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<tr>
<th>Action</th>
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<th>Person who confirmed action</th>
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<tr>
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<tr>
<td>Course Catalog/Student Handbook Updated</td>
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</table>
Chico Unified School District – Secondary New Course Proposal - Signature Page

Course Title: Wind Ensemble
Submitted by: Ryan Heimlich
Department: Visual & Performing Arts
School: Pleasant Valley High School
Planned Start Date: 2017-18 School Year

Approvals (Signature & Date):

Dept. Chair/Admin. (High Schools)
Chico High
PVHS
Alt. Ed.
Inspire

Dept./Admin. (Jr. High)
Bidwell
Chico Jr.
Marsh
Alt. Ed.

Educational Services

- If rejected, return to originator with rationale or conditions for approval.
- If approved, date taken to board of education for board approval:

- Board of Education action: □ Approve □ Reject
AGENDA ITEM: Textbook Adoption Proposal - Band

Prepared by: Ryan Heimlich

☐ Consent

☐ Information Only

☐ Discussion/Action

Board Date 12-14-16

Background Information

During collaboration meetings the music teachers within the District have agreed to use common materials to help formalize the instructional sequence for music students. Other districts using this text include Red Bluff High School. Chico State University also uses these instructional materials.

Educational Implications

The instructional materials align with both Chico Unified School District Standards as well as the California State Standards. The materials cover the scope of the student and teacher needs at the secondary grade levels.

Fiscal Implications

The books cost $6.95 - $8.99 each. The number of books needed will be dependent on the projected enrollment for 2017-18.
CHICO UNIFIED SCHOOL DISTRICT
REQUEST FOR TEXTBOOK APPROVAL
Page 2 of 7

11.2.12.

Department: PVHS Music
Course: Concert Band
Symphonic Band
Wind Ensemble
Grade 9-12

Ryan Heimlich

PVHS

Contact Person: Campus:

***Please include six copies of the text or instructional materials when submitting this form.***

A. New Adoption
1. Proposed Text
   Title: Foundations For Superior Performance
   Edition/# of Pages: 48
   Author: Richard Williams & Jeff King
   Publisher: Kjos Music Company
   Copyright Date: June 30, 1997
   Current List Price: $6.95
   Material is on the California Legal Compliance List? □ YES □ NO

2. Approximately how many classes will be using this text? 3
   How many copies of the text will be purchased? 130

3. List other districts using this text: Red Bluff High School, Chico State University

4. List other textbooks considered in the selection and their current list price:
   Standard of Excellence: $6.95

5. The proposed text for all courses that have state approved standards must align with those standards.
   Indicate areas that are supported by the proposed text and areas where supplementary material will be needed. Attach a list of those standards and the corresponding text correlation.

<table>
<thead>
<tr>
<th>Check each criterion that applies in terms of the course and ability level to which the material is to be submitted</th>
<th>Excellent</th>
<th>Good</th>
<th>Average</th>
<th>Poor</th>
<th>Does not apply</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How well does the material align with Chico Unified School District Standards and Benchmarks?</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. How well does the material align with California State Standards?</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3. How well does the material cover the scope of student and teacher needs at the grade level for which it is being considered?</td>
<td>x</td>
<td></td>
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</tr>
<tr>
<td>4. How well does material employ a variety of pedagogical methods of instruction?</td>
<td>x</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>5. How well are the assessment tools linked to the content and instructional methodology?</td>
<td>x</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>6. How successfully are formal, informal and alternative assessment systems incorporated into the teacher resource guide?</td>
<td>x</td>
<td></td>
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</tr>
<tr>
<td>7. How well does the material provide for the needs of English language learners?</td>
<td>x</td>
<td></td>
<td></td>
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<tr>
<td>8. How appropriate are the supplementary materials in supporting the effective use of the text?</td>
<td>x</td>
<td></td>
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</tr>
<tr>
<td>9. To what degree does the teacher resource material provide support and guidance?</td>
<td>x</td>
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<tr>
<td>10. Classify the ease of use of the teachers’ manual?</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6. Is supplementary material available for the adoption? □ YES  X NO
   Is it necessary for instructional purposes? □ YES  X NO
   If yes, why?
   What costs are involved?

7. Textbook previously used
   We have not had a previously adopted textbook.

   Title:
   Author:
   Publisher:
   Copyright Date:
   a. Date of initial adoption:
   b. State reason for the previous text no longer serving the purpose for which it was originally adopted:
DEPARTMENT CHAIRPERSON APPROVAL TO USE TEXTBOOK

Chico High School Department Chairperson
Date 12/6/16

Pleasant Valley High School Department Chairperson
Date 12/6/16

Fair View High School Department Chairperson
Date 12/7/2016

Oakdale High School Department Chairperson
Date 12/7/2016

CAMPUS PRINCIPAL APPROVAL

Chico High School Principal
Date 12/6/16

Pleasant Valley High School Principal
Date 12/11/16

Fair View High School Principal
Date 12/5/16

Oakdale High School Principal
Date 12/5/16

Consideration may be: approval or rejection. If rejected, it must be returned to originator with rationale.

CUSD Educational Services Approval
Date 12-6-16

Governing Board Approval
Date
CHICO UNIFIED SCHOOL DISTRICT
REQUEST FOR TEXTBOOK APPROVAL
Page 1 of 3

Department: PVHS Music  Course: Concert Band
              Symphonic Band  Wind Ensemble
Grade Level: 9-12  Campus: PVHS

Contact Person: Ryan Heimlich

***Please include six copies of the text or instructional materials when submitting this form.***

A. New Adoption

1. Proposed Text

   Title: Fussell Exercises for Ensemble Drill
   Edition/# of Pages: 56
   Author: Raymon Fussell
   Publisher: Alfred Music
   Copyright Date: March 1, 1985
   Current List Price: $8.99
   Material is on the California Legal Compliance List? □ YES □ NO

2. Approximately how many classes will be using this text? 3
   How many copies of the text will be purchased? 80

3. List other districts using this text: Red Bluff High School, Chico State University

4. List other textbooks considered in the selection and their current list price:
   Standard of Excellence: $6.95

5. The proposed text for all courses that have state approved standards must align with those standards.
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6. Is supplementary material available for the adoption?  □ YES  X NO  
   Is it necessary for instructional purposes?  □ YES  X NO  
   If yes, why?  
   What costs are involved?  

7. Textbook previously used  
   We have not had a previously adopted textbook.  
   Title:  
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   Publisher:  
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   a. Date of initial adoption:  
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<table>
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<tr>
<th>Department Chairperson Approval to Use Textbook</th>
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<tbody>
<tr>
<td>Chico High School Department Chairperson</td>
<td>12/6/16</td>
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<tr>
<td>Pleasant Valley High School Department Chairperson</td>
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Consideration may be: approval or rejection. If rejected, it must be returned to originator with rationale.

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</table>
AGENDA ITEM: Proposed name change for existing CTE course

Prepared by: Barbara Bertapelle

☑ Consent

Board Date 12-14-16

Information Only

Discussion/Action

Background Information

We currently offer a Medical Terminology and Intro Anatomy CTE course. We would like to change the name to Medical Terminology and Careers. The curriculum would have a slight change to include a medical career component into each unit. This is not a science course, but a CTE course to round out our selection of courses within the pathway.

Educational Implications

None. The course will be submitted for UC "g" approval.

Fiscal Implications

None at this time. Textbooks will be purchased with grant money (CTEIG).
NAME CHANGE FOR EXISTING COURSE PROPOSAL

Current Course Title: Medical Terminology and Intro Anatomy
Proposed Course Title: Medical Terminology and Careers
Grade Level: 10
Required/Elective: Elective
Length/Credits: Year/10.0
Prerequisites: none
Course Number: 29300

I. Name Change Rationale and Description:
The Medical Pathway at Pleasant Valley High School wishes to offer a course that explores different medical careers along with learning the medical terminology needed to succeed in the medical field. Students will learn medical terminology associated with each body system covered in class. Students will also explore various medical careers pertaining to each body system.

This is not a science course, but a CTE course and will be taught by a CTE credentialed instructor. Our medical terminology curriculum is already articulated with Butte College.

Aligned with State Frameworks: X Yes □ No

CSU/UC Requirements: X Yes □ No
*If yes, site must complete attached addendum.

Sites Offered: ____________________________
Chico Unified School District – Name Change for Existing Course Proposal – Addendum

Date Submitted to Site Registrar: Nov. 8, 2016

To be completed by Site Department Chair/Designee:

Course Title: Medical Terminology and Medical Careers Exploration
Department: PVHS Medical Pathway
Department member responsible for course description for Catalog/Student Handbook: Bertapelle

UC/CSU A-G Subject Area (check one):

A: History/Social Science
B: English
C: Mathematics

D: Laboratory Science
E: Language Other Than English
F: Visual & Performing Art
G: College Preparatory Elective

X

Department member responsible for UCOP submission: Bertapelle

UCOP Website/Directions = https://hs-articulation.ucop.edu/agcmp/login#

UCOP portal opens Feb. 1. Final deadline is Sept. 15. Applies to initial and any re-submissions

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### Name Change for Existing Course Proposal Signature Page

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</tr>
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<td>Bertapelle</td>
</tr>
<tr>
<td>Department:</td>
<td>PVHS Medical Pathway</td>
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<td>School:</td>
<td>PVHS</td>
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<tr>
<td>Planned Start Date:</td>
<td>Aug. 2017</td>
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#### STEP 1 – Same Grade Level Department Chairperson (High Schools) or Rep (Jr. High)

<table>
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<tr>
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<tbody>
<tr>
<td>Chico High</td>
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<tr>
<td>Pleasant Valley High</td>
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<td>12-5-16</td>
</tr>
<tr>
<td>Alternative Ed. Campus</td>
<td></td>
<td>12-6-16</td>
</tr>
<tr>
<td>Bidwell Jr. High</td>
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<td></td>
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<tr>
<td>Chico Jr. High</td>
<td></td>
<td>12-1-16</td>
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<tr>
<td>Marsh Jr. High</td>
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<td>12-1-16</td>
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<tr>
<td>Alternative Ed. Campus</td>
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#### STEP 2 – Same Grade Level Campus Principal Approval

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</tbody>
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Appropriate consideration in Steps 1 and 2 must be made within 10 days of receipt. Consideration may be: approval or rejection.

*If rejected, return to originator with rationale or conditions for approval.*

Educational Services Approval: [Signature] Date: 12-8-16

Board of Education Approval: [Signature] Date:
AGENDA ITEM: HEROES Teach

Prepared by: Priscilla Burns, Dept. Chair

Consent [X] Board Date 12-14-16

Information Only

Discussion/Action

Background Information
The HEROs in Human Service class was written in 2005 with standards and expectations that allowed a broader interpretation of family and human services to include public service. In 2013 the new CTE industry standards were developed to include public service; police and fire. HEROs in Human Services will be eliminated and the new HEROES Teach will be offered.

We have rewritten our class entitled HEROES Teach to align with our pathway in Education, Child Development and Human Services. This course aligns with both our industry pathway and provides for rich work-based learning for students. It will be a concentrator/capstone in the pathway sequence. The pathway sequence in high school will include Life Management, Human Development, HEROES Teach and Careers with Kids.

Educational Implications
This course addition offers an opportunity for students to engage in a relevant and rigorous elective that validates a career interest area. Staff will also work to articulate this course with Butte College. When articulated students can gain 9 units within this pathway and only need 1 course to obtain their Early Childhood Education credential (ECE). Staff will work to attain Univ. of CA A-G elective credit so students can have rich CTE elective options that meet college entrance requirements.

Fiscal Implications
This course is within a funded Perkins sequence, which has been in existence for over 25 years. CTE Incentive funds (CTEIG) and Perkins can help with the development of instructional materials, texts and needed media.
NEW COURSE PROPOSAL OUTLINE

Course Title: Heroes Teach
Grade Level: 11th and 12th
Required/Elective: Elective, Education and Child Development Pathway
Length/Credits: 1 year
Prerequisites: Life Management, suggested as the introduction

I. Course Rationale and Description:

This concentrator course within the Education and Child Development pathway is designed and modeled using the 2013 CTE model framework and standards. It is taking the place of the current HERO course in our department and realigning with current practices and curriculum models. This course is offered within the Family and Consumer Science Department at Pleasant Valley High School. It replaces HERO in Human Services.

The course uses education and child development as the background for learning about teaching many grade levels and within many different environments. Teachers are utilized in Preschool, K-12, college, recreation, business education and senior services.

Historical references, teaching models, practical application through real presentations of STEM, STEAM, ART and Healthy Habits will be utilized to practice real-world skills relevant to Education and Child Development. Students will receive training and then work as instructional teams to research, develop, design, practice, demonstrate, debrief and evaluate teaching modules.

Human Development and age-appropriate curriculum will be discussed, created and evaluated.

Students will become vital teaching teams as they demonstrate proficiency and mastery skills to explore both methods and subject matter interests. Students will work with a wide-variety of age, ability and culturally diverse populations to gain insight into meeting diverse needs.

Culminating projects will include a portfolio and work-based learning skills.

II. Instructional and Supplemental Materials:

Approved Core Instructional Materials:
Supplemental Materials:

- Variety of approved curriculum
- California Department of Education Frameworks and Standards
- Media relevant to instructional modalities and history of education
- Research journals and scholarly articles
- Text support materials from Goodheart-Willcox

III. **Course Outline/Standards/ Instructional Methods/Assessments:**
Prepare a course outline that indicates the following: 1) name of unit; 2) time allocated for the unit; 3) standards addressed in each unit (please use Content Standards Framework numbering system and write out each standard); 4) Instructional strategies used in each unit; 5) Assessments utilized. (Use additional pages as needed.)

<table>
<thead>
<tr>
<th>Unit Name</th>
<th>Standards Addressed</th>
<th>Time</th>
<th>Instructional Strategies</th>
<th>Assessments</th>
</tr>
</thead>
</table>
| Why Teach? Are Teachers Heroes? Career Awareness | All standards are from CTE Framework from Education and Child Dev. sector See below for all anchor and pathway standards. | 2 weeks | Teambuilding  
Introductions  
Text – reading and Analysis  
Self-reflection  
Media – speakers  
FCCLA embedded activity | Introductions and establishment of the values related to teaching Self-reflection |
| History of Education             |                                                                                     | 3 weeks| Text – reading and Analysis  
Jigsaw research of major educational reform movements  
Collaborative Project  
Peer Teaching and Review  
Guest speaker  
Use of timelines | Presentation of educational reform movements  
Student summary and reflection of history Assessment |
| Cultures and Viewpoints          |                                                                                     | 3 weeks| Text – reading and Analysis  
Media – viewpoints  
Educational Values across cultures  
Guest speakers | Text questions  
Media reflections  
Cultural viewpoint analysis |
| Communication Skills             |                                                                                     | 3 weeks| Text – reading and Analysis  
Oral presentations  
Video and Media  
Positive Communication Methods  
Role Play  
Case Studies  
FCCLA embedded activity | Oral Presentations  
Directions and Clarity  
Evaluations  
Positive Communications  
Case Studies  
Conflict Resolution Strategies |
| What makes an effective teacher? |                                                                                     | 2 weeks| Guest Speakers  
Survey  
Text – reading and Analysis | Synthesis of survey results, research and written analysis |
<table>
<thead>
<tr>
<th>The Brain and Teaching</th>
<th>4 weeks</th>
<th>Text Media on Modalities of Learning Collaborative Project Research Self-reflection Peer Teaching and Review</th>
<th>Text/Quiz – Learning modalities presentations Self-analysis summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Development Review</td>
<td>3 weeks</td>
<td>Developmental Norms for children Cooperative/collaborative project based instruction</td>
<td>Debrief and review activity on developmental norms. Standardized test Case study application</td>
</tr>
<tr>
<td>Methods and practical applications</td>
<td>12 weeks</td>
<td>Text – Reading and Analysis Work place readiness skills Formation of Cooperative Team for project based learning teaching projects Service and community service learning FCCLA embedded activity</td>
<td>Project Based rubric</td>
</tr>
<tr>
<td>Ethics and Certificates</td>
<td>2 weeks</td>
<td>Portfolio Development FCCLA embedded activity</td>
<td>Career and College Portfolio</td>
</tr>
<tr>
<td>Career Building and Portfolio</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Anchor Standards**

**1.0 Academics** Analyze and apply appropriate academic standards required for successful industry sector pathway completion leading to postsecondary education and employment. Refer to the Education, Child Development, and Family Services academic alignment matrix for identification of standards.

**2.0 Communications** Acquire and accurately use Education, Child Development, and Family Services sector terminology and protocols at the career and college readiness level for communicating effectively in oral, written, and multimedia formats. 2.1 Recognize the elements of communication using a sender–receiver model. 2.2 Identify barriers to accurate and appropriate communication. 2.3 Interpret verbal and nonverbal communications and respond appropriately. 2.4 Demonstrate elements of written and electronic communication, such as accurate spelling, grammar, and format. 2.5 Communicate information and ideas effectively to multiple audiences using a variety of media and formats. 2.6 Advocate and practice safe, legal, and responsible use of digital media information and communications technologies.

**3.0 Career Planning and Management** Integrate multiple sources of career information from diverse formats to make informed career decisions, solve problems, and manage personal career plans. 3.1 Identify personal interests, aptitudes, information, and skills necessary for informed career decision making. 3.2 Evaluate personal character traits, such as trust, respect, and responsibility, and understand the impact they can have on career success. 3.3 Explore how information and communication technologies are used in career planning and decision making. 3.4 Research the scope of career opportunities available and the requirements for education, training, certification, and licensure. 3.5 Integrate changing employment trends, societal needs, and economic conditions into career planning. 3.6 Recognize the role and function of professional organizations, industry associations, and organized labor in a productive society. 3.7 Recognize the importance of small business in the California and
global economies. 3.8 Understand how digital media are used by potential employers and postsecondary agencies to evaluate candidates. 3.9 Develop a career plan that reflects career interests, pathways, and postsecondary options.

4.0 Technology Use existing and emerging technology to investigate, research, and produce products and services, including new information, as required in the Education, Child Development, and Family Services sector workplace environment. 4.1 Use electronic reference materials to gather information and produce products and services. 4.2 Employ Web-based communications responsibly and effectively to explore complex systems and issues. 4.3 Use information and communication technologies to synthesize, summarize, compare, and contrast information from multiple sources. 4.4 Discern the quality and value of information collected using digital technologies, and recognize bias and intent of the associated sources. 4.5 Research past, present, and projected technological advances as they impact a particular pathway. 4.6 Assess the value of various information and communication technologies to interact with constituent populations as part of a search of the current literature or in relation to the information task.

5.0 Problem Solving and Critical Thinking Conduct short, as well as more sustained, research to create alternative solutions to answer a question or solve a problem unique to the Education, Child Development, and Family Services sector using critical and creative thinking, logical reasoning, analysis, inquiry, and problem-solving techniques. 5.1 Identify and ask significant questions that clarify various points of view to solve problems. 5.2 Solve predictable and unpredictable work-related problems using various types of reasoning (inductive, deductive) as appropriate. 5.3 Use systems thinking to analyze how various components interact with each other to produce outcomes in a complex work environment. 5.4 Interpret information and draw conclusions, based on the best analysis, to make informed decisions.

6.0 Health and Safety Demonstrate health and safety procedures, regulations, and personal health practices and determine the meaning of symbols, key terms, and domain-specific words and phrases as related to the Education, Child Development, and Family Services sector workplace environment. 6.1 Locate, and adhere to, Material Safety Data Sheet (MSDS) instructions. 6.2 Interpret policies, procedures, and regulations for the workplace environment, including employer and employee responsibilities. 6.3 Use health and safety practices for storing, cleaning, and maintaining tools, equipment, and supplies. 6.4 Practice personal safety when lifting, bending, or moving equipment and supplies. 6.5 Demonstrate how to prevent and respond to work-related accidents or injuries; this includes demonstrating an understanding of ergonomics. 6.6 Maintain a safe and healthful working environment. 6.7 Be informed of laws/acts pertaining to the Occupational Safety and Health Administration (OSHA).

7.0 Responsibility and Flexibility Initiate, and participate in, a range of collaborations demonstrating behaviors that reflect personal and professional responsibility, flexibility, and respect in the Education, Child Development, and Family Services sector workplace environment and community settings. 7.1 Recognize how financial management impacts the economy, workforce, and community. 7.2 Explain the importance of accountability and responsibility in fulfilling personal, community, and workplace roles. 7.3 Understand the need to adapt to changing and varied roles and responsibilities. 7.4 Practice time management and efficiency to fulfill responsibilities. 7.5 Apply high-quality techniques to product or presentation design and development. 7.6 Demonstrate knowledge and practice of responsible financial management. 7.7 Demonstrate the qualities and behaviors that constitute a positive and professional work demeanor, including appropriate attire for the profession. 7.8 Explore issues of global significance and document the impact on the Education, Child Development, and Family Services sector.

8.0 Ethics and Legal Responsibilities Practice professional, ethical, and legal behavior, responding thoughtfully to diverse perspectives and resolving contradictions when possible, consistent with applicable laws, regulations, and organizational norms. 8.1 Access, analyze, and implement quality assurance standards of practice. 8.2 Identify local, district, state, and federal regulatory agencies,
entities, laws, and regulations related to the Education, Child Development, and Family Services
industry sector. 8.3 Demonstrate ethical and legal practices consistent with Education, Child
Development, and Family Services sector workplace standards. 8.4 Explain the importance of personal
integrity, confidentiality, and ethical behavior in the workplace. 8.5 Analyze organizational culture and
practices within the workplace environment. 8.6 Adhere to copyright and intellectual property laws
and regulations, and use and appropriately cite proprietary information. 8.7 Conform to rules and
regulations regarding sharing of confidential information, as determined by Education, Child
Development, and Family Services sector laws and practices.

9.0 Leadership and Teamwork Work with peers to promote divergent and creative perspectives,
effective leadership, group dynamics, team and individual decision making, benefits of workforce
diversity, and conflict resolution as practiced in the career technical student organization (FCCLA). 9.1
Define leadership and identify the responsibilities, competencies, and behaviors of successful leaders.
9.2 Identify the characteristics of successful teams, including leadership, cooperation, collaboration,
and effective decision-making skills, as applied in groups, teams, and career technical student
organization activities. 9.3 Understand the characteristics and benefits of teamwork, leadership, and
citizenship in the school, community, and workplace setting. 9.4 Explain how professional associations
and organizations (FCCLA) and associated leadership development and competitive career
development activities enhance academic preparation, promote career choices, and contribute to
employment opportunities. 9.5 Understand that the modern world is an international community and
requires an expanded global view. 9.6 Respect individual and cultural differences and recognize the
importance of diversity in the workplace. 9.7 Participate in interactive teamwork to solve real
Education, Child Development, and Family Services sector issues and problems.

10.0 Technical Knowledge and Skills Apply essential technical knowledge and skills common to all
pathways in the Education, Child Development, and Family Services sector, following procedures
when carrying out experiments or performing technical tasks. This section is specific to the
foundational knowledge and skills required for Consumer and Family Studies (Introductory and
Anchor Skills). 10.1 Interpret and explain terminology and practices specific to the Education, Child
Development, and Family Services sector. 10.2 Comply with the rules, regulations, and expectations of
all aspects of the Education, Child Development, and Family Services sector. 10.3 Construct projects
and products specific to the Education, Child Development, and Family Services sector requirements
and expectations. [Education, Child Development, and Family Services ECDFS 5] 10.4 Collaborate
with industry experts for specific technical knowledge and skills. 10.5 Summarize the decisions and
responsibilities involved in parenting in various cultures. 10.6 Describe and identify the stages of
pregnancy, from conception through birth, and the implications of environment and heredity on the
health and well-being of a child. 10.7 Explain the importance of studying child growth and
development from infancy through adolescence. 10.8 Examine positive guidance and discipline
practices that promote feelings of self-worth as they apply to the developmental stages of children.
10.9 Demonstrate an understanding of the value and methods of providing infants, children, and
adolescents with play and developmentally appropriate learning activities. 10.10 Describe the process
of making consumer decisions, including the comparison of goods and services. 10.11 Practice how to
manage financial resources to achieve personal and family goals. 10.12 Compare consumer resources,
rights, and responsibilities and their relationship to the various levels of the economy. 10.13 Recognize
the function of the family as a basic unit of society and the contributions of the family unit to the
development of individuals. 10.14 Analyze the factors that affect the development of individuals and
how to build positive relationships. 10.15 Describe the adjustments needed to adapt to major life
changes throughout the human life cycle. 10.16 Apply strategies and resources for managing conflicts
and crises. 10.17 Summarize the importance of wellness and safety to individual and family health and
well-being. 10.18 Demonstrate an understanding of how to prevent and control infection and disease to
produce the optimum health of individuals and families. 10.19 Explain the strategies that enable
persons to manage and balance personal, family, and work responsibilities to enhance productivity and
attain a quality of life. 10.20 Assess the individual, family, and workplace factors that influence decisions at each stage of the human life cycle. 10.21 Demonstrate an understanding of how knowledge, skills, attitudes, and behaviors learned in consumer and family studies can be transferred to advanced training and education or to careers related to the Education, Child Development, and Family Services sector.

11.0 Demonstration and Application Demonstrate and apply the knowledge and skills contained in the Education, Child Development, and Family Services anchor standards, pathway standards, and performance indicators in classroom; laboratory and workplace settings, and through the career technical student organization (FCCLA). 11.1 Utilize work-based/workplace learning experiences to demonstrate and expand upon knowledge and skills gained during classroom instruction and laboratory practices specific to the Education, Child Development, and Family Services sector program of study. 11.2 Demonstrate proficiency in a career technical pathway that leads to certification, licensure, and/or continued learning at the postsecondary level. 11.3 Demonstrate entrepreneurship skills and knowledge of self-employment options and innovative ventures. 11.4 Employ entrepreneurial practices and behaviors appropriate to Education, Child Development, and Family Services sector opportunities. 11.5 Create a portfolio, or similar collection of work, that offers evidence through assessment and evaluation of skills and knowledge competency as contained in the anchor standards, pathway standards, and performance indicators.

Pathway Specific Standards

C1.0 Describe the structure of the education industry and its role in local, state, and global economies. C1.1 Identify the effect of the education industry on state and local economies. C1.2 Describe the basic structure of education in California (e.g., prekindergarten through grade twelve, community college, the California State University, the University of California), as well as private institutions. C1.3 Understand the legislative, economic, and social trends that affect the education industry. C1.4 Explain the differences in organizational structures at educational facilities, including relationships and interactions among personnel.

C2.0 Name operational procedures and organizational policies at various levels in education. C2.1 Identify the business procedures related to the acquisition of supplies and collection of fees. C2.2 Recognize the main workforce management strategies in education (e.g., shared responsibility and negotiation). C2.3 Implement appropriate procedures at the classroom level.

C3.0 State specific applications of government regulations in the education industry. C3.1 Describe the critical health and safety procedures that are used at a school site. C3.2 Identify the indicators of child abuse and neglect and the role of the mandated reporter. C3.3 Locate and understand the credentialing requirements for teachers of students in prekindergarten through community college.

C4.0 Practice critical emergency and disaster procedures at a school site. C4.1 Identify state and federal environmental and safety regulations and the use of Material Safety Data Sheets (MSDS) as they relate to the education industry. C4.2 Recognize the typical hazards at the work site and know the procedures and practices that contribute to a safe and healthy environment. C4.3 Describe the staff procedures, duties, and responsibilities related to safety, emergency, and disaster preparedness plans. C4.4 Demonstrate how to use certified first aid, cardiopulmonary resuscitation (CPR), and other emergency procedures.

C5.0 Summarize important elements of the physical, intellectual, emotional, and social development of children and adolescents. C5.1 Identify how typical and common atypical developmental patterns affect the educational progress of children and adolescents. C5.2 Explain the role of family involvement in the physical, intellectual, emotional, and social development of children and adolescents. C5.3 Diagram factors in heredity, family, culture, diversity, economic, abilities, and environment that may influence the development of children and adolescents. C5.4 Assess and evaluate evidence-based educational practices for the inclusion of children and adolescents with special needs.
C6.0 Use positive interaction, guidance, and discipline in the educational environment. C6.1 List common behavior problems, possible causes, and develop potential positive solutions. C6.2 Define the types of positive guidance techniques that are used in various ages and stages of a child’s development. C6.3 Demonstrate how to support the development of a positive self-image and self-esteem as well as independence and respect for oneself and others. C6.4 Practice strategies for building relationships and effective classroom management, including appropriate guidance and discipline. C6.5 Develop strategies for building relationships with all stakeholders.

C7.0 Explain the role and purpose of standards-based instruction and assessment. C7.1 Identify relevant curriculum standards and demonstrate their use in instruction. C7.2 Understand the processes, implementations, and educator responsibilities of individualized education programs (IEPs) and Section 504 plans of the Rehabilitation Act and the Americans with Disabilities Act. C7.3 Understand the types, important elements, and purposes of student assessments. C7.4 Explain the process of assessment for early identification of remedial needs or other interventions. C7.5 Use the basic components of effective standards-based lesson plans appropriate for varying ages, learning styles, and diverse cultural backgrounds and abilities to write lesson plans. C7.6 Practice using teaching strategies that promote student learning, critical thinking, and problem solving. C7.7 Identify relevant curriculum standards, their significance to student success, and demonstrate their use in instruction.

C8.0 Compare basic principles and practices of good nutrition and health and wellness for children. C8.1 Describe crucial safety and sanitary procedures to follow in the classroom related to good nutrition and health. C8.2 Identify services available to at-risk students and how to link students to resources. C8.3 Apply appropriate sanitation, health, and hygiene procedures for preventing the spread of infections and illnesses and for responding to allergic reactions. C8.4 Research the nutritional needs of children and the allergies commonly associated with food. C8.5 Detect common indicators of nutrition-related disorders and diseases.

C9.0 Assess how to communicate and interact effectively with families and community groups. C9.1 Recognize the factors that influence effective communication between the school and home and how to foster familial involvement. C9.2 Summarize the ways in which age, abilities, language, culture, economics, and educational backgrounds may affect communication within and among families and the school. C9.3 Explain issues of diversity and how to exhibit sensitivity to cultural differences.

C10.0 Integrate the process of developing quality teaching materials and resources for classroom instruction. C10.1 Evaluate various types and sources of quality, developmentally appropriate materials and equipment. C10.2 Demonstrate the appropriate use of current and emerging technology to develop instructional materials and support learning. C10.3 Assess available materials and resources for quality, accuracy, relevance, and grade appropriateness. C10.4 Design grade-appropriate instructional materials and resources, including those that augment educational materials adopted by the State Board of Education.

C11.0 Evaluate the role of instructional staff in supporting the learning process. C11.1 Name behavior standards expected of students in classrooms, libraries, and bathrooms on the school grounds and during educational and recreational trips. C11.2 Demonstrate techniques for providing positive feedback on student work, attendance, and classroom performance. C11.3 Explain how to help the teacher with student instruction, assessment, and confidentiality. C11.4 Analyze a variety of individual and group teaching strategies and learning theories that promote effective learning. C11.5 Research the common typical and atypical learning challenges for students in a variety of curricular areas.

C12.0 Formulate the components of effective after-school and recreational programs for individuals and groups. C12.1 List the purposes of after-school and recreational activities. C12.2 Summarize the important components and typical age-appropriate or ability-appropriate activities of various after-school and recreational programs. C12.3 Assess the recreational interests and needs of individual.
IV. **Instructional Methods:** Please indicate instructional methods to be used for special needs students, including Special Education, English Language Learners, and Honors. Instructional Methods will include reading, research, analysis, creating lessons, activities, oral presentations, written analysis, conclusions and reflections, group and individual work, collaboration, project based learning, service learning. Meeting diverse needs scaffolding methods includes but is not limited to: guided notes, increased time for projects and testing, support through alternative instructional methods such as visual or media. Expansion for students to challenge materials includes leadership roles during collaboration, extensions through FCCLA activities and enrichment projects. PBL allows each student to enhance and maximize their potential.

V. **Grading Policy:**

Testing and Assessment 40%
Projects and Presentations 40%
Written Homework 10%
Leadership and Embedded Service 10%

---

Aligned with State Frameworks: (x) Yes  ( ) No
Course intended for a CTE Pathway: (x) Yes*  ( ) No
*If yes, which: ( ) Introductory  (x) Concentrator  ( ) Completer
Already CUSD Board Approved:
( ) Yes, sites currently offering: ________________________________  (x) No
Is course intended to meet CSU/UC Requirement: (x) Yes**  ( ) No
**If yes, site must complete attached addendum

Chico Unified School District – Secondary New Course Proposal – Addendum

Date Submitted to Site Registrar: ________________

To be completed by Site Department Chair/Designee:
Course Title: _HERO’s Teach_
Department: _Family and Consumer Sciences (formerly HECT)_
Department member responsible for course description for Catalog/Student Handbook: Priscilla Burns
UC/CSU A-G Subject Area (check one):

- A: History/Social Science
- B: English
- C: Mathematics
- D: Laboratory Science
- E: Language Other Than English
- F: Visual & Performing Art
- G: College Preparatory Elective

Department member responsible for UCOP submission: Priscilla Burns

UCOP Website/Directions = [https://n-articulation.ucop.edu/ocgcmp/login#/](https://n-articulation.ucop.edu/ocgcmp/login#/)

*UCOP portal opens Feb. 1. Final deadline is Sept. 15. Applies to initial and any re-submissions*
To be completed by Site Office Personnel:

<table>
<thead>
<tr>
<th>Action</th>
<th>Date of confirmation</th>
<th>Person who confirmed action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submission to UCOP portal</td>
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<tr>
<td>Status of submission:</td>
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<tr>
<td>Approved by UCOP (attach email)</td>
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<tr>
<td>Rejected by UCOP</td>
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<tr>
<td>Resubmission, if necessary</td>
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<td>Rejected by UCOP</td>
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<tr>
<td>In UC Doorways Course List</td>
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<tr>
<td>Course Offerings Document Updated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course Catalog/Student Handbook Updated</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Chico Unified School District – Secondary New Course Proposal - Signature Page

Course Title:Heroes Teach
Submitted by: Priscilla Burns
Department: HECT/Family and Consumer Sciences
School: Pleasant Valley High School
Planned Start Date: Fall 2017

Approvals (Signature & Date):

**Dept. Chair/Admin. (High Schools)**

- Chico High: [Signature]
  - Approved
  - Rejected
- PVHS: [Signature]
  - Approved
  - Rejected
- Alt. Ed.: [Signature]
  - Approved
  - Rejected
- Inspire: [Signature]
  - Approved
  - Rejected

**Dept./Admin. (Jr. High)**

- Bidwell: [Signature]
  - Approved
  - Rejected
- Chico Jr.: [Signature]
  - Approved
  - Rejected
- If rejected, return to originator with rationale or conditions for approval.

- If approved, date taken to board of education for board approval:

- Board of Education action: ☐ Approve ☐ Reject
AGENDA ITEM: Approval of New Textbook Proposal - Teaching

Prepared by: Priscilla Burns

☐ Consent  Board Date 12-14-16
☐ Information Only
☐ Discussion/Action

Background Information

This is a concentrator course within the Career Pathway of Education and Child Development. This text aligns with the new course, Heroes Teach. It has been reviewed by several colleagues that teach alike courses in other districts and is considered one of the premier textbooks offered within this career pathway. There are excellent teacher and students tools aligned with the text.

Educational Implications

This text is an excellent example of applied academics to a career pathway. It balances project based learning, historical perspectives and has relevant, current and diverse examples. It can be modified to meet the needs of diverse learners.

We anticipate this course and supporting text will receive 2+2 credit and A-G elective credit.

Fiscal Implications

This text is approximately $75. 100 copies would be $7500 plus an additional $500 toward teacher materials and support technology databases for assessment and presentation media. These materials can be purchased with incentive grant funds since they are directly tied to increased instruction within a career pathway.
A. New Adoption

1. Proposed Text

<table>
<thead>
<tr>
<th>Title:</th>
<th>Teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edition/ # of Pages</td>
<td>430</td>
</tr>
<tr>
<td>Author:</td>
<td>Sharleen L. Kato</td>
</tr>
<tr>
<td>Publisher:</td>
<td>Goodheart Willcox</td>
</tr>
<tr>
<td>Copyright Date:</td>
<td>2016</td>
</tr>
<tr>
<td>Current List Price:</td>
<td>$74.95</td>
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</tbody>
</table>

Material is on the California Legal Compliance List X NO (there are no State adopted Texts in elective areas)

2. Approximately how many classes will be using this text? 2
How many copies of the text will be purchased? 100

3. List other districts using this text: __ Johanson High school, Riverside, Moreno Valley LA unified.

4. List other textbooks considered in the selection and their current list price:
   - Education Becoming a teacher ($87-) (reading level too advanced)
   - Essential Career Guide to being a secondary teacher (1999)(too old) $57
   - We already have the Child and Adult care professional we utilize in Careers with Kids.

5. The proposed text for all courses that have state approved standards must align with those standards.
   Indicate areas that are supported by the proposed text and areas where supplementary material will be needed. Attach a list of those standards and the corresponding text correlation.

<table>
<thead>
<tr>
<th>Check each criterion that applies in terms of the course and ability level to which the material is to be submitted</th>
<th>Excellent</th>
<th>Good</th>
<th>Average</th>
<th>Poor</th>
<th>Does not apply</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How well does the material align with Chico Unified School District Standards and Benchmarks?</td>
<td>x</td>
<td></td>
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<tr>
<td>2. How well does the material align with California State (CTE )Standards? Lots of CORE application</td>
<td>x</td>
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<tr>
<td>3. How well does the material cover the scope of student and teacher needs at the grade level for which it is being considered?</td>
<td>x</td>
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<td>4. How well does material employ a variety of pedagogical methods of instruction?</td>
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<tr>
<td>5. How well are the assessment tools linked to the content and instructional methodology?</td>
<td>x</td>
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<tr>
<td>6. How successfully are formal, informal and alternative assessment systems incorporated into the teacher resource guide?</td>
<td>x</td>
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<tr>
<td>7. How well does the material provide for the needs of English language learners? (lots of use of venn diagrams and examples)</td>
<td>x</td>
<td></td>
<td></td>
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<td>8. How appropriate are the supplementary materials in supporting the effective use of the text?</td>
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<td>9. To what degree does the teacher resource material provide support and guidance?</td>
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<td>10. Classify the ease of use of the teachers’ manual?</td>
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6. Is supplementary material available for the adoption? x YES □ NO
Is it necessary for instructional purposes? x YES □ NO
If yes, why? Provides for increased scaffolding for all students;
What costs are involved? $400

7. Textbook previously used NONE... this is a new course
Title: n/a
Author: n/a
Publisher: n/a
Copyright Date: n/a

   a. Date of initial adoption: n/a
   b. State reason for the previous text no longer serving the purpose for which it was originally adopted:
DEPARTMENT CHAIRPERSON APPROVAL TO USE TEXTBOOK

Chico High School Department Chairperson
Date 12/5/16

Pleasant Valley High School Department Chairperson
Date 12/5/16

Fair View High School Department Chairperson
Date 12/5/16

Oakdale High School Department Chairperson

CAMPUS PRINCIPAL APPROVAL

Chico High School Principal
Date 12/1/16

Pleasant Valley High School Principal
Date 12/5/16

Fair View High School Principal
Date 12/5/16

Oakdale High School Principal
Date 12/5/16

Consideration may be approval or rejection. If rejected, it must be returned to originator with rationale.

CUSD Educational Services Approval
Date 12/8/16

Governing Board Approval
Date
Teaching, 2nd Edition

By: Sharleen L. Kato, Ed.D.
ISBN: 978-1-63126-009-4
Format: Hardcover
Copyright: ©2016
Subject: Teaching
Grade Level: 9-14

Description
Teaching helps students, the teachers of tomorrow, explore the world of education. Besides investigating teaching as a profession, students will develop an understanding of the different types of learners they will encounter in the classroom. This includes how humans develop physically, intellectually, emotionally, and socially as all of these impact the instructional methods used. The educational system, both past and present, is reviewed along with the responsibilities that come with employment.

- Students receive a full introduction to the role and duties of a teacher, including planning, instructional methods, assessment, and classroom management.
- Activities guide students in creating their own portfolios comprised of lesson plans, classroom rule sets, and other teaching-related materials.
- This is the only textbook available for high school students planning a teaching career.

Previous Edition
Teaching

Related Title(s)

G-W Teaching Video Series

Unit 1: You—The Teacher of Tomorrow
1. The Teaching Profession
2. Becoming a Teacher

Unit 2: The School
3. The Early History of Education in America
4. The Modern History of Education in America
5. Schools and Society

Unit 3: The Learner
6. Understanding Human Development
7. Middle Childhood: Growth and Development
8. The Teen Years: Growth and Development

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- Chapter 2 (g-wonline textbooks.com, Career Education)
- Chapter 7 (g-wonline textbooks.com, Career Education)
- Glossary (g-wonline textbooks.com, Career Education)

Instructor's Presentations for PowerPoint® Individual License
- Chapter 6 (PPS, 3.9 MB)

Companion Website
- View Site (www.g-wlearning.com, Teaching)

Mobile Companion Website
- View Site (www.g-wlearning.com, Teaching)

Correlations

Florida
- Teaching Assisting (PDF, 432 KB)

Idaho
- Education Assistant (PDF, 499 KB)

http://www.g-w.com/teaching-2016
About Author(s)
Sharleen L. Kato, Ed.D. - loves teaching as well as learning. She is a professor at Seattle Pacific University where she encourages students to become creative and successful in their chosen career field. She believes that the mission of family and consumer sciences is the key to a myriad of meaningful and fulfilling careers. Dr. Kato has taught undergraduate students for over 25 years. She currently serves as the Family and Consumer Sciences Department Director. Dr. Kato holds a doctorate in education, a master’s in human ecology, and an undergraduate degree in home economics. She travels extensively spending at least two weeks each year serving in an orphanage, teen home, and prenatal clinic in the Philippines.

Products/Prices

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Supplemental Materials

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Phone: 800.323.0440  708.687.5000  Fax: 888.409.3900  708.468.8692  E-mail: customserv@g-w.com  orders@g-w.com  Mail: Goodheart-Wilcox Publisher 18604 West Creek Drive Tinley Park, IL 60477-6243
AGENDA ITEM: Fashion and Retail Merchandising

Prepared by: Priscilla Burns, Dept. Chair

☑ Consent  Board Date 12-14-16

☐ Information Only

☐ Discussion/Action

Background Information
For over 30 years Fashion Merchandising was taught as a Butte County Office of Education class. This course is part of a career pathway sequence in Fashion Design and Merchandising. This capstone course offers extensive work-based learning community classroom and cooperative vocational education contracts to students. This addition is to move the course from BCOE to CUSD course list.

Educational Implications
This course will fulfill the capstone requirements in the CTE Fashion Design and Merchandising pathway. There are over 30 businesses in Chico that have been actively involved within this course. Staff is anxious to have this offering to help students transition to career and college readiness.

Fiscal Implications
This course is within a funded Perkins sequence, which has been in existence for over 30 years as a Butte County Office of Education, ROP course. CTE Incentive funds (CTEIG) and Perkins can help with the development of updated instructional materials, texts and needed media. We currently have all the BCOE/ROP course materials, texts and resources.
NEW COURSE PROPOSAL OUTLINE

Course Title: Fashion and Retail Merchandising
Grade Level: 11-12th grade
Required/Elective: elective
Length/Credits: 1 year
Prerequisites: Fashion Design recommended/ Life Management Recommended

I. Course Rationale and Description:
This course was offered for 30 years through BCOE/ROP and was a capstone/completer course for the Fashion Design and Merchandising pathway. It is now under the direction of Chico Unified School District and is in alignment with the updated 2013 CTE framework and standards for the Fashion Design and Merchandising industry sector. It will utilize work-based learning methods along with project based and traditional classroom strategies.

II. Instructional and Supplemental Materials:
Approved Core Instructional Materials:

Supplemental Materials:
Assorted Historical Media
FIDM approved for us resources
History of Design
Scholarly Articles
Biographies of Designers- assorted
III. Course Outline/Standards/Instructional Methods/Assessments:
Prepare a course outline that indicates the following: 1) name of unit; 2) time allocated for the unit; 3) standards addressed in each unit (please use Content Standards Framework numbering system and write out each standard); 4) Instructional strategies used in each unit; 5) Assessments utilized. (Use additional pages as needed.)

<table>
<thead>
<tr>
<th>Unit Name</th>
<th>Standards Addressed</th>
<th>Time</th>
<th>Instructional Strategies</th>
<th>Assessments</th>
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<tbody>
<tr>
<td>Employment Skills applied to Fashion and Retail Merchandising</td>
<td>Anchor and Pathway specific standards are addressed below:</td>
<td>1 week</td>
<td>Text, Analysis and Summarize Guest Speakers Role Play</td>
<td>Development of a portfolio</td>
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<tr>
<td>Workplace competencies</td>
<td></td>
<td>3 weeks</td>
<td>Text, Analysis and Summarize Guest Speakers Field Trips Project Based Learning Role Play</td>
<td>Skills Pre-assessment Case Studies on Communication and Interpersonal Skills</td>
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<td>Fashion Industry Awareness</td>
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<td>2 weeks</td>
<td>Text, Analysis and Summarize Guest Speakers Field Trips Project Based Learning Reflections/Critic</td>
<td>Resumes, Cover Letters and Portfolio of work</td>
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<tr>
<td>Application of Principles and Elements of Design</td>
<td></td>
<td>2 weeks</td>
<td>Text, Analysis and Summarize Guest Speakers Field Trips Project Based Learning Reflections/Critic</td>
<td>Standardized Test on Industry Vocabulary Project Analysis of industry, markets, trends and niches. Presentation of Project Reflections</td>
</tr>
<tr>
<td>Historical Analysis of fashion and merchandising</td>
<td></td>
<td>2 weeks</td>
<td>Text, Analysis and Summarize Guest Speakers Field Trips Project Based Learning Reflections/Critic</td>
<td>Portfolio project applications of design principles and elements to student work. Peer Critic Teacher Feedback Self-Analysis</td>
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<tr>
<td>Textiles and Textile Products</td>
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<td>2 weeks</td>
<td>Text, Analysis and Summarize PBL – Project Based Learning</td>
<td>Presentation on history of fashion and merchandising Vocabulary and application to industry through historical analysis.</td>
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<tr>
<td>Garment Design, Production, alteration and Repair</td>
<td>6 weeks</td>
<td>Text, Analysis and Summarize Project Based Learning Service Project Costuming</td>
<td>PBL final project rubrics. Vocabulary development through application and quizzes.</td>
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<tr>
<td>Merchandising</td>
<td>10 weeks</td>
<td>Text, Analysis and Summarize Simulations Role Play Case Studies Analysis of Retail spaces Community Classroom Cooperative VE (paid) contract (optional)</td>
<td>On the job training contracts, CC, CVE, Training Plans and Supervisor Evaluations Final Portfolio Rubric Evaluations</td>
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Anchor Standards

1.0 Academics Analyze and apply appropriate academic standards required for successful industry sector pathway completion leading to postsecondary education and employment. Refer to the Fashion Design academic alignment matrix for identification of standards.

2.0 Communications Acquire and accurately use Fashion and Interior Design sector terminology and protocols at the career and college readiness level for communicating effectively in oral, written, and multimedia formats. (Direct alignment with LS 9-10, 11-12.6) 2.1 Recognize the elements of communication using a sender-receiver model. 2.2 Recognize the use of style guides in industry. 2.3 Identify barriers to accurate and appropriate communication. 2.4 Interpret verbal and nonverbal communications and respond appropriately. 2.5 Demonstrate elements of written and electronic communication such as accurate spelling, grammar, and format. 2.6 Communicate information and ideas effectively to multiple audiences using a variety of media and formats. 2.7 Advocate and practice safe, legal, and responsible use of digital media information and communications technologies.

3.0 Career Planning and Management Integrate multiple sources of career information from diverse formats to make informed career decisions, solve problems, and manage personal career plans. (Direct alignment with SLS 11-12.2) 3.1 Identify personal interests, aptitudes, information, and skills necessary for informed career decision making. 3.2 Evaluate personal character traits such as trust, respect, and responsibility and understand the impact they can have on career success. 3.3 Explore how information and communication technologies are used in career planning and decision making. 3.4 Research the scope of career opportunities available and the requirements for education, training, certification, and licensure. 3.5 Integrate changing employment trends, societal needs, and economic conditions into career planning. 3.6 Recognize the role and function of professional organizations, industry associations, and organized labor in a productive society. 3.7 Recognize the importance of small business in the California and global economies. 3.8 Understand how digital media are used by potential employers and postsecondary agencies to evaluate candidates. 3.9 Develop a career plan that reflects career interests, pathways, and postsecondary options.

4.0 Technology Use existing and emerging technology to investigate, research, and produce products and services, including new information, as required in the Fashion and Interior Design sector workplace environment. (Direct alignment with WS 11-12.6) 4.1 Use electronic reference materials to gather information and produce products and services. 4.2 Employ Web-based
communications responsibly and effectively to explore complex systems and issues. 4.3 Use information and communication technologies to synthesize, summarize, compare, and contrast information from multiple sources. 4.4 Discern the quality and value of information collected using digital technologies, and recognize bias and intent of the associated sources. 4.5 Research past, present, and projected technological advances as they impact a particular pathway. 4.6 Assess the value of various information and communication technologies to interact with constituent populations as part of a search of the current literature or in relation to the information task.

5.0 Problem Solving and Critical Thinking Conduct short, as well as more sustained, research to create alternative solutions to answer a question or solve a problem unique to the Fashion and Interior Design sector using critical and creative thinking, logical reasoning, analysis, inquiry, and problem-solving techniques. (Direct alignment with WS 11-12.7) 5.1 Identify and ask significant questions that clarify various points of view to solve problems. 5.2 Solve predictable and unpredictable work-related problems using various types of reasoning (inductive, deductive) as appropriate. 5.3 Use systems thinking to analyze how various components interact with each other to produce outcomes in a complex work environment. 5.4 Interpret information and draw conclusions, based on the best analysis, to make informed decisions.

6.0 Health and Safety Demonstrate health and safety procedures, regulations, and personal health practices and determine the meaning of symbols, key terms, and domain-specific words and phrases as related to the Fashion and Interior Design sector workplace environment. (Direct alignment with RSTS 9-10, 11-12.4) 6.1 Locate, and adhere to, Material Safety Data Sheet (MSDS) instructions. 6.2 Interpret policies, procedures, and regulations for the workplace environment, including employer and employee responsibilities. 6.3 Use health and safety practices for storing, cleaning, and maintaining tools, equipment, and supplies. 6.4 Practice personal safety when lifting, bending, or moving equipment and supplies. 6.5 Demonstrate how to prevent and respond to work-related accidents or injuries; this includes demonstrating an understanding of ergonomics. 6.6 Maintain a safe and healthful working environment. 6.7 Be informed of laws/acts pertaining to the Occupational Safety and Health Administration (OSHA).

7.0 Responsibility and Flexibility Initiate, and participate in, a range of collaborations demonstrating behaviors that reflect personal and professional responsibility, flexibility, and respect in the Fashion and Interior Design sector workplace environment and community settings. (Direct alignment with SLS 9-10, 11-12.1) 7.1 Recognize how financial management impacts the economy, workforce, and community. 7.2 Explain the importance of accountability and responsibility in fulfilling personal, community, and workplace roles. 7.3 Understand the need to adapt to changing and varied roles and responsibilities. 7.4 Practice time management and efficiency to fulfill responsibilities. 7.5 Apply high-quality techniques to product or presentation design and development. 7.6 Demonstrate knowledge and practice of responsible financial management. 7.7 Demonstrate the qualities and behaviors that constitute a positive and professional work demeanor, including appropriate attire for the profession. 7.8 Explore issues of global significance and document the impact on the Fashion and Interior Design sector.

8.0 Ethics and Legal Responsibilities Practice professional, ethical, and legal behavior, responding thoughtfully to diverse perspectives and resolving contradictions when possible, consistent with applicable laws, regulations, and organizational norms. (Direct alignment with SLS 11-12.1d) 8.1 Access, analyze, and implement quality assurance standards of practice. 8.2 Identify local, district, state, federal, and international regulatory agencies and nongovernmental entities, as well as laws and regulations, related to the Fashion and Interior Design industry sector. 8.3 Demonstrate ethical and legal practices consistent with Fashion and Interior Design sector workplace standards. 8.4 Explain the importance of personal integrity, confidentiality, and ethical behavior in the workplace. 8.5 Analyze organizational culture and practices within the workplace environment. 8.6 Adhere to copyright and intellectual property laws and regulations, and use and appropriately cite proprietary information. 8.7
Conform to rules and regulations regarding sharing of confidential information, as determined by Fashion and Interior Design sector laws and practices.

9.0 Leadership and Teamwork Work with peers to promote divergent and creative perspectives, effective leadership, group dynamics, team and individual decision making, benefits of workforce diversity, and conflict resolution as practiced in the career technical student organization (FCCLA).

9.1 Define leadership and identify the responsibilities, competencies, and behaviors of successful leaders. 9.2 Identify the characteristics of successful teams, including leadership, cooperation, collaboration, and effective decision-making skills as applied in groups, teams, and career technical student organization activities. 9.3 Understand the characteristics and benefits of teamwork, leadership, and citizenship in the school, community, and workplace setting.

9.4 Explain how professional associations and organizations and associated leadership development and competitive career development activities enhance academic preparation, promote career choices, and contribute to employment opportunities. 9.5 Understand that the modern world is an international community and requires an expanded global view. 9.6 Respect individual and cultural differences and recognize the importance of diversity in the workplace. 9.7 Participate in interactive teamwork to solve real Fashion and Interior Design sector issues and problems.

10.0 Technical Knowledge and Skills Apply essential technical knowledge and skills common to all pathways in the Fashion and Interior Design sector, following procedures when carrying out experiments or performing technical tasks. (Direct alignment with WS 11-12.6) This section is specific to the foundational knowledge and skills required for Consumer and Family Studies. 10.1 Interpret and explain terminology and practices specific to the Fashion and Interior Design sector. 10.2 Comply with the rules, regulations, and expectations of all aspects of the Fashion and Interior Design sector. 10.3 Construct projects and products specific to the Fashion and Interior Design sector requirements and expectations. 10.4 Collaborate with industry experts for specific technical knowledge and skills.

10.5 Explore how apparel and interior fashions meet social, physical, and psychological needs of individuals and families. 10.6 Demonstrate an understanding of the elements and principles of design and color theory as they apply to the selection of apparel, furnishings, and housing. 10.7 Compare and contrast the historical and cultural influences on apparel, furnishings, and housing. 10.8 Explore and experiment with different textile fibers, fabrics, and finishes used for apparel and furnishings.

10.9 Demonstrate how to construct, alter, and repair fashion and interior items and accessories through the use of basic construction techniques and equipment. 10.10 Analyze the principles of wardrobe planning and maintenance and the factors that influence a person’s apparel budget. 10.11 Evaluate the factors that influence housing decisions. 10.12 Identify the factors influencing the selection and care of home furnishings, accessories, and equipment. 10.13 Assess the principles and factors that influence space planning and interior design, including universal access.

6 FID | California Career Technical Education Model Curriculum Standards 10.14 Explain how individuals apply strategies that enable them to manage personal and work responsibilities to enhance productivity in the workplace. 10.15 Assess the factors regarding the individual, the family, and the workplace that influence decisions related to apparel and housing at each stage of the life cycle. 10.16 Demonstrate an understanding of how knowledge, skills, attitudes, and behaviors learned in Consumer and Family Studies can be transferred to advanced training and education or careers in the Fashion Design sector.

11.0 Demonstration and Application Demonstrate and apply the knowledge and skills contained in the Fashion and Interior Design anchor standards, pathway standards, and performance indicators in classroom, laboratory and workplace settings and through the career technical student organization (FCCLA).

11.1 Utilize work-based/workplace learning experiences to demonstrate and expand upon knowledge and skills gained during classroom instruction and laboratory practices specific to the Fashion Design sector program of study. 11.2 Demonstrate proficiency in a career technical pathway that leads to certification, licensure, and/or continued learning at the postsecondary level. 11.3 Demonstrate entrepreneurship skills and knowledge of self-employment options and innovative ventures. 11.4 Employ entrepreneurial practices and behaviors appropriate to Fashion Design sector
opportunities. 11.5 Create a portfolio, or similar collection of work, that offers evidence through assessment and evaluation of skills and knowledge competency as contained in the anchor standards, pathway standards, and performance indicators.

Pathway Specific Standards
A1.0 Understand various aspects of the fashion design, manufacturing, merchandising, and retail industry and the industry’s role in local, state, national, and global economies. A1.1 Understand the different segments of the fashion industry from textile design to retail sales. A1.2 Identify how the various segments of the industry contribute to local, state, national, and international economies. A1.3 Understand how such resources as periodicals, mass media, trend reports, and the Internet are used in the industry. A1.4 Compare major legislative, economic, and social trends that affect the industry. A1.5 Research various professional organizations such as Fashion Group International (FGI) and National Retail Federation (NRF). A1.6 Research postsecondary education options in the field of fashion design and merchandising.

A2.0 Understand basic hiring practices, operational policies, procedures, and regulatory requirements in the fashion design, manufacturing, merchandising, and retail industry. A2.1 Identify what constitutes appropriate professional clothing, grooming, and personal hygiene for a variety of professions. A2.2 Identify hiring practices within the industry. A2.3 Analyze basic operational procedures for all aspects of the industry (e.g., quality control, inventory control, distribution, quick response marketing, production, and accounting). A2.4 Create a product which assesses the importance of accurate and thorough documentation to various aspects of the industry.

A3.0 Understand the principles of organizational management, including the roles and responsibilities of management and employees. A3.1 Describe important management strategies, such as shared responsibilities and negotiation. A3.2 Practice using common organizational procedures and tools, such as business plans, spreadsheets, recordkeeping, and communication with consumers. A3.3 Compare and contrast the major outcomes of effective management, such as profitability, productivity, a positive work environment, and client satisfaction. A3.4 Identify and list management titles and the role of each position in the overall operation of the company. A3.5 Use the concepts and principles that lead to a healthy business with a positive company culture to begin creating a business plan.

A4.0 Apply the elements and principles of design in various aspects of the fashion industry. A4.1 Apply the elements and principles of design to various tasks within the fashion industry (e.g., textiles design, fashion design, graphic design, visual merchandising). A4.2 Explain the fundamentals of trend forecasting. A4.3 Integrate various types of technology in the design process. A4.4 Master skills to create presentation boards. A4.5 Create a portfolio to showcase design ideas and mastery.

A5.0 Understand the history of social, cultural, political, economic, and technological changes influence fashion. A5.1 Analyze how fashion and design have been influenced by politics, society, economics, culture, and aesthetics. A5.2 Compare how textiles and design have evolved throughout history. A5.3 Define the ways in which economies, mass production, labor unions, globalization, and technology affect the fashion industry. A5.4 Create a product describing fashion cycles and the adaptation of historical fashions to current trends.

A6.0 Understand the characteristics, production, and maintenance of textiles and the use of sustainable practices. A6.1 Identify general characteristics and maintenance of various fibers, fabrics, and finishes. A6.2 Compare textile manufacturing methods for producing fabrics that are woven, nonwoven, and knit. A6.3 Analyze principals of standard print design (e.g., abstract and geometric) and color designs (e.g., tone-on-tone, positive/negative, and monotone). A6.4 Integrate the skills and procedures necessary to create and produce textile products. A6.5 Research how technology is used to
create various textiles. A6.6 Evaluate how copyright, trademark, and patent laws affect textile design and production. A6.7 Compile textile industry standards that demonstrate sustainable practices.

A7.0 Understand how trends, color, and societal forecasting are used in the fashion industry. A7.1 Identify the resources available to the fashion industry that provide information on fashion trends, color, and societal trend forecasting. A7.2 Research trends that influence fashion and interior design. A7.3 Apply trend forecasting as it relates to fashion design, textile design, product development, and merchandising.

A8.0 Understand the principles and techniques used in fashion design and product development and manufacturing. A8.1 Know the basic process of manufacturing garments. A8.2 Identify equipment, tools, supplies, and software to construct or manufacture garments. A8.3 Illustrate how the manufacturing process relates to the cost of producing garments. A8.4 Evaluate the effects of global sourcing on garment production. A8.5 Formulate cost sheets for garments, including manufacturer’s costs, markup, and profit margin. A8.6 Sketch a fashion design on the nine-head figure. A8.7 Define flat patternmaking and draping techniques. A8.8 Recognize pattern specifications for global production. A8.9 Experiment with draping using various fabrics. A8.10 Distinguish how technology is used in patternmaking, grading, and marking. A8.11 Evaluate first-sample garments made from first patterns and make necessary adjustments.

A9.0 Understand the skills and procedures necessary for sales, marketing, and branding in the fashion industry. A9.1 Define basic procedures for sales, exchanges, and returns. A9.2 Identify the factors that contribute to quality customer relations, service, and sales. A9.3 Analyze customer buying motives. A9.4 Apply effective sales, marketing techniques, and presentation skills. A9.5 Assess strategies for helping customers select merchandise and recommend related products and services appropriate to their needs. A9.6 Explain how technology can be used to provide customer service. A9.7 Define the concept of branding and identify successful examples.

A10.0 Understand visual merchandising and product styling. A10.1 Explain the characteristics of effective interior and exterior retail displays. A10.2 Understand the theory and practice of merchandise placement on a sales floor. A10.3 Construct store displays by using various fixtures (e.g., mannequins, shadow boxes, wall and tabletop displays, and props) to convey specific messages (e.g., a store’s image, a specific manufacturer’s label, a color or fabric story, or a specific event). A10.4 Demonstrate understanding of methods of visual merchandising and styling as it relates to selling on all types of media by creating a marketing plan.

A11.0 Understand the current laws, work site policies, and systems for inventory control and loss prevention. A11.1 Describe the procedures involved in receiving, inspecting, and marking merchandise and distributing it to the selling floor. A11.2 Explain the role of inter-store transfers in the general distribution of goods. A11.3 Understand the current laws that affect inventories. A11.4 Compare common inventory loss points and strategies for loss prevention. A11.5 Analyze how loss prevention affects all profits.
IV. **Instructional Methods:** Please indicate instructional methods to be used for special needs students, including Special Education, English Language Learners, and Honors.

Instructional Methods will include reading, research, analysis, creating lessons, activities, oral presentations, written analysis, conclusions and reflections, group and individual work, collaboration, project based learning, service learning. This course will also rely on community classroom internships and work-based learning strategies.

Meeting diverse needs scaffolding methods includes but is not limited to: guided notes, increased time for projects and testing, support through alternative instructional methods such as visual or media.

Expansion for students to challenge materials includes leadership roles during collaboration, extensions through FCCLA activities and enrichment projects. PBL allows each student to enhance and maximize their potential.

V. **Grading Policy:**
Assessments including portfolios, projects and standards based traditional tests: 50%
Community Classroom 30%
Written Work, evaluations, critics, projects 20%
Aligned with State Frameworks: (x) Yes  ( ) No
Course intended for a CTE Pathway: (x) Yes*  ( ) No
  *If yes, which:  ( ) Introductory  ( ) Concentrator  (x) Completer/ Capstone
Already CUSD Board Approved:
  ( ) Yes, sites currently offering: ________________________________ (x) No
Is course intended to meet CSU/UC Requirement: (x) Yes**  ( ) No
  **If yes, site must complete attached addendum

Chico Unified School District – Secondary New Course Proposal – Addendum

Date Submitted to Site Registrar: _______________________

To be completed by Site Department Chair/Designee:

Course Title: ____________________________
  _Fashion and Retail Merchandising_
Department: ____________________________
  _Family and Consumer Science_
Department member responsible for course description for Catalog/Student Handbook:
  Priscilla Burns

UC/CSU A-G Subject Area (check one):

_____ A: History/Social Science
_____ B: English
_____ C: Mathematics
_____ D: Laboratory Science
_____ E: Language Other Than English
 _____ F: Visual & Performing Art
   X_____ G: College Preparatory Elective

Department member responsible for UCOP submission: _______ Priscilla Burns _______

UCOP Website/Directions = https://hs-articulation.ucop.edu/agcmp/login/
  *UCOP portal opens Feb. 1. Final deadline is Sept. 15. Applies to initial and any re-submissions*
To be completed by Site Office Personnel:

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Chico Unified School District – Secondary New Course Proposal - Signature Page

Course Title: Fashion and Retail Merchandising
Submitted by: Priscilla Burns
Department: Family and Consumer Science (HECT)
School: Pleasant Valley High School
Planned Start Date: 2017-18 School Year

Approvals (Signature & Date):

Dept. Chair/Admin. (High Schools):
Chico-High
PVHS
Alt. Ed.
Inspire

Dept/Admin. (Jr. High):
Bidwell
Chico Jr.
Marsh
Alt. Ed.

Educational Services
- If rejected, return to originator with rationale or conditions for approval.
- If approved, date taken to board of education for board approval:

_____________________________________
- Board of Education action: □ Approve  □ Reject
AGENDA ITEM: Chico High School – New Course Proposal - Biology and Sustainable Agriculture

Prepared by: Courtney Champlin – Teacher, Mark Beebe - Principal

X  Consent

_____ Information Only  Board Date: 12/14/16

_____ Discussion/Action

Background Information

The Agriculture Program at Chico High School has a long history and with this proposal looks forward to strengthening opportunities available to students. The following course proposal, coupled with CTE status, will bring the Agriculture Program into alignment with other programs statewide. This is the first course in the series of three new courses being proposed.

Education Implications

This sequence of courses is University of California approved and adopted. This class will be “D” level A-G course and will be eligible for CUSD graduation requirements.

Fiscal Implications

None
NEW COURSE PROPOSAL OUTLINE

Course Title: Biology and Sustainable Agriculture
Grade Level: 9-12

This course could serve as one of the required two courses for high school graduation and one of the three science A-G courses for college prep students.

Required/Elective: Required
Length/Credits: 1 year / 5 credits per semester/ Lab Science D
Prerequisites: None

I. Course Rationale and Description:

Sustainability is based on a simple principle: Everything that we need for our survival and well-being depends, either directly or indirectly, on our environment. Sustainability creates and maintains the conditions under which humans and the biotic world can exist in productive harmony, that permit fulfilling the social, economic and other requirements of present and future generations. Sustainability is important to make sure that we have and will continue to have, the water, materials, and resources to protect human health and our environment. (adapted from http://www.epa.gov/sustainability/basicinfo.htm)

Sustainable Agriculture is a one year course designed to integrate biological science practices and knowledge into the practice of sustainable agriculture. The course is organized into four major sections, or units, each with a guiding question. Unit one addresses the question, What is sustainable agriculture? Unit two, How does sustainable agriculture fit into our environment? Unit three, What molecular biology principles guide sustainable agriculture? Unit four, How do we make decisions to maximize sustainable agricultural practices within a functioning ecosystem? Within each unit specific life science principles will be identified with agricultural principles and practices guiding the acquisition of this knowledge, culminating in the development of a sustainable farm model and portfolio of supporting student research.

II. Instructional and Supplemental Materials:

Primary Textbook:
District Approved Biology Text

Secondary Texts:

**Supplemental Materials:**
### III. Course Outline/Standards/ Instructional Methods/Assessments:
Prepare a course outline that indicates the following: 1) name of unit; 2) time allocated for the unit; 3) standards addressed in each unit (please use Content Standards Framework numbering system and write out each standard); 4) Instructional strategies used in each unit; 5) Assessments utilized. (Use additional pages as needed.)

**PLEASE SEE ATTACHED.**

<table>
<thead>
<tr>
<th>Unit Name</th>
<th>Standards Addressed</th>
<th>Time</th>
<th>Instructional Strategies</th>
<th>Assessments</th>
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</thead>
<tbody>
<tr>
<td>Agriculture and Agricultural Research Skills</td>
<td>See Attached Standard Map</td>
<td>4-5 weeks</td>
<td>• Group/Individual Projects&lt;br&gt;• Group Work&lt;br&gt;• Individual work&lt;br&gt;• Student Presentations&lt;br&gt;• Instructor lead Lectures&lt;br&gt;• Demonstrations with models&lt;br&gt;• Labs</td>
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<tr>
<td>Environment, Energy and Agriculture</td>
<td>See Attached Standards Map</td>
<td>10-11 weeks</td>
<td>• Group/Individual Projects&lt;br&gt;• Group Work&lt;br&gt;• Individual work&lt;br&gt;• Student Presentations&lt;br&gt;• Instructor lead Lectures&lt;br&gt;• Demonstrations with models&lt;br&gt;• Labs</td>
<td></td>
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<tr>
<td>Molecular Biology and Agriculture</td>
<td>See Attached Standards Map</td>
<td>9-10 weeks</td>
<td>• Group/Individual Projects&lt;br&gt;• Group Work&lt;br&gt;• Individual work&lt;br&gt;• Student Presentations&lt;br&gt;• Instructor lead Lectures&lt;br&gt;• Demonstrations with models&lt;br&gt;• Labs</td>
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<tr>
<td>Agriculture's relationship with technology and the natural world</td>
<td>See Attached Standards Map</td>
<td>9-10 weeks</td>
<td>• Group/Individual Projects&lt;br&gt;• Group Work&lt;br&gt;• Individual work&lt;br&gt;• Student Presentations&lt;br&gt;• Instructor lead Lectures&lt;br&gt;• Demonstrations with models&lt;br&gt;• Labs</td>
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</table>

- Group Tests
- Quizzes
- Individual Tests
- Projects
- Presentations
- Formative Assessments
- Lab Reports
IV. **Instructional Methods:** Please indicate instructional methods to be used for special needs students, including Special Education, English Language Learners, and Honors.

All required accommodations based upon the students IEP, SST or 504 will be met. In addition the presentation of material will be presented in a well-rounded method so as to encourage learning for all types of learners. This course's curriculum will provide the opportunity for all students to meet or exceed expected state and local standards. The course will focus on teaching students of varied abilities and backgrounds through the use of the following strategies:

- Use of SDAIE strategies for ELD students
- Scaffolding for all levels of learners
- Notes both visually and verbally
- Group projects and work to encourage being a good communicator and collaborative worker/learner.
- Individual/Group discovery and discussion
- Student presentations to also encourage good communication skills and quality production.
- Differentiated instruction as needed based upon the students learning needs.
- Real-world application of material taught in class

V. **Grading Policy:**

Student grading progress will be reported in accordance with the CUSD Board Policy. Grade will reflect assessments of each student’s work as determined by the stated assessment and evaluations.

90-100: A  
80-89: B  
70-79: C  
60-69: D  
59 and below: F

Aligned with State Frameworks: (X) Yes   ( ) No  
Course intended for a CTE Pathway: (X) Yes*   ( ) No  
*If yes, which: (X) Introductory   ( ) Concentrator   ( ) Completer  
Already CUSD Board Approved:  
( ) Yes, sites currently offering: ____________________   ( ) No  
Is course intended to meet CSU/UC Requirement: (X) Yes**   ( ) No  
**If yes, site must complete attached addendum
Chico Unified School District – Secondary New Course Proposal – Addendum

Date Submitted to Site Registrar: ____________________________

To be completed by Site Department Chair/Designee:

Course Title: Biology and Sustainable Agriculture

Department: Agriculture

Department member responsible for course description for Catalog/Student Handbook: Courtney Champlin

UC/CSU A-G Subject Area (check one):

_____ A: History/Social Science
_____ B: English
_____ C: Mathematics

X _____ D: Laboratory Science
_____ E: Language Other Than English
_____ F: Visual & Performing Art
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Department member responsible for UCOP submission: Courtney Champlin

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Chico Unified School District – Secondary New Course Proposal - Signature Page

Course Title: Biology and Sustainable Agriculture
Submitted by: Courtney Champlin
Department: Agriculture
School: Chico High School
Planned Start Date: Fall 2017

Approvals (Signature & Date):

Dept. Chair/Admin. (High Schools)
Chico High
PVHS
Alt. Ed.
Inspire

Dept./Admin. (Jr. High)
Bidwell
Chico Jr.
Marsh
Alt. Ed.

Educational Services

- If rejected, return to originator with rationale or conditions for approval.
- If approved, date taken to board of education for board approval:

  - Board of Education action: □ Approve □ Reject
## Course 1: Biology & Sustainable Agriculture

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<th>Unit</th>
<th>NGSS Standard</th>
<th>Science and Engineering Practices</th>
<th>Crosscutting Concept</th>
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<tbody>
<tr>
<td>1. Agriculture and Agricultural Research Skills</td>
<td>C.10 Evaluate the role of agriculture in the California economy.</td>
<td><strong>HS-ETS1-1:</strong> Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering. <strong>HS-ETS1-3:</strong> Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.</td>
<td><strong>Principles of Engineering:</strong> Engineering is a process of designing solutions to physical problems by applying concepts of science and mathematics. <strong>Systems and System Models:</strong> Models (e.g., physical, mathematical, computer models) can be used to simulate systems and interactions—including energy, matter, and information flows—within and between systems at different scales. (HS-LS1-2) <strong>Constructing Explanations and Designing Solutions:</strong> Plan and conduct an investigation individually and collaboratively to produce data to serve as the basis for evidence, and in the design: decide on types, how much, and accuracy of data needed to produce reliable measurements and suitable limitations on the precision of the data (e.g., number of trials, cost, risk, time), and refine the design accordingly. (HS-LS1-5)</td>
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<td><strong>C.11 Understand the history of the agricultural industry in California.</strong></td>
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<td><strong>C.12 Describe how California agriculture affects the quality of life.</strong></td>
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<td><strong>C.13 Analyze the interrelationship of California agriculture and society at the local, state, national, and international levels.</strong></td>
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<td><strong>C.14 Research the economic impact of leading California agricultural commodities.</strong></td>
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<td><strong>C.15 Assess the economic impact of major natural resources in California.</strong></td>
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<td><strong>C.16 Explore factors that affect food safety and producers’ responsibilities to consumers.</strong></td>
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<td><strong>C.17 Describe how technology affects the logistics of moving an agricultural commodity from producer to consumer.</strong></td>
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<td><strong>C.18 Understand how technology influences factors such as labor, efficiency, diversity, availability, mechanization, and communication.</strong></td>
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<td><strong>C.19 Integrate the use of technology when collecting and analyzing data.</strong></td>
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<td><strong>C.20 State the steps of the scientific method.</strong></td>
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<td><strong>C.21 Analyze an agricultural problem and devise a solution based on the scientific method.</strong></td>
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</table>
| 2. Environment and Agriculture | **C.22 Identify important agricultural environmental impacts on soil, water, and air.** | **HS-LS1-6:** Use a model to illustrate how photosynthesis transforms light energy into stored chemical energy. **Clarification Statement:** Emphasis is on illustrating inputs and outputs of matter and the transfer and transformation of energy in photosynthetic processes by plants and other photosynthesizing organisms. Examples of models could include diagrams, chemical equations, and conceptual models. **HS-LS2-5:** Construct and revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules. **Clarification Statement:** Emphasis is on using evidence from models and simulations to support explanations. | **Using Mathematics and Computational Thinking:** Mathematical and computational thinking in 9-12 builds on K-8 experiences and progresses to using algebraic thinking and analysis, a range of linear and nonlinear functions including trigonometric functions, exponentials and logarithms, and computational tools for statistical analysis to analyze, represent, and model data. Simple computational simulations are created and used based on mathematical models of basic assumptions. Use mathematical and/or computational representations of phenomena or design solutions to support explorations. (HS-LS2-5) Use mathematical representations of phenomena or design solutions to support and revise explanations. (HS-LS2-4) Create or revise a simulation of a phenomenon, designed device, process, or system. (HS-LS2-4) **Constructing Explanations and Designing Solutions:** Constructing explanations and designing solutions in 9-12 builds on K-8 experiences and progresses to explanations and designs that integrate evidence based on the natural sciences, mathematics, and technology.

| | **C.23 Explain current environmental challenges related to agriculture.** | | |
| | **C.24 Summarize how natural resources are used in agriculture.** | | |
| | **C.25 Conserving renewable and nonrenewable resources.** | | |
| | **C.26 Research how new energy sources are developed from agricultural products (e.g., gasogenation and ethanol).** | | |
| | **C.27 Research how new energy sources are developed from agricultural products (e.g., gasogenation and ethanol).** | | |
| | **C.28 Compile the modern-day uses of animals and animal by-products.** | | |
| | **C.29 Integrate the use of technology when collecting and analyzing data.** | | |
| | **C.30 Describe how technology affects the logistics of moving an agricultural commodity from producer to consumer.** | | |

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**Clarification Statement:** Emphasis is on illustrating inputs and outputs of matter and the transfer and transformation of energy in photosynthetic processes by plants and other photosynthesizing organisms. Examples of models could include diagrams, chemical equations, and conceptual models. **Clarification Statement:** Emphasis is on using evidence from models and simulations to support explanations.
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<tr>
<td>HS-LS2-3: Construct and revise an explanation based on evidence for the cycling of matter and flow of energy in aerobic and anaerobic conditions.</td>
<td>Designs that are supported by multiple and independent student-generated sources of evidence consistent with scientific ideas, principles, and theories.</td>
</tr>
<tr>
<td>HS-LS2-4: Use mathematical representations to support claims for the cycling of matter and flow of energy among organisms in an ecosystem.</td>
<td>Engaging in Argument from Evidence: Engaging in argument from evidence in 9-12 builds on K-8 experiences and progresses to using appropriate and sufficient evidence and scientific reasoning to defend and critique claims and explanations about the natural and designed world(s). Arguments may also come from current scientific or historical accounts.</td>
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<tr>
<td>HS-LS2-5: Develop a model to illustrate the role of photosynthesis and cellular respiration in the cycling of carbon among the biosphere, atmosphere, hydrosphere, and geosphere.</td>
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<tr>
<td>HS-LS2-1: Use mathematical and/or computational representations to support explanations of factors that affect carrying capacity of ecosystems at different scales.</td>
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<td>HS-LS2-7: Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.</td>
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<td>HS-LS1-6: Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity.</td>
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<tr>
<td>HS-LS1-1: Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.</td>
<td>Asking Questions and Defining Problems: Asking questions and defining problems in 9-12 builds on K-8 experiences and progresses to formulating, refining, and evaluating empirically testable questions and design problems using models and simulations.</td>
</tr>
<tr>
<td>HS-LS1-2: Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</td>
<td>Systems and System Models: Models (e.g., physical, mathematical, computer models) can be used to simulate systems and interactions—including energy, matter, and information flows—within and between systems at different scales. (HS-LS2-5)</td>
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**3. Molecular Biology and Agriculture**

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<tr>
<td>HS-LS1-5: Understand various cell actions, such as exocytosis and cell division.</td>
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<td>HS-LS1-4: Compare and contrast plant and animal cells, bacteria, and viruses.</td>
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<td>HS-LS1-3: Differentiate between genotype and phenotype and describe how dominant and recessive genes function.</td>
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<tr>
<td>HS-LS1-2: Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</td>
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<tr>
<td>HS-LS1-1: Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.</td>
<td>Asking Questions and Defining Problems: Asking questions and defining problems in 9-12 builds on K-8 experiences and progresses to formulating, refining, and evaluating empirically testable questions and design problems using models and simulations.</td>
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<tr>
<td>HS-LS1-6: Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity.</td>
<td>Systems and System Models: Models (e.g., physical, mathematical, computer models) can be used to simulate systems and interactions—including energy, matter, and information flows—within and between systems at different scales. (HS-LS2-5)</td>
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<tr>
<td>C.7.2 Compare genetic characteristics among cattle, sheep, swine, and horse breeds.</td>
<td>HS-LS1-3: Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.</td>
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<td>C.7.3 Predict phenotype and genotype ratios by using a Punnett square.</td>
<td>HS-LS1-4: Use a model to illustrate the role of cellular division (mitosis) and differentiation in producing and maintaining complex organisms.</td>
</tr>
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<td>C.7.4 Explain the fertilization process.</td>
<td>HS-LS3-1: Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring.</td>
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<tr>
<td>C.8.2 Analyze suitable common feed ingredients, including forages, roughages, concentrates, and supplements for ruminants, monogastrics, equines, and avian digestive systems.</td>
<td>HS-LS3-2: Make and defend a claim based on evidence that heritable genetic variations may result from: (1) new genetic combinations through meiosis, (2) variable errors occurring during replication, and/or (3) mutations caused by environmental factors.</td>
</tr>
<tr>
<td>C.8.3 Understand basic animal feeding guidelines and evaluate sample feeding programs for various species, including space requirements and economic considerations.</td>
<td>HS-LS3-3: Apply concepts of statistics and probability to explain the variation and distribution of expressed traits in a population.</td>
</tr>
<tr>
<td>C.8.4 Apply concepts of statistics and probability to support explanations that organisms with an advantageous heritable trait tend to increase in proportion to organisms lacking this trait.</td>
<td>HS-LS4-1: Communicate scientific information that common ancestry and biological evolution are supported by multiple lines of empirical evidence.</td>
</tr>
<tr>
<td>C.9.1 Assess the appearance and behavior of a normal, healthy animal.</td>
<td>HS-LS2-6: Evaluate the claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem.</td>
</tr>
<tr>
<td>C.9.2 Explain the ways in which housing, sanitation, and nutrition influence animal health and behavior.</td>
<td>HS-ETS1-1: Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.</td>
</tr>
<tr>
<td>C.9.3 Analyze the causes and controls of common animal diseases.</td>
<td>HS-ETS1-2: Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</td>
</tr>
<tr>
<td>C.9.6 Summarize effective techniques for controlling parasites and explain why controlling parasites is important.</td>
<td>HS-ETS1-8: Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.</td>
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<tr>
<td>C.9.7 Research the legal requirements for the procurement, storage, methods of application, and withdrawal times of animal medications, and know proper equipment handling and disposal techniques.</td>
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<td>C.9.8 Understand the anatomy and functions of plant systems and structures.</td>
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<td>C.11.1 Identify plant growth requirements.</td>
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<td>C.11.8 Discern between annual, biennial, and perennial life cycles.</td>
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<td>C.11.9 Examine sexual and asexual reproduction in plants.</td>
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<td>C.11.5 Understand photosynthesis and the roles of the sun, chlorophyll, sugar, oxygen, carbon dioxide, and water in the process.</td>
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<td>C11.6 Summarize the respiration process in the breakdown of food and organic matter.</td>
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<tr>
<td>F9.1 Explain how basic soil science and water principles affect plant growth.</td>
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<td>F9.2 Illustrate basic irrigation design and installation methods.</td>
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<td>F9.3 Prepare and amend soils, implement soil conservation methods, and compare results.</td>
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<td>F9.4 Research major issues related to water sources and water quality.</td>
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<td>F9.5 Distinguish the components of soilless media and test the use of these media in various types of containers.</td>
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<tr>
<td>F9.1 Use different types of containers and demonstrate how to maintain growing containers in controlled environments.</td>
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<td>F9.2 Operate and maintain selected hand and power equipment safely and appropriately.</td>
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<td>F9.3 Select proper tools for specific horticultural jobs.</td>
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<td>F9.4 Install landscape components and electrical, land, and water features.</td>
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<td>F10.1 Utilize terms associated with landscape and design in horticulture courses.</td>
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<td>F10.2 Produce a residential design, including how to render design to scale using design technology and principles.</td>
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<td>F10.3 Use proper landscape planting and maintenance practices.</td>
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<td>F10.4 Prune ornamental shrubs, trees, and fruit trees.</td>
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Scientific reasoning to defend and critique claims and explanations about the natural and designed world(s). Arguments may also come from current scientific or historical episodes in science.
Title: Biology and Sustainable Agriculture

Length of Course: Full Year (2 semesters; 3 trimesters; 4 quarters)

Subject Area – Discipline: Laboratory Sciences ("d") – Biology

UC Honors designation: No

CTE Sector: Agriculture and Natural Resources

CTE Pathway: Agriscience

Grade Level(s): 9-12

Prerequisite(s): Algebra 1 or IM 1

Overview:

Sustainability is based on a simple principle: Everything that we need for our survival and well-being depends, either directly or indirectly, on our environment. Sustainability creates and maintains the conditions under which humans and the biotic world can exist in productive harmony, that permit fulfilling the social, economic and other requirements of present and future generations. Sustainability is important to making sure that we have and will continue to have, the water, materials, and resources to protect human health and our environment. (adapted from [http://www.epa.gov/sustainability/basicinfo.htm](http://www.epa.gov/sustainability/basicinfo.htm))

Sustainable Agriculture is a one year course designed to integrate biological science practices and knowledge into the practice of sustainable agriculture. The course is organized into four major sections, or units, each with a guiding question. Unit one addresses the question, What is sustainable agriculture? Unit two, How does sustainable agriculture fit into our environment? Unit three, What molecular biology principles guide sustainable agriculture? Unit four, How do we make decisions to maximize sustainable agricultural practices within a functioning ecosystem? Within each unit specific life science principles will be identified with agricultural principles and practices guiding the acquisition of this knowledge, culminating in the development of a sustainable farm model and portfolio of supporting student research.

Course Content:

Unit 1: Driving Question: What is sustainable agriculture?

This introductory unit will focus on the biological classifications of agriculture and their associated industry sectors, what sustainability is, and how the scientific method is the driving force behind advancements and developments in sustainable biological practices within agriculture. Students develop an overview of agricultural industries and biologic
practices through research projects on facets of California agriculture, and identify what sustainability and sustainable practices are through individualized lab experiments relating to current practices. Ultimately, students will be able to use the scientific method to complete an extensive laboratory experiment that is designed to evaluate potential feed source varieties for sustainable success within their local community.

Unit 1: Key Assignments

1. “What is sustainable agriculture?”
Students groups will research the various biological divisions of what constitutes agriculture (plant science, animal science, forestry, horticulture, etc.). Within their research they will identify the sub categories of industry that fall within their topic, what career paths are available within each, what are currently identified as “best practices” (such as the three E’s of sustainability -- economics, ecology and equity) and what are some of the sustainability issues and biologic concerns within each of these divisions. Students will then develop a multimedia presentation to introduce their particular area of agriculture to the class and identify the most prevalent issues facing their particular field of interest.

2. “That’s Ag - The Science Behind Agriculture” – Categorical Based Mini-Labs:
Student groups will design and complete an inquiry based mini-lab experiment to expand on their knowledge of the particular industry sector they researched from the previous activity. Choosing a focus from one of the areas of concern or issues within their sector, students will then design and implement an experiment that tests factors contributing to the issue and potential impacts they have on the population using scientific method learned in class. Examples might include a lab on animal production and energy flow, a lab on soil degradation and plant germination, a lab on food processing practices, a lab on post-harvest preservation, etc. The labs will introduce the application of inquiry within the agriculture sectors and the importance of the implementation of research in the industry. Design protocols, data, and analysis will be submitted in lab report format. As part of their analysis, students must use their data to make suggestions on how to improve efficiency or yield, or lessen the impact of processing, relevant to their finding of their particular experiment.

3. Scientific Method and Sustainability Lab – “Work Like a Scientist”
In this lab students are introduced to the scientific method, the basis for all scientific decision making. The native grasses research will provide students with the foundation of scientific investigation application as well providing key research that will be used in the final unit project as well as the end of course project. Students will research the difference between native grasses versus invasive grasses including specific species. Using this knowledge they will hypothesize germination rates between these two variable groups. Students will then design and implement an experiment incorporating quantitative data collection, analysis, and draw conclusions reflective to their hypothesis, and evaluate the grasses for potential sustainability within their communities.

As a continuation of the germination experiment, given that the two variables have differing germination rates, students can identify other measures of “success” of a potential feed crop. They will then sample the community environment for the potential
factors affecting the continued growth and development of grasses. Samples would include soil testing, (pH, nutrient composition, structure and texture, and water capacity), water availability, and ambient temperatures. Combining this information with the initial background research regarding natives versus invasive, students will hypothesize on the continued success of their germinating grasses, then transplant their seeds into test plots or fodder trays, and allow for continued growth. After a predetermined amount of time, sample plots will be analyzed for percent coverage and measurements of species biomass will be completed. Using this information students will determine the most biologically suitable grass species to plant that would be the most sustainable within the local community through a written lab completed in their lab notebook and a powerpoint presentation of their hypothesis, design, data and conclusion.

**Unit 2: Driving Question: How does sustainable agriculture fit into our environment?**

While unit one examined whole systems, unit two takes a closer look at components within that system. Students will use evidence gathered from a series of laboratory exercises to be able to describe the transfer of energy from one trophic level to another as well as the cycling of nutrients and energy through ecosystems. Students will be able to draw conclusions about these biogeochemical cycles and how they apply to sustainability of production agriculture. Specifically, students will conduct primary research in the areas of photosynthesis and chemical energy creation, nutrient cycling, transpiration and water use, ecological relationships and global farming practices in order to draw biologically-sound conclusions regarding the effects of agriculture on the natural environment. The students learning will culminate in a synthesis of concepts applied to the development of a three year sustainable crop rotation plan.

**Unit 2: Key Assignments**

1. **"Bacteria at Work" - Nitrogen Fixation**
   Students will analyze the effects of nitrogen fixation on plants initially by examining prior studies as well as industry publications regarding the role of nitrogen in plant growth and the methods by which farmers enhance nitrogen levels in soil. This should include a thorough look at the microbiology of nitrogen-fixing bacteria, plant and root physiology, nutrient cycling and uptake in plants, chemical processes and cellular respiration in plants and fertilization methods. After garnering that background information, students will conduct an experiment that compares the effects of added nitrogen fertilizer versus nitrogen fixing bacteria on the growth of clover. Students will grow clover plants in soil with no nitrogen added, in soil with nitrogen fertilizer added, and in soil containing nitrogen-fixing bacteria (in this case, a species of rhizobia called Rhizobium leguminosarum, or R. leguminosarum). Students will monitor the nitrogen levels in each type of soil using a nitrogen testing kit. The students will observe the effects of nitrogen on the health of the clover plants by measuring the increase in biomass of each plant during the experiment. Plants should be harvested, soil washed away, and weights taken on plant material produced. Students will use the data collected to create a graph showing the relationship between nitrogen availability in the soil and crop sustainability. This allows students to not only experience agriculture’s role in the nitrogen cycle, but also provides necessary supporting data for decision making in the final end of course project.
2. "Morning Jolt" - Photosynthesis Lab
Photosynthesis is the basis for the creation of chemical energy in the natural world. Plants require light in order to transform one type of energy into another, and the quantity and type of light determine the optimal photosynthesis rates. Students will conduct a laboratory exercise that examines the effects of shade on the growth of plants and the rates of photosynthesis and will develop a written memorandum to the International Coffee Growers Association regarding optimal shade levels for the growth of coffee trees, including information regarding ecological sustainability involved in the practice. The process will begin by using industry journals to examine coffee production methods; primarily comparing and contrasting industrial coffee production with shade-grown, sustainable coffee production. Students should come up with the following information: arabica coffee has the highest yields under 3 to 65% shade. In addition, growing coffee under shade also discourages weed growth, may reduce pathogen infection, protect the crop from frost, and helps to increase numbers of pollinators which results in better fruit set. However, in order to produce faster, higher yields and prevent the spread of coffee leaf rust (Hemileia vastatrix), many coffee plantations began to grow coffee under sunnier conditions. The fewer shade trees that are in coffee plantations, the less biodiversity there is in those plantations.

The laboratory exercise will use several small coffee plant starts (available for purchase online as seeds or a houseplant) and will grow them for a series of days under varying shade levels. Students will conduct visual assessments of plant health and growth, then conduct a traditional floating leaf disc assay protocol to assess photosynthesis levels under varying light conditions. Students will use both the previously gathered background information regarding industry practices, sustainability and plant growth as well results of the primary research to develop the memorandum regarding optimal shade levels for sustainable coffee growth.

3. "Move on Through" - Transpiration Lab
Students will initially conduct background research into water use in agriculture and the demands placed on farmers to be efficient and careful with this scarce natural resource. Students will then investigate transpiration as part of the hydrologic system, based on different genetic variations of plant structure (leaf type and shape, for example). Students will conduct a research exercise by examining transpiration in plants with various leaf structures. This can occur using locally-grown crops or by using exotic crops and adding a component regarding appropriate plant selection. In this lab, students will use the plant weight protocol to measure the transpiration rates of individual plants. Students give plants a predetermined amount of water, reweigh the plants, and continue weighing the plants over time to contrast weight differentials and determine water loss through transpiration. Students will monitor observable physical changes in the different plants' condition as water is depleted, collecting qualitative data and measuring the diurnal transpiration rates. Students will apply the individual plant water usage data to larger scale acreage to analyze water usage. Students will create a written case study to justify plant selection within the context of the sustainability of the hydrologic system.

Optional extension: include in the case study how trends in daily transpiration rates change if water losses were replenished through different irrigation management techniques (drip, flood, etc.).
4. “From Trash to Gas” - Sustainable Waste Management

Students will use both primary and secondary research to discover that food scraps, dead plants, manure, and other decaying organic matter, called *biomass*, are a rich source of energy. Energy can be procured from biomass by turning it into a gas called *biogas*. The process will begin by students examining agricultural examples of biogas production (small scale composting, dairy lagoon gas extraction, codigestion, etc.) as well as the microbiological basis for biogas production, including aerobic and anaerobic fermentation, cellular respiration, lignocellulosic breakdown, etc. As part of this analysis, students will compare the amounts of biogas produced by different types of biomass. In order to quantify their findings, students will conduct an experiment with three soda bottles filled to the same volume with various types of biomass commonly used in biogas production. Bottle one will contain cow manure, bottle two will contain cow manure and household kitchen scraps, and bottle three will contain cow manure and a biological waste product of the students choosing (teacher approved). Bottles will be topped with a small balloon. Students will record the circumference of each of the balloons at the same time of day over a period of 10 days as well as record observations of the biomass inside of the bottles. Students will create a graph representing the circumference of balloons and the number of days. Students will compare graphs to determine which biomass type produced the fastest inflation of the balloon. Upon completion of the experiment, the students will then need to develop a written plan for how this naturally occurring byproduct can be harnessed to benefit a farming situation. In addition to incorporating their data, this plan should include: research on how the gas is used, the scientific processes behind biogas creation (fermentation, anaerobic digestion, etc.), biomass feedstocks that can be used to create efficient quantities of biogas, potential uses of biogas, and potential economic and sustainable benefits of instituting a biomass digester.

5. “Composting, Do the Rot Thing”

Students will examine the principle of composting organic material, and the process of converting complex organic matter into the basic nutrients needed by living organisms. Prior to conducting the experiment, students will use industry and extension publications to learn the processes of composting, as well as the benefits and challenges of compost production (available nutrient levels, community perceptions, hazardous materials, smell, storage, etc.). Following the background research, students will conduct a laboratory exercise that will examine the utilization of organic wastes (household) as nutrients for plants. It will allow students to investigate which waste products can be composted and best utilized by plants. Based off of prior knowledge of an ecosystem and how ecosystems regenerate as well as the interaction of food and fiber systems with natural cycles, students will justify specific nutrient requirements, as well as renewable and nonrenewable natural resources. Students will prepare three test plots, one plot with just soil, one with soil and household waste products collected by students, and one plot with animal waste products. Students will then monitor plant growth and development to graph their results. Students will create an informational, six paneled brochure that explains a waste management plan using compost. Included in the brochure should be information regarding the microbiology of compost production in addition to the practical household application of the research. Additionally, the brochure should outline the removal of organic matter to increase ecological sustainability while having the least
environmental impact on the farm and community.

**Unit 2: Assessment**

**Plant, Grow, Rotate, Repeat Sustainable Crop Management Plan**

Students will apply concepts of the biogeochemical cycles as well as waste management to create a 3 year sustainable crop rotation plan that produces the highest crop yields for any given location with the least environmental impact. Students must analyze current soil conditions as well as community needs when considering their crops for production. Student focus should be on nitrogen fixation of specified crops. Students will use previous knowledge of ecosystems, invasive species, and producer and consumer relationships as well as research current market prices and local demands, to assess the environmental contribution and the economical impact from each crop. When creating the 3 year crop rotations students will defend their selections and the ecological impacts of their decisions. The synthesis of the students’ research will culminate in written proposal to a local producer.

**Unit 3: Driving Question - What molecular biology principles guide sustainable agriculture?**

In this unit, students will examine the science of agriculture and evaluate the efficiency and sustainability of current methods. Students will explore the concepts of taxonomy of plants and nomenclature of animals, cell structure, cellular division, DNA, and chromosomes. Students will apply this knowledge to evaluate desirable inheritable traits in each species to artificially select characteristics to breed more efficient and productive offspring as a part of their created breeding plan. Students will be introduced to genetic markers, genetically modified organisms, and biotechnology. With this knowledge students will examine and evaluate biotechnology, the ethics of genetic manipulation, and its implication on the sustainability of agriculture and our ability to feed a growing population. As a culminating project for the first two units students will design, conduct, and interpret their own agricultural research project on a biological issue facing agriculture and present their findings with a visual, written, and oral report.

**Unit 3: Key Assignments**

1. "Breed For The Need"- Sustainable Breeding Evaluation

Animal genetics play a role in sustainability. An animal that is genetically predicted to become heavier muscled in a shorter period of time will utilize less pasture and nutritive resources than one that takes longer to reach the same weight. A female who produces more milk to feed her offspring will utilize less resources for both her and her progeny. Therefore, summative phenotypic traits are important to evaluate in a sustainable ecosystem in order to efficiently utilize natural resources. By analyzing these traits students can determine the probability of the trait expression in an animal’s offspring. After instruction on chromosomal physiology, multicellular organization, animal anatomy, basic heredity, and genetic expression, students will identify desirable characteristics from a group of four animals of the same species to create a sustainable breeding plan that will include: hybrid vigor, genetic efficiency and other genetic traits. Students will use three components to evaluate the group of four animals that include the farmer’s
sustainability scenario, expected progeny difference data and phenotypic evaluation of the animals. First students will read an agricultural producer's written scenario that describes the targeted phenotypic traits a farmer desires based on the environment that must sustain the health and nutrition of the specific animals while not depleting the natural resources within that biological system. The parameters of the traits the students will evaluate include milk production (the weight of the weaned offspring that was contributed to the amount of milk the mother produced), weaning weight (the weight of the offspring when removed from the mother), yearling weight (the weight of the offspring at eighteen months of age and birth weight (the weight of the offspring at birth). Next, the students will read and analyze Expected Progeny Difference (Summative phenotype expression) data. Finally, students will perform visual observations of the phenotypic traits in those four animals. Students will assess and prioritize the three analyzed components based on importance and collectively use them to place the four animals in phenotypic order from the most desirable for the environment to the least desirable according to the farmer’s sustainability scenario. Students will give an oral defense with evidence to support reasoning.

2. "Where Should I Make My Home?" - Sustainable Production Plan
The students will be put into groups and collectively evaluate the same animals from the previous activity with summative phenotypic traits for each of the bio-geological growing zones in California which are desert and high desert, coastal, valley, foothills and mountains. Instruction should occur on plant taxonomy and livestock anatomical suitability (large animals in areas with poor biomass production, genetic hardiness factors, etc.) prior to the secondary research being done. Research done on each zone will provide information on the possible sustainability plans in which the four animals could be raised. Students will research the ecosystem of each area, analyzing what crops, pasture and range can be grown and the effects of climate and rainfall on the availability of nutrients for the animals’ sustainability. Based on the data accumulated from the research they will reevaluate the four animals from the previous lab including EPD data. For each zone they will place the animals in order from the one most suited and efficient to the least. Students construct a written defense for their decision in the placing of those animals in each zone based on their data and research. They will argue the merits of their placing based on the data from their zone research: native and nonnative grass and crop survivability in each zone that provides nutrition to the animals, biological merits and disadvantages of each zone on the animals. They will then use the zone information to reevaluate the EPD data and how it can be best utilized to meet the animal’s biological needs. Using the research and accumulated data students can determine a class placing for each region of California.

3. "Battle of the Seeds" - Biotechnology Use in Agriculture
Crop decisions made by agricultural producers are often predicated on understanding the climate, rainfall and topography needs of their growing area. These decisions often prioritize crop yield, but also must take into account the biological health of each system. The previous lab focused on evaluating the efficiency of specific animals introduced into an ecosystem where the biological components were predetermined and consistent. In this activity, students explore the introduction of new plants into predetermined, consistent ecosystems by investigating how germination, growth and efficiency of plants (crops) can be affected by genetic and environmental changes. Prior to the experiment,
students should be instructed in cell division and structure as functions of organism growth, genotypic traits and variable expression, traditional hybridization methods and modern genetic manipulation.

For the primary research exercise, students will set up three demonstration plots to compare growth and yield rates of plants. Half of the class will grow unweeded plots of plants, manually weed-controlled beds, and chemically controlled beds with plants that have been genetically modified to withstand the effects of a widely-used herbicide. The other half of the class will grow hybrid seed, non-hybrid seed, and genetically enhanced seed of the same plant. Upon analyzing data of plant growth and yield rates students will calculate the cost in time and money for the methods demonstrated. Students will formulate a written opinion/thesis and defend from evidence the most sustainable method of growing food based on their experiment. Students determine the statistical, economical and biological differences of genetically modified organisms as compared to natural organisms. Students will then research public concern of genetically modified organisms to prepare for a class debate. Utilizing their experimental results and research students debate the use of biotechnology and genetically modified organisms playing one of four following roles; a leader of a developing nation where hunger is a problem among their citizens, a biotechnology company specializing in producing genetically modified plants, a farmer, or a parent who primarily purchases organic produce. Students will reflect on their original opinion and write what they learned as a result of this experience.

Unit 3. Assessment:
"Hypothesize, Analyze, Repeat" - Formal Research Project

Labs and activities have been done in this unit that represent the common applications of biological factors such as genetic potential and variability of plants and animals, the symbiosis of animals and plants within an ecosystem and the impact of new species introduced into an established environment. Students will utilize the science of nature they learned in unit three, how that science fits into the biological systems from unit two and how those systems contribute to sustainability in unit one to develop a comprehensive agriscience experimental research project. Students will identify a problem related to agriculture that is the result of completing the first three units of the course (plant science, animal science, natural resources). Students will utilize the empirical method to design an experiment that will test their own authentic hypothesis using the skills and processes learned throughout the course that include dissecting published research and studies, testing the hypothesis, collecting, synthesizing, analyzing and interpreting data, accepting or rejecting the hypothesis based upon the data, technical reading and writing, and scientific collaboration. Specific expectations for the written research project are outlined below:

1. Forming a Hypothesis

Students will use credible sources to conduct background research on the agricultural issue they are investigating, and they will use this research to generate a testable hypothesis related to the scientific problem they have identified. The hypothesis developed by the student will be constructed with the independent and dependent variables in mind.
2. Experimental design and conducting experimentation
Students will construct an experimental design to test their hypothesis. A written experimental design should be constructed consistent with scientific protocol using a systematic approach outlined in the previous units. Students will have their experimental designs reviewed by industry experts, agricultural instructors, local growers/producers, researchers or university representatives. After validating the design using the peer review process, students will move to the experimentation phase of their research. Experimental designs should include replicates, control groups, and determine the variables to be controlled and how. Additionally, a determination should be made as to the type of data that will be collected and in what ways, with the emphasis placed on quantitative data or quantifying data that is qualitative in nature. Students will use their experimental design to test their hypothesis. For example, in a study of primed versus non-treated seeds, seeds would be planted in identical environments, multiple test groups would be established and compared to a control group, and the number of germinated seeds would be counted and recorded to quantify the outcome. Raw data should be recorded using a field book or electronic device.

3. Analyzing data, interpreting data and forming conclusions.
Students will determine the best methods for organizing their data using tables. Students will use mathematical principles to synthesize their data, calculating a mean, for example. Furthermore, a statistical analysis of the data will help the student determine if the results are due to chance or the independent variable that was tested. Students will choose the best way to present their data using graphs they believe will most effectively demonstrate their findings, and will further summarize what each graph shows. Finally, students will interpret the data and formulate conclusions based on the results. In the written conclusion, students will use their data to either accept or reject the original hypothesis. Conclusions should be directly supported by the data and supported by previous research. Students will also identify the limitations of their research, improvements that could be made to the experimental design, as well as future studies that may be conducted that relate the study at hand.

4. Evidence of Performing the AgriScience Research Project
Students will submit their research in a written paper, and it will include the following components: problem/purpose, background research, hypotheses, methodology, results/data, and discussion/conclusion. The paper will be written using skills associated with technical and scientific writing, for example, refraining from the use of personal pronouns or keeping discussion limited to what the research and data suggest rather than personal opinion and bias. APA format will be utilized to reference and cite sources. Students will create a visual display board, using a digital format that mirrors the use of research posters in higher education, which will also include all of the components of the paper, but in a condensed form. The peer group that reviewed the original experimental design will review the final research paper. The project and its findings will be shared with the class in an oral presentation, with the research board on display to aid in communicating the results of the research.

Unit 4: Driving Question: How do we make decisions to maximize sustainable agricultural practices within a functioning ecosystem?
Students will understand common practices in the agriculture industry that promote sustainability. They will evaluate and/or refine technological solutions that reduce impacts of human activities on natural systems by using practices that utilize cellular biology, genetics, energy cycles, biological systems, plant and animal nomenclature and how these units collectively create ecosystems that were covered in the previous units. Students will conduct production practices in the areas of animal science, horticulture, and natural resources. Students will experience how the biological systems can be changed at the cellular level, promoting the emergence of new energy cycles that produce useful, recyclable products that have a positive impact on the environment, thus decreasing the impact of agriculture on the environment and promoting sustainability. Students will investigate positive sustainable approaches to changing negative impacts agriculture has on the land by testing methods of efficiency in laboratory work. This experience will give students perspective on production costs and resource needs in relation to animal welfare, mechanization versus labor, and use of chemicals to non-use of chemicals. Students will utilize this hands-on production experience to develop their own sustainable farm as a culminating final project to illustrate the management of agricultural systems, management of natural resources, the sustainability of an ecosystem for the future while preserving biodiversity.

**Unit 4: Key Assignments**

1. “Show Me You Care” - Practice in Animal Health Management
Common animal production practices are done to ensure multi-system homeostasis and to foster productive animal growth and general welfare. Prior to conducting a laboratory exercise, students will engage in secondary research that seeks to correlate common livestock production practices to maintaining system health in animals. For example, castration, tail banding, hoof trimming and vaccinations prevent pathogen (viral, bacterial, fungal and parasitic) infections and thereby ensuring the health of the immune system, lymphatic system and respiratory system, among others. Shearing, clipping and dehorning are noninvasive procedures that provide recycling opportunities of animal byproducts but are also designed to maintain homeostasis and to protect vital organs throughout multiple systems (shearing reduces overall stress on the circulatory system, for example). Animal identification requires animals to have a traceable number like the scrapie tag that traces the animal to the breeder in case an animal tests positive for the genetic disease and ensure herd health (preventing disease outbreaks that can stress multiple systems).

After the conclusion of the background research, students will engage in a laboratory experience where they will conduct common livestock production procedures practiced in the United States through the application of: castration methods, dehorning practices, vaccination protocols, identification systems and shearing techniques. Students will divide into groups to demonstrate one or more of the common livestock production practices within several species of livestock and small animals. After the conclusion of each of these demonstrations, students will choose one method they demonstrated and write an explanatory position paper that correlates the production practice to physiological health in the animal, highlighting homeostatic mechanisms and system nomenclature.
2. "If You Root it, They Will Grow" - Sustainable Practices in Horticulture
The ability to graft, increase growth rates and clone species of plant, trees and crops is an option that can increase the number of organisms that can be planted in a shorter amount of time. Using one plant to create many or the ability to grow different varieties of fruit on one tree maximizes the efficiency of each organism within an ecosystem. The ability to utilize this technology increases species diversity while positively affecting land biomass. Students will experience a laboratory activity, conducting propagation techniques that make plants more efficient and in return contribute to the energy cycles within the ecosystem potentially maximizing sustainability of the plant and its production. This laboratory lets students use asexual propagation through the application of auxins directly onto plants used as a common practice in the horticultural industry. Students will also research the role of auxins and make predictions on its effectiveness on their assigned mother stock plant. Through teacher demonstration, students will learn the proper steps of asexual propagation and make cuttings of their plant. Each student will test the effectiveness of auxins (rooting growth hormone) with one row in a flat being a different concentration of hormone and one control. After two weeks students will collect data every three days and record the rate at which their plant cutting roots. Students will calculate the cost of hormone treatment versus the time for cuttings to root to recommend the use or non-use of auxins on their assigned plant in their lab report.

In the next step of the laboratory students will practice the proper steps of transplanting and fertilizer use as regular practice in the horticultural industry. Students will take their rooted cuttings and transplant them to a larger container. After direct instruction on types of fertilizers, students will make predictions on the most effective type of fertilizer for their rooted cuttings; liquid, slow release, and organic. Students will be assigned a growing area (landscape plot, or one gallon-containers) to conduct their experiment. Students will test each type of fertilizer with four rows of plants. One row will be the control, without fertilizer application and the other three rows will have liquid, slow release, and organic fertilizer applications. Students will take daily measurements and make final conclusions of fertilizer effectiveness for their plant. Students also compare cost of fertilizer to effectiveness to determine final recommendations in their lab report.

3. "It’s Easy Being Green - Growing Green Communities" - Landscaping
Students will utilize the Horticulture report and experience to create a landscape plan in groups. Students will utilize the original cuttings from the previous activity which are now grown plants. Each group will use those plants in designing a landscape for a specific area designated by the teacher that could include areas around the school and/or community. Students must consider plant growth requirements, resources such as water, soil quality, and fertilization needs. Students must address the long term needs of their landscape and write a reflection on the positive and negative aspects with recommendations for more sustainable qualities. The students will submit their designs in a written proposal to the school and or community organizations for approval. Those approved will be planted and maintained by the group for the rest of the year.

4. "Use Me Responsibly or Lose Me Forever" - Using Nature’s Natural Resources
Students will delve deeper into natural resources conducting research on bioprospecting. They will use the knowledge gained within this unit regarding the potential to change the
future through bioprospecting and the need to prevent the exploitation of those resources to preserve the biospheres for future generations. Students will read articles about the use of plants and animals in nature like coral producing a natural sunscreen named, "Sunscreen 855". To prevent the harvest of coral in order to save the barrier reef, they isolated the compound and produced it in a lab that will be the most naturally occurring sunscreen developed. Students will discuss the importance of bioprospecting, as well as how the prospect of products from plants and animals argues for the continued maintenance of biodiversity and sustainability as long as the resources are not exploited. (Biology, Prentice Hall) After the discussion students will research other types of bioprospecting happening in agriculture. They will choose one material (natural resource) being prospected and find the following information from their research: what research is being done on the material, how are they utilizing the material and how does the research and use of the material play a role in sustainability. The information accumulated on the material bioprospecting will be utilized in a flyer created by each student. The flyers will be set up in a walking gallery where the students will use a bioprospecting rubric to score the importance of each natural resource presented as a valuable material for continued research. The students will have a class discussion about which three natural resources are the most valuable source of bioprospecting to contribute to sustainability of the human population.

5. Bioprospecting - "Motoring with Microbes" - Discovering Cellulose Microbes for Biofuel Efficiency
The students will then conduct a research lab on Bioprospecting for Cellulose-Degrading Microbes: Filter Paper Assay Method where Students collect samples that they predict will contain communities of cellulose-degrading microbes and test for the ability of microorganisms in their samples to break down pure cellulose (filter paper). In the process, groups collect evidence to test predictions about which environmental microbial samples will be the most effective for degrading cellulose. By comparing results across groups, students can begin to uncover patterns and develop explanations about the types of environments that support cellulose-degrading microbes. This lab method is nearly identical to that used by researchers and student results could help scientists discover new enzymes for efficient biofuel production that is key in agriculture's ability to remain sustainable in the next century. Students will turn in a completed lab using scientific method and write an abstract of their research to send to the Great Lakes Bioenergy Research Center as part of their ongoing research on biofuel.
https://www.glbrc.org/education/classroom-materials

Unit 4. Assessment and End of Course Project
"I Believe in the Future of Agriculture" - Sustainable Farming Project
Students will design a solution for developing, managing, and utilizing energy and resources through the development of a completely sustainable farm on 400 acres that must include a minimum of three crops and two species of animals. A comprehensive farming portfolio will be created. The portfolio will include data and research done from each unit within the course to be used to create their farm as well as provide evidence to defend the sustainability of that farm and thus, the best representative of sustainability. The students must research genetic varieties of crops and species of animals based on genetic efficiency and commensalism. Attention to how soil nutrients and deficiencies
affect vegetative reproduction, germination, plant growth and crop adaptation within an environment must be utilized in the research. Based on the data the students will determine the crops to be produced. They will research and evaluate the species of animals that will have a symbiotic relationship with the crops they have chosen above. Phenotypic and genotypic traits, hybrid vigor, commensalism, and other variables should be used to determine the two species of animals that will be best suited for the designed environment while providing for the welfare of the animals’ health and nutrition. Animal welfare must be addressed in the decisions made to create a farm that is positive and biodiverse in nature. Environmental impacts based on the crops and animals raised on the farm need to be identified dealing with biological magnification, depletion of soil/plant nutrients, use of natural resources, pollution issues dealing with waste and desertification. The students will use this information as well as the data and labs from the previous units to determine the carrying capacity of livestock and acres of crops to be grown on the farm. Biological methods of reducing the identified environmental impacts will then be designed by the student, which could include methane digesters, aquaculture, CO2 collectors and irrigation water recycling. Finally, students will address the management decisions made to ‘reduce the farm’s carbon footprint over a decade of production. The portfolio and presentations will be presented to the local farm bureau as well as other agriculture associations and businesses.

Course Materials:

Primary Textbook:
District Approved Biology Text

Secondary Texts:

Supplemental Materials:
# Chico High School - Agriscience Pathway

These templates are designed to help guide students. The order of some classes may vary and individual variation can be applied.

## Agriscience Pathway--- Field Technician

<table>
<thead>
<tr>
<th>Freshman</th>
<th>Sophomore</th>
<th>Junior</th>
<th>Senior</th>
</tr>
</thead>
</table>

* Health class can be taken any year and is offered online. *10th Grade PE can be taken any year or as Ind Study.

## Agriscience Pathway--- California State University Admissions

<table>
<thead>
<tr>
<th>Freshman</th>
<th>Sophomore</th>
<th>Junior</th>
<th>Senior</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. For Lang 1</td>
<td>2. World History</td>
<td>2. U.S. History</td>
<td>2. Govt/Econ</td>
</tr>
<tr>
<td>5. Health*</td>
<td>5. For Lang 2</td>
<td>5. Floral</td>
<td>5. Elective</td>
</tr>
</tbody>
</table>
                                           |                                         | for Sustainable Agriculture (Hon) +  
                                           |                                         | (Vet Science, Plant Science, Horticulture) |

* Health class can be taken any year and is offered online. *10th Grade PE can be taken any year or as Ind Study.

## Agriscience Pathway--- University of California Admissions

<table>
<thead>
<tr>
<th>Freshman</th>
<th>Sophomore</th>
<th>Junior</th>
<th>Senior</th>
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<tbody>
<tr>
<td>1. English (Hon)</td>
<td>1. English (Hon)</td>
<td>1. AP English^</td>
<td>1. AP English^</td>
</tr>
<tr>
<td>2. Health*</td>
<td>2. World History</td>
<td>2. AP U.S. History^</td>
<td>2. AP Govt/Econ</td>
</tr>
<tr>
<td>5. For Lang 1</td>
<td>5. For Lang 2</td>
<td>5. For Lang 3^</td>
<td>5. Floral</td>
</tr>
</tbody>
</table>
                                           |                                         | for sustainable Agriculture (Hon) +  
                                           |                                         | (Vet Science, Plant Science, Horticulture) |

* Health class can be taken any year and is offered online. *10th Grade PE can be taken any year or as Ind Study.

* Can be taken any year.  
^ Recommend by UC  
** Strong Senior schedule recommended by UC + Capstone Class ~ integrated class  
vp receives UC/CUSD Visual/ Performing Arts  
& Receives College Credit
AGENDA ITEM: Chico High School – New Course Proposal – Chemistry & Agriscience

Prepared by: Courtney Champlin – Teacher, Mark Beebe - Principal

X Consen

_____ Information Only

_____ Discussion/Action

Board Date: 12/14/16

Background Information

The Agriculture Program at Chico High School has a long history and with this proposal looks forward to strengthening opportunities available to students. The following course proposal, coupled with CTE status, will bring the Agriculture Program into alignment with other programs statewide. This is the second course in the series of three new courses being proposed.

Education Implications

This sequence of courses is University of California approved and adopted. This class will be “D” level A-G course and will be eligible for CUSD graduation requirements.

Fiscal Implications

None
NEW COURSE PROPOSAL OUTLINE

Course Title: Chemistry and Agriscience
Grade Level: 9-12

This course could serve as one of the required two courses for high school graduation and one of the three science A-G courses for college prep students.

Required/Elective: Lab Science D
Length/Credits: 1 year / 5 credits per semester

Prerequisites: Biology and Sustainable Agriculture or Ag. Biology

I. Course Rationale and Description:

This course explores the physical and chemical nature of soil as well as the relationships between soil, plants, animals and agricultural practices. Students will examine properties of soil and land and their connections to plant and animal production. Using knowledge of scientific protocols as well as course content, students will develop an Agriscience research program to be conducted throughout the first semester of the course. To complete that whole project each student will investigate and test an Agriscience research question by formulating a scientific question related to the course content, formulating a hypothesis based on related research, conducting an experiment to test the hypothesis, collecting quantitative data, and forming a conclusion based on analysis of the data. The result of this research program will be an in depth research and experimentation paper that is technically written, based on scientific protocol, and cited using APA formatting. Additionally, students will develop and present a capstone soil management plan for agricultural producers, using the content learned throughout the course. Throughout the course, students will be graded on participation in intracurricular FFA activities as well as the development and maintenance of an ongoing Supervised Agricultural Experience (SAE) program.

II. Instructional and Supplemental Materials:

Primary Materials:

District Approved Chemistry Text


Supplemental Materials:

How to Write a Scientific Paper by Robert A. Day.
National FFA Research Report Template
https://www.ffa.org/programs/awards/agriciencefair/Pages/default.aspx
### III. Course Outline/Standards/ Instructional Methods/Assessments:
Prepare a course outline that indicates the following: 1) name of unit; 2) time allocated for the unit; 3) standards addressed in each unit (please use Content Standards Framework numbering system and write out each standard); 4) Instructional strategies used in each unit; 5) Assessments utilized. (Use additional pages as needed.)

See attached

<table>
<thead>
<tr>
<th>Unit Name</th>
<th>Standards Addressed</th>
<th>Time</th>
<th>Instructional Strategies</th>
<th>Assessments</th>
</tr>
</thead>
</table>
| Agriculture and Agricultural Research Skills | See attached Standards Map | 4-5 weeks | • Group/Individual Projects  
• Group Work  
• Individual work  
• Student Presentations  
• Instructor lead Lectures  
• Demonstrations with models  
• Labs | • Group Tests  
• Quizzes  
• Individual Tests  
• Projects  
• Presentations  
• Formative Assessments  
• Lab report |
| The Nature of Soil        | See attached Standards Map | 6-7 weeks | • Group/Individual Projects  
• Group Work  
• Individual work  
• Student Presentations  
• Instructor lead Lectures  
• Demonstrations with models  
• Labs | • Group Tests  
• Quizzes  
• Individual Tests  
• Projects  
• Presentations  
• Formative Assessments  
• Lab report |
| Soil and Water             | See attached Standards Map | 7-10 weeks | • Group/Individual Projects  
• Group Work  
• Individual work  
• Student Presentations  
• Instructor lead Lectures  
• Demonstrations with models  
• Labs | • Group Tests  
• Quizzes  
• Individual Tests  
• Projects  
• Presentations  
• Formative Assessments  
• Lab reports |
| Soil and Plants            | See attached Standards Map | 3-4 weeks | • Group/Individual Projects  
• Group Work  
• Individual work  
• Student Presentations  
• Instructor lead Lectures  
• Demonstrations with models  
• Labs | • Group Tests  
• Quizzes  
• Individual Tests  
• Projects  
• Presentations  
• Formative Assessments  
• Lab reports |
| Soil and Animals | See attached Standards Map | 2-3 weeks | • Group/Individual Projects  
• Group Work  
• Individual work  
• Student Presentations  
• Instructor lead Lectures  
• Demonstrations with models  
• Labs |
| Soil and Agricultural Technology | See attached Standards Map | 4-5 weeks | • Group/Individual Projects  
• Group Work  
• Individual work  
• Student Presentations  
• Instructor lead Lectures  
• Demonstrations with models  
• Labs |
|                      |                            |           | • Group Tests  
• Quizzes  
• Individual Tests  
• Projects  
• Presentations  
• Formative Assessments  
• Lab reports |
IV. Instructional Methods: Please describe instructional methods to be used. Please include methods for special needs students, including Special Education, English Language Learners, and Honors.

All required accommodations based upon the students IEP, SST or 504 will be met. In addition the presentation of material will be presented in a well-rounded method so as to encourage learning for all types of learners. This course’s curriculum will provide the opportunity for all students to meet or exceed expected state and local standards. The course will focus on teaching students of varied abilities and backgrounds through the use of the following strategies:
- Use of SDAIE strategies for ELD students
- Scaffolding for all levels of learners
- Notes both visually and verbally
- Group projects and work to encourage being a good communicator and collaborative worker/learner.
- Individual/Group discovery and discussion
- Student presentations to also encourage good communication skills and quality production.
- Differentiated Instruction as needed based upon the students learning needs.
- Real-world application of material taught in class

V. Grading Policy:

Student grading progress will be reported in accordance with the CUSD Board Policy. Grade will reflect assessments of each student’s work as determined by the stated assessment and evaluations.

90-100: A
80-89: B
70-79: C
60-69: D
59 and below: F

VI. Other Information

<table>
<thead>
<tr>
<th>YES</th>
<th>No</th>
<th>Sites</th>
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<tr>
<th>Introductory</th>
<th>Concentrator</th>
<th>Completer</th>
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<tbody>
<tr>
<td>Agriscience</td>
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<th>No</th>
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</table>

Is course already CUSD Board Approved? (If yes, list sites currently offering the course)

Is course aligned with State Frameworks?

Is course intended for a CTE Pathway?

If yes, which CTE Pathway?

Is course intended to meet CSU/UC a-g Requirement? If yes, site must complete UC a-g Addendum
**UC a-g Addendum**

(To be completed for courses intended to meet UC/CSU a-g requirements)

Date Submitted to Site Registrar: ______________________

**To be completed by Site Department Chair/Designee:**

Course Title: ______________________

Department: ______________

Department member responsible for course description for Catalog/Student Handbook:

________________________

UC/CSU A-G Subject Area (check one):

   _____ A: History/Social Science  
   _____ B: English  
   _____ C: Mathematics  
   X  _____ D: Laboratory Science  
   _____ E: Language Other Than English  
   _____ F: Visual & Performing Arts  
   _____ G: College Preparatory Elective

Department member responsible for UCOP submission: ______________

UCOP Website/Directions = [https://hs-articulation.ucop.edu/agcmp/login/#/](https://hs-articulation.ucop.edu/agcmp/login/#/)

**UCOP portal opens Feb. 1. Final deadline is Sept. 15. Applies to initial and any re-submissions**

---

**To be completed by Site Office Personnel for proposed UC a-g courses:**

<table>
<thead>
<tr>
<th>Action</th>
<th>Date of confirmation</th>
<th>Person who confirmed action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submission to UCOP portal</td>
<td>______________________</td>
<td>__________________________</td>
</tr>
</tbody>
</table>
| Status of submission:  
  - Approved by UCOP (attach email)  
  - Rejected by UCOP | ______________________ | __________________________ |
| Resubmission, if necessary | ______________________ | __________________________ |
| Status of resubmission:  
  - Approved by UCOP (attach email)  
  - Rejected by UCOP | ______________________ | __________________________ |
| In UC Doorways Course List | ______________________ | __________________________ |
| Course Offerings Document Updated | ______________________ | __________________________ |
| Course Catalog/Student Handbook Updated | ______________________ | __________________________ |
Signatures & Approvals

Course Title: Agriculture and Soil Chemistry
Submitted by: Courtney Champlin
Department: Agriculture
School: Chico High School
Planned Start Date: Fall 2017

Approvals (Signature & Date):

Dept. Chair/Admin (High Schools)
Chico High
PVHS
Alt. Ed.
Inspire

Dept./Admin. (Jr. High)
Bidwell
Chico Jr.
Marsh
Alt. Ed.

Educational Services

- If rejected, return to originator with rationale or conditions for approval.
- If approved, date taken to Board of Education for board approval:

CUSD Board of Education action: □ Approve □ Reject
<table>
<thead>
<tr>
<th>Unit</th>
<th>Ag Standard</th>
<th>NGSS Standard</th>
<th>Science and Engineering Practices</th>
<th>Crosscutting Concept</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Agriculture and Agricultural Research Skills</td>
<td>C.1.0 Evaluate the role of agriculture in the California economy.</td>
<td>HS-ETS1-1: Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.</td>
<td>Planning and Carrying Out Investigations: Planning and carrying out in 9-12 builds on K-8 experiences and progresses to include investigations that provide evidence for and test conceptions, mathematical, physical, and empirical models.</td>
<td>Systems and System Models: Models (e.g., physical, mathematical, computer models) can be used to simulate systems and interactions—including energy, matter, and information flows—within and between systems at different scales. (HS-LS1-2)</td>
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<tr>
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<td>C.1.1 Describe how California agriculture affects the quality of life.</td>
<td>HS-ETS1-2: Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</td>
<td>Constructing Explanations and Designing Solutions: Plan and conduct an investigation individually and collaboratively to produce data to serve as the basis for evidence, and in the design, decide on types, how much, and accuracy of data needed to produce reliable measurements and consider limitations on the precision of the data (e.g., number of trials, cost, risk, time), and refine the design accordingly. (HS-LS1-3)</td>
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<td>C.1.2 Research the economic impact of leading California agricultural commodities.</td>
<td>HS-ETS1-3: Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental factors.</td>
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<td>C.1.3 Assess the economic impact of major natural resources in California.</td>
<td>C.1.4 Understand how technology influences factors such as labor, efficiency, diversity, availability, mechanization, and communication.</td>
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<td>C.1.5 Integrate the use of technology when collecting and analyzing data.</td>
<td>C.1.6 State the steps of the scientific method.</td>
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<td>C.1.7 Analyze an agricultural problem and devise a solution based on the scientific method.</td>
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<tr>
<td>2. The Nature of Soil</td>
<td>C10.1 Recognize the major soil components and types.</td>
<td>HS-PS1-1: Use the periodic table as a model to predict the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms.</td>
<td>Using Mathematics and Computational Thinking: Mathematical and computational thinking in 9-12 builds on K-8 experiences and progresses to using algebraic thinking and analysis, a range of linear and nonlinear functions including trigonometric functions, exponentials and logarithms, and computational tools for statistical analysis to analyze, represent, and model data. Simple computational simulations are created and used based on mathematical models of basic assumptions. B Use mathematical and/or computational representations of phenomena or design solutions to support explanations. (HS-LS2-1) B Use mathematical representations of phenomena or design solutions to support and revise explanations. (HS-LS2-2) C Create or revise a simulation of a phenomenon, designed or observed.</td>
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<td>C10.2 Summarize how soil texture, structure, pH, and salinity affect plant growth.</td>
<td>HS-PS1-2: Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles.</td>
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<td>C10.3 Assess water delivery and irrigation system options.</td>
<td>HS-PS1-3: Develop models to illustrate the changes in the composition of the nucleus of the atom and the energy released during the processes of fission, fusion, and radioactive decay.</td>
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<td>C10.4 Differentiate among the types, uses, and applications of amendments and fertilizers.</td>
<td>HS-PS1-4: Explain the reasons for, and importance of, soil conservation.</td>
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<td>C8.1 Demonstrate techniques used to classify soils.</td>
<td>HS-PS1-5: Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes.</td>
<td>Constructing Explanations and Designing Solutions: Constructing explanations and designing solutions in 9-12 builds on K-8 experiences and progresses to explanations and designs that are supported by multiple and independent student-generated sources of evidence consistent with obtaining, evaluating, and communicating information. (HS-PS2-1) B Use mathematical representations of phenomena or design solutions to support and revise explanations. (HS-LS2-2) C Create or revise a simulation of a phenomenon, designed or observed.</td>
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<td>C8.2 Explain the reasons for, and importance of, soil conservation.</td>
<td>HS-PS1-6: Develop models to illustrate the changes in the composition of the nucleus of the atom and the energy released during the processes of fission, fusion, and radioactive decay.</td>
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<td>C8.3 Analyze soils found in the different natural resource management areas.</td>
<td>HS-PS1-7: Construct an argument based on evidence about the simultaneous coevolution of Earth’s systems and life on Earth.</td>
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<td>F5.3 Prepare and amend soils, implement soil conservation methods, and compare results.</td>
<td>HS-PS2-1: Analyze geoscience data to make the claim that one change to Earth’s surface can create feedbacks that cause changes to other Earth systems.</td>
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<tr>
<td>3. Soil and Water</td>
<td><strong>3.6.1</strong> Summarize the different types of aquatic resources.</td>
<td>HS-PS1-1: Use the periodic table as a model to predict the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms.</td>
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<td><strong>3.6.4</strong> Analyze the relationship between water quality and aquatic species habitat.</td>
<td>Asking Questions and Defining Problems: Asking questions and defining problems in 9-12 builds on K-8 experiences and progresses to formulating, refining, and evaluating empirically testable questions and design problems using models and simulations.</td>
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<td><strong>3.6.7</strong> Plan and conduct an investigation to gather evidence to assess the structure of substances at the bulk scale to infer the strength of electrical forces between particles.</td>
<td>Developing and Using Models: Modeling in 9-12 builds on K-8 experiences and progresses to using, synthesizing, and evaluating models to predict and show relationships among variables. Investigating systems and models in 9-12 builds on K-8 experiences and progresses to using models that incorporate the natural and designed worlds.</td>
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<td><strong>3.6.8</strong> Construct and revie an explanation for the outcomes of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.</td>
<td>Analyzing and Interpreting Data: Analyzing data in 9-12 builds on K-8 experiences and progresses to introducing more detailed statistical analysis, the comparison of data sets for consistency, and the use of models to generate and analyze data.</td>
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<td><strong>3.6.9</strong> Develop a model to illustrate that the release of absorption of energy from a chemical reaction system depends upon the changes in total bond energy.</td>
<td>Engaging in Argument from Evidence: Engaging in argument from evidence in 9-12 builds on K-8 experiences and progresses to using appropriate and sufficient evidence and scientific reasoning to defend and critique claims and explanations about the natural and designed world(s). Arguments may also come.</td>
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<td><strong>3.6.10</strong> Define the design of a chemical system by specifying a change in conditions that would produce increased amounts of products at equilibrium.</td>
<td>Planning and Carrying Out Investigations: Planning and carrying out investigations in 9-12 builds on K-8 experiences and progresses to include investigations that provide evidence for and test conceptual, mathematical, physical, and empirical models.</td>
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<td><strong>3.6.11</strong> Use mathematical representations to support the claim that atoms, and therefore mass, are conserved during a chemical reaction.</td>
<td>Systems and System Models: Models (e.g., physical, mathematical, computer models) can be used to simulate systems and interactions—including energy, mass, and information flow—within and between systems at different scales. (HS-PS2-3)</td>
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<td><strong>3.6.12</strong> Use water-quality standards and perform bioassay and macro-invertebrate protocols to assess water quality.</td>
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<tr>
<td>4. Soil and Plants</td>
<td><strong>4.10.1</strong> Practice local cultural techniques, including monitoring, pruning, fertilization, planting, irrigation, harvest treatments, processing, and pest control for various trees, grains, hay, and vegetable classes.</td>
<td>HS-PS1-1: Use the periodic table as a model to predict the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms.</td>
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<td></td>
<td><strong>4.11.1</strong> Research how changing technology, such as micro-propagation, biological pest controls, plant production, yields, and management.</td>
<td>Using Mathematics and Computational Thinking: Mathematical and computational thinking in 9-12 builds on K-8 experiences and progresses to using algebraic thinking and analysis, a range of linear and nonlinear functions including trigonometric functions, exponentials and logarithms, and computational tools for statistical analysis to analyze, represent, and model data. Simple computational simulations are created and used based on mathematical models of basic assumptions.</td>
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Note: The table is incomplete and requires manual correction for full accuracy.
| **and bulk density and explain the U.S. Department of Agriculture (USDA) soil quality rating procedure.** |
| **Successful plant production, including pH, electrical conductivity (EC), and essential nutrients.** |
| **G6.3 Explain soil biology and diagram the cycles in nature as related to the soil foodchain.** |
| **G6.4 Research the factors that influence plant growth, including water, nutrients, light, soil, air, and climate.** |
| **HS-PS1-2: Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.** |
| **HS-PS1-4: Develop a model to illustrate that the release or absorption of energy from a chemical reaction system depends upon the changes in total bond energy.** |
| **HS-PS1-6: Revise the design of a chemical system by specifying a change in conditions that would produce increased amounts of products or equilibrium.** |
| **HS-PS1-7: Use mathematical representations to support the claim that atoms, and therefore mass, are conserved during a chemical reaction.** |
| **HS-PS3-3: Create a computational simulation to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity.** |
| **HS-PS1-5: Apply scientific principles and evidence to provide an explanation about the effects of changing the temperature or concentration of the reacting particles on the rate at which a reaction occurs.** |
| **HS-PS1-6: Revise the design of a chemical system by specifying a change in conditions that would produce increased amounts of products or equilibrium.** |
| **HS-PS3-3: Create a computational simulation to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity.** |
| **HS-PS1-7: Use mathematical representations to support the claim that atoms, and therefore mass, are conserved during a chemical reaction.** |
| **Engaging in Argument from Evidence: Engaging in argument from evidence in 9–12 builds from K–8 experiences and progresses to using appropriate and sufficient evidence and scientific reasoning to defend and critique claims and explanations about the natural and designed world(s). Arguments may also come from current scientific or historical episodes in science.** |

### 5. Soil and Animals

<p>| <strong>D7.1 Evaluate a rangeland and identify methods of rangeland improvement used in an effective animal production program.</strong> |
| <strong>D7.2 Summarize how rangeland management practices affect production, erosion control, and the general balance of the ecosystem.</strong> |
| <strong>D7.4 Evaluate a plan to balance animal use for animal grazing and for wildlife habitat.</strong> |
| <strong>D8.1 Assess treatment and disposal management systems for animal waste.</strong> |
| <strong>D8.2 Compare various methods for using animal waste and the environmental impacts associated with each method.</strong> |
| <strong>D8.3 Research the health and safety regulations that are an integral part of properly managed animal waste systems.</strong> |
| <strong>D10.1 Formulate and implement optimum requirements for diet, genetics, habitat, and behavior in the production of large and small animals.</strong> |
| <strong>D2.1 Assess the flow of nutrients from the soil, through the animal, and back to the soil.</strong> |
| <strong>D2.2 Explore the principles for providing proper, balanced rations for a variety of production stages in ruminants and monogastrics.</strong> |</p>
<table>
<thead>
<tr>
<th>6. Soil and Agricultural Technology</th>
<th>HS-LS2-4. Use mathematical representations to support claims for the cycling of matter and flow of energy among organisms in an ecosystem.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C3.5 Integrate use of technology into collecting and analyzing data.</td>
<td>HS-LS1-6. Construct and revise an explanation based on evidence of how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules.</td>
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<td>C3.2 Understand how technology influences factors such as labor, efficiency, diversity, availability, mechanization, and automation.</td>
<td>HS-LS4-6. Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity.</td>
</tr>
<tr>
<td>C2.1 Identify important agricultural environmental impacts on soil, water, and air.</td>
<td>HS-LS2-7. Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.</td>
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<tr>
<td>C2.2 Explain current environmental challenges related to agriculture.</td>
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<td>C2.8 Summarize how natural resources are used in agriculture.</td>
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<td>C2.4 Compare and contrast practices for conserving renewable and nonrenewable resources.</td>
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<tr>
<td>E9.4 Develop and implement a soil management plan for a natural resource management area.</td>
<td>HS-LS2-2. Use mathematical representations to support and revise explanations based on evidence about factors affecting biodiversity and populations in ecosystems of different scales.</td>
</tr>
<tr>
<td>E9.5 Understand how to analyze existing soil surveys to develop effective management plans.</td>
<td>HS-ET3-1. Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</td>
</tr>
<tr>
<td>G9.1 Identify and classify the plants and animals in an agricultural system (as producers, consumers, or decomposers).</td>
<td>HS-ET3-1.1. Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.</td>
</tr>
<tr>
<td>G9.2 Compare and contrast the elements of conventional, sustainable, and organic production systems.</td>
<td>HS-ET3-1.4. Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems.</td>
</tr>
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<td></td>
<td>Engaging in Argument from Evidence: Engaging in argument from evidence in 9–12 builds on K–8 experiences and progresses to using appropriate and sufficient evidence and scientific reasoning to defend and critique claims and explanations about the natural and designed world(s). Arguments may also come from current scientific or historical episodes in science.</td>
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<td></td>
<td>Constructing Explanations and Designing Solutions: Constructing explanations and designing solutions in 9–12 builds on K–8 experiences and progresses to explanations and designs that are based on scientific evidence and the refinement of ideas through multiple iterations of testing, discussion, and revision.</td>
</tr>
</tbody>
</table>
Title: Chemistry and Agriscience

Length of Course: Full Year (2 semesters; 3 trimesters; 4 quarters)

Subject Area – Discipline: Laboratory Sciences ("d") – Chemistry

UC Honors designation: No

CTE Sector: Agriculture and Natural Resources

CTE Pathway: Agriscience

Grade Level(s): 9-12

Prerequisite(s): Algebra 1 or IM 1

Overview:

This course explores the physical and chemical nature of soil as well as the relationships between soil, plants, animals and agricultural practices. Students will examine properties of soil and land and their connections to plant and animal production. Using knowledge of scientific protocols as well as course content, students will develop an Agriscience research program to be conducted throughout the first semester of the course. To complete that whole project each student will investigate and test an Agriscience research question by formulating a scientific question related to the course content, formulating a hypothesis based on related research, conducting an experiment to test the hypothesis, collecting quantitative data, and forming a conclusion based on analysis of the data. The result of this research program will be an in depth research and experimentation paper that is technically written, based on scientific protocol, and cited using APA formatting. Additionally, students will develop and present a capstone soil management plan for agricultural producers, using the content learned throughout the course. Throughout the course, students will be graded on participation in intracurricular FFA activities as well as the development and maintenance of an ongoing Supervised Agricultural Experience (SAE) program.

Course Content:

Unit 1: Agriscience Practices

This introductory unit will focus on proper methods of agriscience inquiry. Through a series of mini-lab experiences based on the course content, students will learn to ask questions and define problems, conduct research to form a hypothesis, determine the experimental design and conduct experimentation, analyze and interpret data, develop conclusions and then communicate their findings in lab reports. Not only will the students learn to utilize proper scientific method protocol through conducting these mini-labs, they will also learn what topics will be taught throughout the year in order to guide them in
selecting the problem/question for their individual Agriscience Project. Through these mini-lab experiences and unit content, students will be provided with the skills and knowledge to successfully establish the idea they will pursue in their Agriscience Project. By the end of this unit, students will complete the Agriscience Project Research Proposal for their on-going science experiment that will be conducted throughout the first semester of the course.

**Unit 1: Key Assignments**

1. **Soil Structure and Composition Mini-Lab – Calgon Testing**
   Students will learn that soil is composed of different size particles at varying percentages by conducting an experiment where students separate, examine and identify the major components of soil to better understand how these components give soil its unique physical characteristics. Students will learn to measure the percentage of sand, silt, and clay in a soil sample. Soil samples should be collected in the course of a walking field trip where students will take samples from varying locations on the walk. Students will mix one cup of soil sample with laundry detergent powder in a mason jar in order to dissolve the soil aggregates and keep the individual particles separated. Once the soil sample mixture sits for three days, students will measure and determine the percentage of each particle within their specific soil sample. Students will write a lab report to summarize what occurred throughout the experiment, their data, and analysis/conclusion.

2. **Water and Soil Management Mini-Lab – Water Percolation**
   Students will learn how to design a scientific experiment through proper scientific method and how to develop a research proposal. Students will be put into groups to produce a mini-proposal which will include the specific water percolation problem/question they will research for this lab, three literary research references, a hypothesis and scientific procedure. Students will also learn how soil composition impacts the speed of water percolation or amount of water absorption by conducting the experiment they designed. Students will create a lab report that includes their data and analysis/conclusion. The lab not only develops students ability to write a proposal and a scientific experiment, but exposes them to the relationship between water and soil management.

3. **Plant and Soil Management Mini-Lab – Nutrient Uptake**
   Students will learn that plants utilize nutrients in soil to grow and develop. Each student will bring in a soil sample from their yard to utilize in this lab. They will divide the sample into two pots, one that will be a control sample and the other will be amended with animal manure compost. They will test the nutrients of these two pots of soil with a standard soil testing kit in order to record the levels of Nitrogen, Phosphorus, and Potassium in their control and amended samples. A bean seed will be planted in each pot of soil to germinate and grow over the course of a two week period. Throughout the two weeks, students will be recording quantitative data on seed germination, plant growth, and soil nutrients. After analyzing their data, students will determine how much of each nutrient was utilized by the bean plant. A lab report will be written to summarize what occurred throughout the experiment, their data, and analysis/conclusion.

4. **Animal and Soil Management Mini-Lab – Animal Manure Amendment**
   To build on to the learning of nutrient uptake in the previous lab, students will extend their data analysis to make conclusions on why the bean plant in the amended soil sample
had more optimal growth over the past two weeks than the bean plant in the controlled soil sample. This extended analysis of their data will allow the students to learn that animal waste can be composted and used as a soil amendment to increase soil nutrients for optimal plant growth. A lab report will be written to summarize what occurred throughout the experiment, their data, and analysis/conclusion.

5. Technology Mini-Lab – Soil Moisture Testing
Building on the learning of soil composition in the Calgon lab, in this mini-lab, students will learn that the moisture levels in soil vary depending on the soil composition through the use of soil moisture sensing equipment. Students will learn how to operate a soil moisture sensor by testing the moisture levels in various soils. Students will return to the locations where soil samples were collected for the Calgon testing lab in order to test the moisture levels of those specific soils. They will use their data from the Calgon testing lab alongside the data from the soil moisture tests to determine how the composition of the soil impacts the soil moisture levels. A lab report will be written to summarize what occurred throughout the experiment, their data, and analysis/conclusion.

6. Agriscience Research Project Proposal
The key assignment for this introductory unit will be writing a research proposal for the student’s planned Agriscience Project. To guide the students in deciding their agriscience research questions/problem, the mini lab experiences completed in this unit should be utilized. The written proposal will include their chosen problem/question that they will be researching and investigating, five pieces of literary references, and the steps to complete for their research project. This assignment marks the first in a series of assignments that will be necessary for students to complete in order to successfully complete their agriscience research project.

Unit 2: The Nature of Soil
Students will use the methods of scientific inquiry, developed in the previous unit, to investigate the composition of the physical world, and discover how matter and energy change forms through biogeochemical cycles. Students will understand where soil originates by investigating the role of the rock cycle in soil formation. Students will learn how the electron configurations of different elements, present in the parent material, give them unique physical and chemical properties, and will further investigate how these properties impact soil characteristics. Students will identify how the climate, weather, and environment impact the soil properties, and will examine the role erosion plays in soil science. Students will collect soil samples from a variety of sources, and will use industry methods to determine the chemical composition of the soil and how this composition affects its physical and chemical characteristics. Students will connect to prior knowledge of life science by looking at how biotic factors impact soil type, composition and texture through investigation and experimentation. Students will use the results of their soil testing and the locations from which they took their samples to create a soil map of their local area. Students will compare their map to existing soil maps and analyses, and analyze the similarities and differences with the previous research.

Unit 2: Key Assignments
1. Sedimentary Rock Lab
In this activity students will model how sedimentary rock is formed by simulating weathering and erosion. Because sedimentary rock is the parent material for major components of many high quality soils, students will investigate the physical and chemical processes which create sedimentary rock. In this lab, students will use brown sugar to simulate the effect of water on soluble rock, show how water can dissolve various minerals, show how freezing water can crack porous rock, show the effects of water’s impact by pouring water on sand, and use a hairdryer and sand to simulate wind erosion on copper sulfate crystals. Students will turn in a lab report that details the results of the lab and that identifies which processes are examples of physical change (water expanding in cracks to break rocks, sand particles wearing away rock, etc.), and which processes are examples of chemical change (slightly acidic water dissolving limestone, oxidation of minerals to create metal oxides, etc.).

(http://www.rsc.org/education/teachers/resources/jesel/weather/home.htm)

2. Collect and Test Soil Samples: Physical Properties (figure out what elements might be in them based on chemical properties)
In this lab, students will learn how to test the physical characteristics of soil, so that they can learn how these characteristics affect a soil’s capabilities in later units. They will be able to assess and amend a soil to achieve a specific agricultural application. Students will collect soil samples from a variety of locations around their community. After receiving instruction in lab safety protocols, students will choose appropriate lab testing and safety equipment, and will carry out a battery of industry standard tests to determine what physical characteristics the soil samples possess. After receiving instruction in what physical properties of matter are measured in soil testing, students will use the ribbon test, and also look at physical factors such as soil texture, composition, and particle size. Students will examine the soil for presence of living organisms, such as nematodes. Based on these properties, students will hypothesize what chemical elements are present in the soil. Students will research what chemicals are prominent in the soil in their test areas, and check their hypotheses against this research. Students will turn in an annotated bibliography detailing the major findings of their research. Students will give a presentation on their annotated bibliography, and give details on where their soil came from, the lab tests they performed, the results of the tests, their data analysis, and how that analysis compared to their research.

3. Background Scholarly Research and Forming a Hypothesis
As they begin work on their semester-long research project, students use skills in research and forming hypotheses developed in the previous units to develop a hypothesis for their agriscience research project. Students will use credible sources to conduct background research on the agricultural issue they are investigating by reading and deconstructing scholarly journal articles to identify the key components of their agriscience research project. They will use this research to generate a testable hypothesis related to the scientific problem they have identified. The hypothesis developed by the student will be constructed with the independent and dependent variables in mind, and ultimately reviewed by the instructor.

4. Test Soil Samples: Chemical Properties
In this lab, students will learn how to test the chemical characteristics of soil, so that as they learn how these characteristics affect a soil’s capabilities in later units, they will be
able to assess and amend soil to achieve a specific agricultural application. Students will test the soil samples that they collected for the previous lab to determine the chemical properties of the samples. After receiving instruction in lab safety protocols, students will choose appropriate lab testing and safety equipment. After learning what chemical characteristics of soil are commonly tested, what reactions occur in the testing process, and how these tests are performed, students will carry out a battery of industry standard tests to determine chemical characteristics, such as pH, nitrogen levels, potassium levels, phosphorous levels and presence of micronutrients. Students will use their chemical tests to compare what chemical elements they found in the soil with what they hypothesized based on physical characteristics, and what they found in their research. Students will turn in a lab report which details where their soil came from, the lab tests they performed, the results of their tests, and the analysis of their results as compared to their findings in the previous assignment.

5. Experimental Design and Conducting Experimentation
Students continue work on their semester-long agriscience project by constructing an experimental design to test the hypothesis they developed in earlier in this unit. A written experimental design should be constructed consistent with scientific protocols using the systematic approach outlined in the previous units. Students will have their experimental designs reviewed by professional contacts (industry experts, agricultural instructors, local growers/producers, researchers or university representatives). After validating the design using the peer review process, students will move to the experimentation phase of their research. Experimental designs should include replicates, control groups, and determine the variables to be controlled and how. Additionally, a determination should be made as to the type of data that will be collected and in what ways, with the emphasis placed on quantitative data or quantifying data that is qualitative in nature. Students will use their experimental design to test their hypothesis. Raw data should be recorded using a field book or electronic device.

6. Creating Soil Maps
Students will take the soil analysis results from the previous assignments to construct a soil map of their local area. Based on the physical properties, such as soil texture, composition and particle size, the chemical properties, such as pH, nitrogen levels, micronutrient levels, etc., and the specific location from which the soils came, students will categorize the soil samples and the class will construct a comprehensive soil map of the local area. Students will then compare their map to existing soil maps, and analyze the similarities and differences with the previous USDA-NRCS maps.

7. Soil Management Project
The soil management project, which students begin in unit 2, will be ongoing throughout the length of the course. The teacher will procure samples of soil from a variety of local farms and these samples will be kept as individual soil plots, or can be kept in plastic containers. Students will perform a variety of tests on these soil samples throughout the course in order to determine the characteristics that the individual samples possess, to analyze how these characteristics impact agricultural outcomes, and how amendments can be made to the soil samples in order to achieve a desired outcome. In this unit students will use the skills they learned in the previous labs to test and record the physical and chemical characteristics of the soil, and identify organisms living in the soil. Students
will keep ongoing records of the data they collect during each of the units learning labs. This data will include information about the physical and chemical characteristics of their soil sample, results from testing pH, moisture, nutrient levels, water holding capacity, ability to grow target crops, and other factors in subsequent units.

**Unit 3: Water and Soil Management**
Using knowledge accessed from previous units on the physical and chemical properties of soil, students will analyze how the water cycle impacts soil based on its soil type (sand, silt, clay) soil location (geographic and topographic), vegetative state and natural slope of land. In order to understand how water becomes available for plant growth, students will explain the movement of water through soil with respect to how intermolecular forces impact percolation, capillary action, pore size, cohesion and adhesion. Furthermore, students will address how the concentration of organic matter in soil impacts the movement of water. Students will explain the impact that soil has on the quality of their water and will use water analysis tests to determine the safe and appropriate levels for potable water. Students will also be able to provide solutions to possible contaminations and/or toxic levels of residues/nutrients in the water samples. Students will determine how different irrigation, tillage and planting practices will impact the soil and surrounding area by testing water quality, pH and checking for possible contaminants due to leaching. Students will determine proper and efficient irrigation practices based on the chemistry behind the soil and the way water moves through the soil particles. Students will use GPS to enable students to more accurately analyze watersheds in their area and rationalize how the drought can impact both water quality and quantity as well as soil composition.

**Unit 3: Key Assignments**
**1. Soil Erosion and Runoff Lab**
Using soil plots from the previous labs, students will analyze how soils with vegetation (including organic matter) have a greater water holding capacity and less runoff than soils without vegetation by collecting runoff water from each plot and testing not only the amount of water collected from each plot, but also the percent of solids collected from runoff from each of those plots. Students will complete their lab write up to emphasize their understanding of these key concepts. Students’ lab reports should include qualitative and quantitative observations of the composition of runoff from the soil plots. They should analyze this data to draw conclusions about the water holding capacity of the soils and should discuss the intermolecular interactions which allow soil to hold water at the molecular level. This assignment prepares them for decisions that will be made in their capstone project of creating a soil management plan.

**2. Water Quality Testing**
Students will begin by examining properties of subatomic particles and will create models to illustrate bonding of hydrogen and oxygen, accounting for the polarity of the water molecule. The focus of this unit will continue to develop an understanding of how hydrogen bonds give water a number of properties that allow it to percolate through soil, adhere to pollutants and transpire through plants.

Above is the link to the lab where students will test water samples from various sources throughout their community to determine the quality of the water. They will test and record data on pH, phosphates, nitrates, dissolved oxygen, and turbidity. Students will then analyze this data to draw conclusions on what can be done to improve the quality of the water. Students should also indicate what steps can be made in agriculture to protect water quality and ensure a safe water source for the community. Students will make a presentation to the class that summarizes their lab procedure, results, and conclusions. To extend learning, the group that has the most thorough presentation can present their findings to the School Board, local Farm Bureau, or any other local organization.

3. Analyzing data, interpreting data and forming conclusions.
Students will determine the best methods for organizing the data from their semester-long Agriscience Project by creating data tables. The skills in analyzing and interpreting data used during Key Assignments One and Two in this unit will be applied to the final agriscience research project. Students will make similar determinations on their Agriscience research. Students will use mathematical principles to synthesize their data, calculating a mean. Furthermore, a statistical analysis of the data will help the student determine if the results are due to chance or the independent variable that was tested. Students will choose the best way to present their data using graphs they believe will most effectively demonstrate their findings, and will further summarize what each graph shows. Finally, students will interpret the data and formulate conclusions based on the results. In the written conclusion, students will use their data to either accept or reject the original hypothesis. Conclusions should be directly supported by the data and by previous research. Students will also identify the limitations of their research, improvements that could be made to the experimental design, as well as future studies that may be conducted that relate the study at hand.

4. Tillage Practices and the impact they have on Runoff, Erosion and Soil Chemistry
Students will explore how chemical bonding, chemical reactions and chemical equilibrium are demonstrated through the relationship between tilled soil and water runoff. Students build upon their knowledge of atomic structure to explore the various forms of chemical bonding that takes place between atoms of different elements as well as the role of valence electrons. To deepen understanding of chemical interactions, students will investigate both the physical and chemical changes that take place during tillage.

Students will utilize locally sourced soil samples at both pre-tillage and post-tillage intervals to compare the effects of tillage on the physical and chemical nature of soil. Ideally, multiple tillage types will be examined including conventional tillage, deep ripping tillage and conservation tillage. Soil pH, effective cation exchange capacity, soil organic carbon, and soil nutrient levels will be measured in addition to an analysis of the physical structure of the soil. Examination of the physical structure can allow students to predict potential erosion and runoff issues.

Students will then develop suggestions for best tilling practices by using GPS and topographic maps to determine the natural slope of a given plot of land. They will be asked to design the most efficient “tillage” for this plot to conserve water, prevent soil
erosion and cause the least disturbance to soil and water bonding. Students must explain in a written report, including a detailed diagram, why they selected the design they did and how it will be the most beneficial for the environment using conservation techniques for the soil and water as learned in this unit. They will also explain why the alternative designs would be poor choices.

5. Ground Water Contamination and Aquifer Lab
Students will demonstrate how aquifers filter different contaminants by constructing a model of an aquifer and testing how groundwater contamination occurs by using common agricultural contaminants. They will analyze two different types of aquifers and determine which type they would want to place a well into and why. Students will explain how the size of the pores affects the intermolecular interactions between contaminated water and the rock, and how this in turn impacts how well an aquifer can filter out contaminants.

Students will examine how the pH of different solutions is directly affected by soil type and aquifer porosity. Students will model this by capturing water that comes through their aquifer model. Students will then determine the concentration of this type of solution through a standardized titration experiment.

Once they have used their models as a means of understanding how easily groundwater can be contaminated, they will complete their conclusion and create a multimedia production in the form of a TED talk or Infomercial that educates their community on what agriculturists do and can do to improve water quality in their local area. They will present their productions to a panel of judges and the winners will have their video/multimedia presentation broadcast school-wide.

6. Irrigation Practices in Agriculture
Students will understand how evaporation (due to temperature) and soil type plays a huge role in the irrigation methods and practices employed in the agriculture industry. Students will be given 3 different soil types. Students will divide these 3 soil types into 9 different samples; 3 of each in a different setting, but they will receive the same amount of water to simulate "irrigation". Students will hypothesize what they think will happen based on soil type and temperature with regard to moisture retention and how this will impact decisions in irrigation selection. In the control group the 3 soil samples will be placed outside. In test group #1, 3 samples will be placed under a heat lamp to simulate an environment with a hotter ambient temperature. In test group #2, 3 samples will be placed in a location cooler than your outside temperature. In all 3 of the test locations students will water all of the samples with equal amounts of water. The following day students will test the moisture content of all soil samples using a Kelway Soil Acidity and Moisture Meter to determine the effects that temperature and soil type had on moisture retention. Using this data, students will then complete the lab write up and finish a conclusion by summing up how this lab impacts irrigation practices.

7. Semester One Capstone Project
Students will submit their agriscience research in a written paper, and it will include the following components: problem/purpose, background research, hypothesis, methodology, results/data, and discussion/conclusion. The paper will be written using
skills associated with technical and scientific writing, for example, refraining from the use of personal pronouns or keeping discussion limited to what the research and data suggest rather than personal opinion and bias. APA format will be utilized to reference and cite sources. The project and its findings will be shared with the class in an oral presentation.

**Unit 4: Plants and Soil Management**
Building on knowledge acquired from the previous units on the physical and chemical properties of water and soil, students will begin to determine the effects of plant, soil and water interactions with respect to maintaining or restoring environmental health and structure. Students will model how nutrients cycle through the environment, analyze how pH affects nutrient availability by changing chemical equilibrium, determine water holding capacity with respect to water availability for plant growth, and identify possible nutrient deficiencies based on plant observations. Students will apply this learning to developing knowledge of soil nutrients and their role in the environment by testing and analyzing soil samples for optimal soil structure, nutrient value and availability and determining possible soil amendments and practices to improve soil quality.

**Unit 4: Key Assignments**
1. **Plant Requirements from Soil Lab**
   Students will demonstrate their knowledge of plant growth requirements by creating a controlled experiment to compare the difference between natural and synthetic fertilizers on plant growth. Students will make qualitative and quantitative observations of plant growth and analyze their data in order to draw conclusions regarding the availability of nutrients and the practical application for crop growers. Fertilizers are identified with particular isotopes and as part of the assignment, students will describe nuclear processes and radiation, describing their methods of use in determining fertilizer application in commercial agriculture. Students will then create a written recommendation to a local crop producer regarding which type of fertilizer to use for their farm in order to achieve production goals, highlighting chemistry concepts as a fundamental part of the assignment.

   **Optional extension:** Students can analyze the amounts of fertilizers needed in order to reach the desired amount necessary for plant growth and determine whether the addition of fertilizers is cost effective.

2. **Soil Management Project**
   Students will analyze their data collected from unit 2 and determine which crops can be grown based on the current physical and chemical properties of the soil. Students will make recommendations for soil amendments which would increase the nutrient availability of the soil in order to grow a desired crop. Students should consider how pH, and chemical equilibrium will impact the availability of nutrients in the soil in their recommendations. Students will then plant a crop from a given list of cover crops (clover, grasses and legumes) in their soil test plot, allow it to grow and then retest the soil to see if there is a difference in the nutrient concentrations. Students will incorporate their knowledge of biogeochemical cycles into their lab report and will provide an explanation of how nutrients are being transferred from the soil to the plants. The research and
experimemtation conducted in this project will be added to their Soil Management Capstone Project.

3. Plant and Soil Interactions
Students will compare their nutrient values from the previous project with other groups during a classroom discussion. Students will analyze the data and develop explanations for why there is a difference in the amount of nutrients the plants extracted from the soil. Students will then revisit the Soil Erosion and Runoff Lab from Unit 3 and measure the amount of runoff and soil erosion that occurs on each of the cover crops and compare the data to the data collected from Unit 3. Students will communicate their results in a lab write up.

Unit 5: Animals and Soil Management
Using knowledge from previous units about soil nutrient content, students will identify the key macrominerals and microminerals necessary for normal livestock growth and reproduction. The students will correlate the minerals present in soil with the nutrient content of typical livestock concentrate and roughage feeds. Using local resources, the students will identify mineral deficiencies or toxicities in the soil and relate the deficiencies or toxicities to livestock health. Students will identify crop and range management practices to improve the nutrient content of soil, and will explain what reactions take place at the molecular level to improve nutrient content. Students will identify various methods of using animal waste and the environmental impacts including the use of animal waste as soil amendments and fertilizers. Students will relate the units of concentration used in agriculture practice to units used in chemistry labs, as they identify problems and contaminants associated with livestock waste disposal and related health and safety regulations.

Unit 5: Key Assignments
1. Nutrient Deficiencies in Livestock
Students will examine the correlation between soil and plant nutrient levels with health problems in livestock. Using their knowledge of solutions and concentration, students will identify soil nutrient deficiencies in a geographic area. They will relate the nutrient deficiencies with livestock diseases. For example, if an area has a deficiency in selenium, students will identify problems such as white muscle disease in calves and lambs. Working in groups, the students will analyze a case study on selenium deficiencies in cattle and offer a solution and/or design a system to prevent or correct a mineral deficiency in livestock caused by a soil deficiency. Their analysis will be presented in a written report.

Optional extension to this assignment could include testing other nutrient deficiencies, such as copper toxicity, and reporting these findings in a group oral presentation using the case study as an example.

2. Livestock and Water Quality
Students will examine the nutrients present in animal waste and identify possible environmental contaminates in the waste. To examine the effects of water runoff from livestock facilities, students will design a controlled experiment to test water samples

UCCI integrated course: Agriculture and Soil Chemistry | Page 10 of 14
from soils exposed to livestock for nitrates, phosphate, heavy metals, pH, dissolved oxygen and other factors. Students will utilize their previously collected soil samples or soil plot and design a model to simulate water run off from a livestock production facility. Alternately, students will test water runoff samples from existing livestock facilities. At the conclusion of the experiment, students will provide a written recommendation to a county land use commission with a protocol for the optimal use of the animal effluent.

3. Livestock Waste Management
Students will examine the challenges involved with livestock waste management. The problems may include ammonia emissions, phosphorus runoff, nitrate leaching and heavy metal runoff. The instructor will provide a problem and scenario that relates to livestock waste management from an agricultural operation. Students will research the problem and design a system or solution. For example, if a school builds a school farm and raises 10 head of cattle in confinement, how will the waste be handled? The students will consider factors such as environmental concerns, health and safety regulations, amount of waste produced, reactivity of the waste products, uses for the waste, possible cost and labor requirements.

4. Soil Management Project
The soil management project, which students begin in unit 2, will be ongoing throughout the length of the course. In this unit, students will identify the nutrient deficiencies or toxicities present in the soil samples that might influence livestock production. Students will develop a written proposal for the tested soil, including soil amendments, fertilizers and application of animal waste or changes in livestock management practices to address these deficiencies or toxicities. As part of the recommendation process, students will examine the use of animal waste as a method of enhancing soil quality, using background knowledge of nuclear processes to describe variability in nutrient availability in uptake. For any toxicities present, students will examine the chemical profiles of the elements and recommend strategies for resolving agricultural issues for those elements. Students will use these soil management profiles as a component of their final course project as well as use them for subsequent units.

Unit 6: Soil Sustainability
Based on the accumulation of knowledge, examples and research conclusions from throughout the year, students will develop an understanding of sustainable agriculture by employing a Sustainability evaluation tool, “The 3-Pillars of Sustainability, economic, environmental and social impacts” of agriculture. Students will critically evaluate and justify perspectives and determine benefits/concerns based on research and credible information. Students will investigate and evaluate the sustainability of agricultural practices. Students will design and conduct a phytoremediation lab to analyze the efficacy of salt tolerant accumulators to remove saline from the soil. Students will formulate potential solutions using the three pillars of sustainability to soil and land management problems based on agricultural scenarios and debate agricultural issues.

Unit 6: Key Assignments
1. Phytoremediation Lab
Students will learn the about the remediative effects of plants in the uptake of soil
contaminants, in this example, reducing soil salinity. Students will research saltwater intrusion causes and implications, research phytoremediation, develop a hypothesis, design an experimental procedure, identify safety procedures specific to this experiment, collect and analyze data, and formulate conclusions. Through these steps, students will determine which types of plants are best in phytoremediation of saline (“halophytic” or salt loving plants) and the maximum amount of saline which can be removed from the soil in this way.

Possible extension: Compare efficacy of procedure with different soil types
Students will complete a formal lab write-up.

2. Tillage Protocols: Impact on Soil Structure and Soil Sustainability Lab
The purpose of this lab is to determine the effects of tillage practices on soil sustainability and plant growth. Using a prepared mini-plot with all three tillage examples (conventional, no-till, and low till) soil structure, students will measure and compare soil fertility, water holding capacity, and percolation. Students will analyze and graph their data, explain the implications of the each of these tillage systems with respect to soil and water sustainability and extrapolate those results to the effect of tillage practices affect on plant health. Students will create a poster to illustrate the benefits and drawbacks of each tillage system with respect to Soil-Plants-Water.

3. Land Use Planning Model
Student groups will make soil/land management decisions based on specific agriculture and land use restrictions on pieces of land such as large urban gardens, range management, forest management, and farmlands. Students will use their knowledge of physical and chemical properties of soil in regards to plants, animals and water to highlight the importance of sustainable agriculture. Getting a land use plan approved and in place with multiple interest groups is complicated and relies on the checks and balances to determine the success of the project. Each student in the group needs to take on a specific role in order to determine their Land Use Plan (such as conservationist, developer, owner, law enforcement, Department of Public Works, Anthropologist, City Planner, etc.). Groups will then prepare a presentation to present their plan. This presentation could be presented to the class and instructor or even community/local industry members.

4. Agriculture Issue Debate and Policy Proposal
Students will begin by conducting secondary research using industry journals into the global use of methyl bromide as a chemical soil sterilant. Students will examine the pros and cons of the use of methyl bromide in terms of manipulations to the chemical profile of soil, microbiology, effects on groundwater, runoff challenges and effects on agricultural productivity. Research should highlight chemical reactions as the primary point of focus. Students will then be assigned a perspective related to the methyl bromide investigation (runoff or microbiology, for example) to represent in the debate, using their list of chemistry- and agriculturally-focused pros and cons to inform their contributions. Students will end the debate with a comprehensive analysis of the issue of methyl bromide use in agriculture from multiple angles in order to develop a model policy for their county regarding the possible use of methyl bromide in agricultural applications.
5. Soil Management Project
The soil management project, which students began in unit 2, has continued throughout the length of the course. At the end of Unit 6, students will incorporate knowledge gained from all previous labs, and the conclusions drawn from the Phytoremediation and Tillage Protocols: Impact on Soil Structure and Soil Sustainability Labs to test, analyze, treat and/or modify soil structure and fertility for specific usage/in order to achieve desired outcomes. This work will be used as evidence in the Soil Management Capstone Project and will also aid in drawing the final conclusions of the year long research and experimentation.

Capstone Project and Portfolio
1. Soil Management Capstone Project
As the final course capstone project, students will be given a scenario and soil sample designed around their local agriculture industry. The given scenario will provide students with specific information about the topography and climate/rainfall data of the location where the soil sample was collected. Students will use knowledge and skills learned in previous units to physically and chemically analyze the soil sample. Their soil analysis should include the composition and nutrient, pH, and salinity levels. The data collected from their soil sample analysis and the provided land information should be included in the soil management plan that the students create. The student’s Soil Management Plan will recommend soil amendments, proper tillage practices, optimal irrigation methods, crop recommendations, and animal use suggestions. Their recommendations and suggestions should be justified in terms of the 3-pillars of sustainable agriculture.

2. Course Portfolio
The course portfolio will provide evidence of real-world agriculture application of scientific research done throughout this course. The portfolios will highlight student work from throughout the course to show a progression of learning, experimentation, and application of course content. Items that will be included in the portfolio are student lab reports, the Agriscience Research paper, and their Soil Management Plan.

Course Materials:

Primary Materials:


Supplemental Materials:

Chapters 1-3; 5 & 6.

Chapters 10, 13, 14 & 15.


How to Write a Scientific Paper by Robert A. Day.

National FFA Agriscience Fair Handbook

National FFA Research Report Template
https://wwwffa.org/programs/awards/agriciencefair/Pages/default.aspx

Unit 1-Assignment 1:
http://www.todayshomeowner.com/diy-soil-texture-test-for-your-yard/

Unit 3- Assignment 2:

Unit 4 Assignment 1

Unit 5 Assignment 1
http://www.sites.ext.vt.edu/newsletter-archive/livestock/aps-06_04/aps-313.html
Chico High School - Agriscience Pathway

These templates are designed to help guide students. The order of some classes may vary and individual variation can be applied.

Agriscience Pathway--- Field Technician

**Freshman:**
1. English
2. Health/Elective*
3. Math C
4. PE 9
5. Welding 1
6. Introduction to Ag.

**Sophomore:**
1. English
2. World History
3. Int Math 1
4. P.E. *
5. Welding 2
6. Plant Science

**Junior:**
1. English
2. U.S. History
3. Elective
4. Elective
5. Advanced Welding
6. Ornamental Horticulture

**Senior:**
1. English
2. Ag. Gov/Econ
3. Elective
4. Elective
5. Advanced Welding
6. Floral

* Health class can be taken any year and is offered online. *10th Grade PE can be taken any year or as Ind Study.

Agriscience Pathway--- California State University Admissions.

**Freshman:**
1. English
2. For Lang 1
3. Int Math 1
4. PE 9
5. Health*
6. Biology and Sustainable Ag

**Sophomore:**
1. English
2. World History
3. Int Math 2
4. P.E. *
5. For Lang 2
6. Chemistry and Agriscience

**Junior:**
1. English
2. U.S. History
3. Int Math 3
4. For Lang 3
5. Floral
6. Adv. Interdisciplinary Science

**Senior:**
1. English
2. Govt/Econ
3. Math (recommend)
4. Ag. Leadership
5. Elective

*Health class can be taken any year and is offered online. *10th Grade PE can be taken any year or as Ind Study.

Agriscience Pathway--- University of California Admissions

**Freshman:**
1. English (Hon)
2. Health*
3. Int Math 1
4. PE 9
5. For Lang 1
6. Biology and Sustainable Ag

**Sophomore:**
1. English (Hon)
2. World History
3. Int Math 2
4. P.E. *
5. For Lang 2
6. Chemistry and Agriscience

**Junior:**
1. AP English
2. AP U.S. History
3. Int Math 3
4. Ag Leadership
5. For Lang 3
6. Adv. Interdisciplinary Science

**Senior:**
1. AP English
2. AP Govt/Econ
3. Math Analysis
4. Physics
5. Floral

*Health class can be taken any year and is offered online. *10th Grade PE can be taken any year or as Ind Study.

* Can be taken any year.  
^ Recommend by UC  
** Strong Senior schedule recommended by UC + Capstone Class ~ integrated class  
vps receives UC/CUSD Visual/Performing Arts & Receives College Credit  
dw/15
AGENDA ITEM: Chico High School – Textbook Purchase – Chemistry & Agriscience

Prepared by: Courtney Champlin – Teacher, Mark Beebe - Principal

X Consent

Information Only

Discussion/Action

Board Date: 12/14/16

Background Information


Education Implications

This textbook covers all the Agriculture Science standards to be taught in the course. It covers plan science, soil science and applications of the two. The current approved Chemistry textbook will be utilized as a supplementary textbook for the course.

Fiscal Implications

The purchase of these textbooks will be done through the CTE Incentive Grant.
Current book price: $161.95
Quantity: 105 (70 student books and 35 class copies)
Total cost: $17,004.75
A. New Adoption
1. Proposed Text
   Title: Plant & Soil Science Fundamentals and Applications
   Edition/# of Pages: Edition: 1/ Pages: 793
   Author: Rick Parker
   Publisher: Delmar, Cengage Learning Center
   Copyright Date: 2010
   Current List Price: 161.95
   Material is on the California Legal Compliance List? X YES □ NO
2. Approximately how many classes will be using this text? 1-2 Classes: Chemistry and Agriscience
   How many copies of the text will be purchased? 105
3. List other districts using this text: Gridley Unified, Galt Unified
4. List other textbooks considered in the selection and their current list price:
   This textbook was recommended by UCCI when adopting the course. No other books were considered due to the recommendation from UCCI.
5. The proposed text for all courses that have state approved standards must align with those standards. Indicate areas that are supported by the proposed text and areas where supplementary material will be needed. Attach a list of those standards and the corresponding text correlation. SEE ATTACHED

<table>
<thead>
<tr>
<th>Check each criterion that applies in terms of the course and ability level to which the material is to be submitted</th>
<th>Excellent</th>
<th>Good</th>
<th>Average</th>
<th>Poor</th>
<th>Does not apply</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How well does the material align with Chico Unified School District Standards and Benchmarks?</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>2. How well does the material align with California State Standards?</td>
<td>X</td>
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<tr>
<td>3. How well does the material cover the scope of student and teacher needs at the grade level for which it is being considered?</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>4. How well does material employ a variety of pedagogical methods of instruction?</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>5. How well are the assessment tools linked to the content and instructional methodology?</td>
<td>X</td>
<td></td>
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<tr>
<td>6. How successfully are formal, informal and alternative assessment systems incorporated into the teacher resource guide?</td>
<td>X</td>
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<tr>
<td>7. How well does the material provide for the needs of English language learners?</td>
<td>X</td>
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<tr>
<td>8. How appropriate are the supplementary materials in supporting the effective use of the text?</td>
<td>X</td>
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<tr>
<td>9. To what degree does the teacher resource material provide support and guidance?</td>
<td>X</td>
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<tr>
<td>10. Classify the ease of use of the teachers’ manual?</td>
<td>X</td>
<td></td>
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</tr>
</tbody>
</table>
6. Is supplementary material available for the adoption? X YES □ NO
   Is it necessary for instructional purposes? X YES □ NO
   If yes, why? The current approved textbook for Chemistry is strongly encouraged to be utilized when teaching this course due to it providing the basic chemistry concepts needed for the course. When coupled with the Plant and Soil Science textbook, students will then have a well rounded knowledge with chemistry and the agriculture application.
   What costs are involved? Purchase of current chemistry textbooks for class copy.

7. Textbook previously used
   Title: N/A
   Author: 
   Publisher: 
   Copyright Date: 
   a. Date of initial adoption: 
   b. State reason for the previous text no longer serving the purpose for which it was originally adopted:
Department Chairperson Approval to Use Textbook

Chico High School Department Chairperson

Pleasant Valley High School Department Chairperson

Fair View High School Department Chairperson

Oakdale High School Department Chairperson

Date

Campus Principal Approval

Chico High School Principal

Pleasant Valley High School Principal

Fair View High School Principal Admin Designee

Oakdale High School Principal Admin Designee

Date

Date

Date

Date

Date

Date

Consideration may be: approval or rejection. If rejected, it must be returned to originator with rationale.

CUSD Educational Services Approval

 Date

Governing Board Approval

 Date
<table>
<thead>
<tr>
<th>Unit</th>
<th>Ag Standards</th>
<th>NGS Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapters 11-19 (Fundamentals of Plant Growth and Propagation)</td>
<td>F2.4, F5.1, F5.2, F5.3, F5.4, F5.5, G11.1, G3.4, C2.1, C2.2, C2.3, C2.4</td>
<td>HS-ESS2-5, HS-ESS3-3</td>
</tr>
</tbody>
</table>

AGENDA ITEM: Chico High School – New Course Proposal – Advanced Interdisciplinary Science for Sustainable Agriculture

 Prepared by:  Courtney Champlin – Teacher, Mark Beebe - Principal

 X  Consent  

 _____ Information Only

 _____ Discussion/Action  

 Board Date:  12/14/16

Background Information

The Agriculture Program at Chico High School has a long history and with this proposal looks forward to strengthening opportunities available to students. The following course proposal, coupled with CTE status, will bring the Agriculture Program into alignment with other programs statewide. This is the third course in the series of three new courses being proposed.

Education Implications

This sequence of courses is University of California approved and adopted. This class will be “D” level A-G course and will be eligible for CUSD graduation requirements.

Fiscal Implications

None
NEW COURSE PROPOSAL OUTLINE

Course Title: Advanced Interdisciplinary Science for Sustainable Agriculture
Grade Level: 9-12
This course could serve as one of the required two courses for high school graduation and one of the three science A-G courses for college prep students

Required/Elective: Length/Credits: 1 year/5 units per semester; Lab Science "D", life science Algebra 1 or IM 1; successful completion of Biology and Sustainable Agriculture
Prerequisites: Agriculture & Chemistry and Agriscience

I. Course Rationale and Description:

This integrated class combines an interdisciplinary approach to laboratory science and research with agricultural management principles. Using skills and principles learned in the course, students design systems and experiments to solve agricultural management issues currently facing the industry. Additionally, students will connect the products created in this class with industry activities to link real world encounters and implement skills demanded by both colleges and careers. The course culminates with an agriscience experimental research project in which students design and conduct an experiment to solve a relevant issue. Final projects will be eligible for Career Development Event competition at FFA events. Throughout the course, students will be graded on participation in intracurricular FFA activities as well as the development and maintenance of an ongoing Supervised Agricultural Experience (SAE) program.

II. Instructional and Supplemental Materials:

### III. Course Outline/Standards/ Instructional Methods/Assessments:
Prepare a course outline that indicates the following: 1) name of unit; 2) time allocated for the unit; 3) standards addressed in each unit (please use Content Standards Framework numbering system and write out each standard); 4) Instructional strategies used in each unit; 5) Assessments utilized. (Use additional pages as needed.)

**See attached**

<table>
<thead>
<tr>
<th>Unit Name</th>
<th>Standards Addressed</th>
<th>Time</th>
<th>Instructional Strategies</th>
<th>Assessments</th>
</tr>
</thead>
</table>
| Agriculture and Agricultural Research | See attached standards map | 4-5 weeks | • Group/Individual Projects  
• Group Work  
• Individual work  
• Student Presentations  
• Instructor lead Lectures  
• Demonstrations with models  
• Labs | • Group Tests  
• Quizzes  
• Individual Tests  
• Projects  
• Presentations  
• Formative Assessments  
• Lab Reports |
| Plant Systems                     | See attached standards map | 7-8 weeks | • Group/Individual Projects  
• Group Work  
• Individual work  
• Student Presentations  
• Instructor lead Lectures  
• Demonstrations with models  
• Labs | • Group Tests  
• Quizzes  
• Individual Tests  
• Projects  
• Presentations  
• Formative Assessments  
• Lab Reports |
| Animal Systems                     | See attached standards map | 7-8 weeks | • Group/Individual Projects  
• Group Work  
• Individual work  
• Student Presentations  
• Instructor lead Lectures  
• Demonstrations with models  
• Labs | • Group Tests  
• Quizzes  
• Individual Tests  
• Projects  
• Presentations  
• Formative Assessments  
• Lab Reports |
| Natural Resources                  | See attached standards map | 7-8 weeks | • Group/Individual Projects  
• Group Work  
• Individual work  
• Student Presentations  
• Instructor lead | • Group Tests  
• Quizzes  
• Individual Tests  
• Projects  
• Presentations  
• Formative Assessments |
| Food Systems | See attached standards map | 7-8 weeks | Lectures  
- Demonstrations with models  
- Labs | Lab Reports  
- Group Tests  
- Quizzes  
- Individual Tests  
- Projects  
- Presentations  
- Formative Assessments  
- Lab Reports |
IV. Instructional Methods: Please indicate instructional methods to be used for special needs students, including Special Education, English Language Learners, and Honors.

All required accommodations based upon the students IEP, SST or 504 will be met. In addition the presentation of material will be presented in a well-rounded method so as to encourage learning for all types of learners. This course’s curriculum will provide the opportunity for all students to meet or exceed expected state and local standards. The course will focus on teaching students of varied abilities and backgrounds through the use of the following strategies:
- Use of SDAIE strategies for ELD students
- Scaffolding for all levels of learners
- Notes both visually and verbally
- Group projects and work to encourage being a good communicator and collaborative worker/learner.
- Individual/Group discovery and discussion
- Student presentations to also encourage good communication skills and quality production.
- Differentiated Instruction as needed based upon the students learning needs.
- Real-world application of material taught in class

V. Grading Policy:

Student grading progress will be reported in accordance with the CUSD Board Policy. Grade will reflect assessments of each student's work as determined by the stated assessment and evaluations.

90-100: A
80-89: B
70-79: C
60-69: D
59 and below: F

Aligned with State Frameworks: (X) Yes ( ) No
Course intended for a CTE Pathway: (X) Yes* ( ) No
*If yes, which: ( ) Introductory ( ) Concentrator (X) Completer
Already CUSD Board Approved: ( ) Yes, sites currently offering: ____________________________ (X) No
Is course intended to meet CSU/UC Requirement: (X) Yes** ( ) No
**If yes, site must complete attached addendum
Chico Unified School District – Secondary New Course Proposal – Addendum

Date Submitted to Site Registrar: ____________________________

To be completed by Site Department Chair/Designee:

Course Title: Advanced Interdisciplinary Science for Sustainable Agriculture

Department: ____________________________________________

Department member responsible for course description for Catalog/Student Handbook:

__________________________

Courtney Champlin

UC/CSU A-G Subject Area (check one):

_____ A: History/Social Science

_____ B: English

_____ C: Mathematics

X_____ D: Laboratory Science

_____ E: Language Other Than English

_____ F: Visual & Performing Art

_____ G: College Preparatory Elective

Department member responsible for UCOP submission: ________________

Courtney Champlin

UCOP Website/Directions = https://hs-articulation.ucop.edu/agcmp/login/

UCOP portal opens Feb. 1. Final deadline is Sept. 15. Applies to initial and any re-submissions

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To be completed by Site Office Personnel:

<table>
<thead>
<tr>
<th>Action</th>
<th>Date of confirmation</th>
<th>Person who confirmed action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submission to UCOP portal</td>
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<tr>
<td>Status of submission:</td>
<td></td>
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<tr>
<td>Approved by UCOP (attach email)</td>
<td></td>
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<tr>
<td>Rejected by UCOP</td>
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<tr>
<td>Resubmission, if necessary</td>
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<td>Rejected by UCOP</td>
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<td>In UC Doorways Course List</td>
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<tr>
<td>Course Offerings Document Updated</td>
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<tr>
<td>Course Catalog/Student Handbook Updated</td>
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</tbody>
</table>

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Chico Unified School District – Secondary New Course Proposal - Signature Page
Submitted by: Courtney Champlin
Department: Agriculture
School: Chico High School
Planned Start Date: Fall 2017

Approvals (Signature & Date):

Dept. Chair/Admin (High Schools)
Chico High [Signature]
PVHS [Signature]
Alt. Ed. [Signature]
Inspire [Signature]

Dept./Admin. (Jr. High)
Bidwell [Signature]
Chico Jr. [Signature]
Marsh [Signature]
Alt. Ed. [Signature]

Educational Services [Signature]

- If rejected, return to originator with rationale or conditions for approval.
- If approved, date taken to board of education for board approval:

- Board of Education action: □ Approve □ Reject
**Course 3: Advanced Interdisciplinary Science for Sustainable Agriculture**

<table>
<thead>
<tr>
<th>Unit</th>
<th>NGSS Standard</th>
<th>Science and Engineering Practices</th>
<th>Crosscutting Concept</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Agriculture and Agricultural Research Skills</strong></td>
<td>C.1.0 Evaluate the role of agriculture in the California economy.</td>
<td>HS-ETS1-1: Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.</td>
<td>Planning and Carrying Out Investigations: Planning and carrying out in 9-12 builds on K-8 experiences and progresses to include investigations that provide evidence for and test conceptual, mathematical, physical, and empirical models. <strong>Systems and System Models: Models (e.g., physical, mathematical, computer models) can be used to simulate systems and interactions—including energy, matter, and information flows—with in and between systems at different scales. (HS-LS1-2)</strong></td>
</tr>
<tr>
<td></td>
<td>C.1.2 Describe how California agriculture affects the quality of life.</td>
<td>HS-ETS1-2: Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</td>
<td>Constructing Explanations and Designing Solutions: Plan and conduct an investigation individually and collaboratively to produce data to serve as the basis for evidence, and in the design: decide on types, how much, and accuracy of data needed to produce reliable measurements and consider limitations on the precision of the data (e.g., number of trials, cost, risk, time), and refine the design accordingly. (HS-LS1-3)</td>
</tr>
<tr>
<td></td>
<td>C.1.4 Research the economic impact of leading California agricultural commodities.</td>
<td>HS-ETS1-3: Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.</td>
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<td>C.1.5 Assess the economic impact of major natural resources in California.</td>
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<td>C.1.6 Describe how technology affects the logistics of moving an agricultural commodity from producer to consumer.</td>
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<td>C.2.1 Integrate the use of technology when collecting and analyzing data.</td>
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<td></td>
<td>C.2.2 Understand how technology influences factors such as labor, efficiency, diversity, availability, mechanization, and communication.</td>
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<td>C.5.1 State the steps of the scientific method.</td>
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<tr>
<td></td>
<td>C.5.2 Analyze an agricultural problem and devise a solution based on the scientific method.</td>
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</tbody>
</table>

| **2. Plant Systems** | | | |
| --- | --- | --- | |
| G.1.1 Classify and identify plants by order, family, genus, and species. | HS-LS1-7: Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy. | Planning and Carrying Out Investigations: Planning and carrying out in 9-12 builds on K-8 experiences and progresses to include investigations that provide evidence for and test conceptual, mathematical, physical, and empirical models. **Systems and System Models:** Models (e.g., physical, mathematical, computer models) can be used to simulate systems and interactions—including energy, matter, and information flows—with in and between systems at different scales. (HS-LS1-2) |
| G.1.2 Practice how to identify plants by using a dichotomous key. | HS-LS2-3: Construct and revise an explanation based on evidence for the cycling of matter and flow of energy in aerobic and anaerobic conditions. | Constructing Explanations and Designing Solutions: Plan and conduct an investigation individually and collaboratively to produce data to serve as the basis for evidence, and in the design: decide on types, how much, and accuracy of data needed to produce reliable measurements and consider limitations on the precision of the data (e.g., number of trials, cost, risk, time), and refine the design accordingly. (HS-LS1-3) |
| G.1.3 Demonstrate how common plant parts are used to classify the plants. | HS-LS2-1. Use mathematical representations to support claims for the cycling of matter and flow of energy among organisms in an ecosystem. | | |
| G.1.4 Communicate the differences between, and uses of, native and nonnative plants. | HS-LS2-3: Use mathematical and/or computational representations to support explanations of factors that affect carrying capacity of ecosystems at different scales. | | |
| G.1.5 Distinguish the differences between monocots and dicots. | HS-LS2-7: Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity. | | |
| G.1.6 Explain the differences between plants under production and weeds. | HS-LS4-6: Create or revise a simulation to test a solution to mitigate adverse impacts of human activities on biodiversity. | | |
| G.3.1 Investigate plant systems: nutrient transportation, and energy storage. | HS-ETS1-1: Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants. | Obtaining, Evaluating, and Communicating Information: Obtaining, evaluating, and communicating information in 9-12 builds on K-8 and progresses to evaluating the validity and |
| G3.2 Label the seed's essential parts and describe their functions. | HS-ESS2-5: Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes. | reliability of the claims, methods, and designs. |
| G3.6 Conduct experiments testing the factors that affect plant growth and predict plant response. | HS-ESS2-7: Construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth. |  |
| G4.1 Explain the different forms of sexual and asexual plant reproduction. |  |  |
| G4.2 Demonstrate the various techniques for successful plant propagation (e.g., budding, grafting, cuttings, and seeds). |  |  |
| G4.3 Use the proper sterile technique used in tissue culture. |  |  |
| G5.1 Demonstrate how to categorize insects as pests, beneficial or neutral, and describe their roles. |  |  |
| G5.2 Explain the role of other pests, such as nematodes, molds, mildews, and weeds. |  |  |
| G5.3 Compare and contrast conventional, sustainable, and organic management methods to prevent or treat plant disease symptoms. |  |  |
| G5.4 Use integrated pest management to prevent, treat, and control plant disease symptoms (including conventional, sustainable, and organic management methods). |  |  |
| G5.5 Research how biotechnology can be used to manage pests. |  |  |
| G9.1 Identify and classify the plants and animals in an agricultural system (as producers, consumers, or decomposers). |  |  |
| G9.2 Compare and contrast the elements of conventional, sustainable, and organic production systems. |  |  |
| G9.3 Distinguish among the components of "whole-system management." |  |  |

3. Animal Systems

<p>| C1.1 Design an animal facility focusing on appropriate space and location requirements for habitat, housing, feed, and water. | HS-LS1-7. Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed, resulting in a net transfer of energy. | Asking Questions and Defining Problems: Asking questions and defining problems in K-12 builds on K-8 experiences and progresses to formulating, refining, and evaluating empirically testable questions and design problems using models and simulations. |
| C1.2 Select habitat and housing conditions and materials, such as indoor and outdoor housing, fencing materials, air flow/ventilation, and shelters, to meet the needs of various animal species. | HS-LS2-3. Construct and revise an explanation based on evidence for the cycling of matter and flow of energy in aerobic and anaerobic conditions. |  |
| D1.3 Interpret animal behaviors and execute protocols for safe handling of animals. | HS-LS2-4. Use mathematical representations to support claims for the cycling of matter and flow of energy among organisms in an ecosystem. | Developing and Using Models: Modeling in 9-12 builds on K-8 experiences and progresses to using, synthesizing, and developing models to predict and show relationships among variables between systems and their components in the natural and designed worlds. |
| D1.4 Defend the purpose and the safe and humane use of animal husbandry tools, such as hoof trimmers, electric shears, electroshock, dehorning tools, and scales. | HS-LS2-1. Use mathematical and/or computational representations to support explanations of factors that affect carrying capacity of ecosystems at different scales. | Systems and System Models: Models (e.g., physical, mathematical, computer models) can be used to simulate systems and interactions—including energy, matter, and information flows—within and between systems at different scales. (HS-LS2-2) |
| D2.1 Assess the flow of nutrients from the soil, through the animal, and back to the soil. | HS-LS2-7. Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.* | Analyzing and Interpreting Data: Analyzing data in 9-12 builds on K-8 experiences and progresses to introducing more detailed statistical analysis, the comparison of data sets for consistency, and the use of models to generate and analyze data. |
| D2.2 Explore the principles for providing proper, balanced rations for a variety of production stages in ruminants and nonruminants. | HS-LS2-6. Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity.* | |
| D2.3 Compare the digestive processes of the ruminant, monogastric, avian, and equine digestive systems. | HS-ETS1-1: Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants. | |
| D2.4 Distinguish how animal nutrition is affected by the digestive, endocrine, and circulatory systems. | HS-ESS2-5: Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes. | |
| D3.1 Compare and contrast animal cells, tissues, organs, and body systems. | HS-ESS2-7: Construct an argument based on evidence about the simultaneous evolution of Earth's systems and life on Earth. | |
| D3.2 Develop efficient procedures to produce commercially high-quality animals that are well suited for their intended purpose. | HS-LS2-2. Make and defend a claim, based on evidence that inheritable genetic variations may result from: (1) new genetic combinations through meiosis, (2) viable errors occurring during replication, and/or (3) mutations caused by environmental factors. | |
| D3.3 Relate the importance of animal organs to the health, growth, and reproduction of animals. | HS-LS3-5. Apply concepts of statistics and probability to explain the variation and distribution of expressed traits in a population. | |
| D3.4 Illustrate animal conception, including estrus cycles, ovulation, and insemination. | HS-LS3-1. Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring. | |
| D4.1 Research the gestation process and basic fetal development. | HS-LS3-2. Design, conduct, and evaluate an investigation to make causal inferences and develop a model to explain the relationships among quantities in a data set. | |
| D4.3 Explain the perturbation process, including the identification of potential problems and their solutions. | HS-LS3-4. Construct an explanation for the use of reference points to describe locations or proportional quantities in data sets. | |
| D4.4 Select animal breeding methods based on reproductive and economic efficiency. | D4.5 Select a breeding system based on the principles of genetics. | |
| D5.1 Evaluate a group of animals for desired qualities, and discern among them for breeding selection. | D5.2 Select animals based on quantitative breeding values, for specific characteristics. | |
| D5.3 Research and discuss current technology used to measure desirable traits. | D5.4 Predict phenotypic and genotypic results of a dominant and recessive gene pair. | |
| D5.5 Research the role of mutations, both naturally occurring and artificial, in animal genetics. | D5.6 Evaluate the signs of normal health in contrast to illness and disease. | |
| D6.1 Evaluate the signs of normal health in contrast to illness and disease. | D6.2 Analyze the importance of mental behavior in diagnosing animal sickness and disease. | |</p>
<table>
<thead>
<tr>
<th>4. Natural Resources</th>
<th>HS-LS2-4 Use mathematical representations to support claims for the cycling of matter and flow of energy among organisms in an ecosystem.</th>
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<tbody>
<tr>
<td>E1.1 Differentiate between natural resource management conservation strategies and preservation strategies.</td>
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<td>E1.2 Analyze the way in which human activities influence energy cycles and natural resource management.</td>
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<tr>
<td>E1.3 Explain the government's role in regulating air, soil, and water use management practices and conservation strategies.</td>
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<tr>
<td>E1.4 Research and discuss air and water conservation issues.</td>
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<td>E1.5 Define appropriate water conservation measures.</td>
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<tr>
<td>E1.6 Interpret the component of a plan that monitors water quality.</td>
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<tr>
<td>E1.7 Interpret the component of a plan that monitors air quality.</td>
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<tr>
<td>E1.8 Describe the relationship between habitat and wildlife populations.</td>
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<td>E1.9 List habitat requirements for different species and identify factors that influence population dynamics.</td>
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<tr>
<td>E1.10 Determine existing wildlife species populations.</td>
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<tr>
<td>E1.11 Summarize the interrelationship of range management, the environment, wildlife management, and the livestock industry.</td>
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<tr>
<td>E1.12 Define practices used to improve range quality.</td>
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<tr>
<td>E1.13 Analyze the production of specialty and seasonal products from natural resources.</td>
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Using Mathematics and Computational Thinking: Mathematical and computational thinking in 9-12 builds on K-8 experiences and progresses to using algebraic thinking and analysis, a range of linear and nonlinear functions including trigonometric functions, exponentials and logarithms, and computational tools for statistical analysis to analyze, represent, and model data. Simple computational simulations are created and used based on mathematical models of basic assumptions. Use mathematical and/or computational representations of phenomena or design solutions to support explanations. Create or revise a simulation of a phenomenon, designed device, process, or system. (HS-LS2-2) Constructing Explanations and Designing Solutions: Constructing explanations and designing solutions in 9-12 builds on K-8 experiences and progresses to explanations and designs that are supported by multiple and independent student-generated sources of evidence consistent with scientific ideas, principles, and theories.
<table>
<thead>
<tr>
<th>S. Food Systems</th>
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<tbody>
<tr>
<td>C2.1 Compare differences between prokaryotic cells and plant and animal eukaryotic cells and how viruses differ from them in complexity and general structure.</td>
<td>HS-PSL-4: Develop a model to illustrate that the release or absorption of energy from a chemical reaction system depends upon the changes in total bond energy.</td>
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<tr>
<td>C6.7 Discuss the impacts on local, national, and global economies, as well as on consumers and producers, when animal diseases are not appropriately contained and eradicated.</td>
<td>HS-PSL-6: Refine the design of a chemical system by specifying a change in conditions that would produce increased amounts of products at equilibrium.*</td>
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<tr>
<td>C5.1 Identify the function of cells.</td>
<td>Planning and Carrying Out Investigations: Planning and carrying out in 9-12 builds on K-8 experiences and progresses to include investigations that provide evidence for and test conceptual, mathematical, physical, and empirical models.</td>
</tr>
<tr>
<td>C5.2 Analyze the anatomy and physiology of cells.</td>
<td>Constructing Explanations and Designing Solutions: Plan and conduct an investigation individually and collaboratively to produce data to serve as the basis for evidence, and in the design: decide on types, how much, and accuracy of data needed to produce reliable measurements and consider limitations on the precision of the data (e.g., number of trials, cost, risk, time), and refine the design accordingly. (HS-LS1-3)</td>
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<tr>
<td>C5.3 Understand various cell actions, such as cilia and cell division.</td>
<td>HS-LS2-6: Use a model to illustrate the role of cellular division (meiosis) and differentiation in producing and maintaining complex organisms.</td>
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<tr>
<td>C5.4 Compare and contrast plant and animal cells, bacteria, and viruses.</td>
<td>HS-LS2-7. Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.*</td>
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<tr>
<td>C3.3 Communicate public concern for technological advancements in agriculture, such as genetically modified organisms.</td>
<td>HS-LS2-8. Make and defend a claim based on evidence that inheritable genetic variations may result from: (1) new genetic combinations through meiosis, (2) viable errors occurring during replication, and/or (3) mutations caused by environmental factors.</td>
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<tr>
<td>C3.4 Research the laws and regulations concerning biotechnology.</td>
<td>Obtaining, Evaluating, and Communicating Information: Obtaining, evaluating, and communicating information in 9–12 builds on K–8 and progresses to evaluating the validity and reliability of the claims, methods, and designs.</td>
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<td>C3.5 Integrate the use of technology when collecting and analyzing data.</td>
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<tr>
<td>C3.1 Describe how technology affects the logistics of moving an agricultural commodity from producer to consumer.</td>
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<tr>
<td>C3.2 Understand how technology influences factors such as labor, efficiency, diversity, availability, mechanization, and communication.</td>
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<tr>
<td>C1.7 Explore factors that effect food safety and producers’ responsibilities to consumers.</td>
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<td>C1.2 Describe how California agriculture affects the quality of life.</td>
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<tr>
<td>C1.8 Analyze the interrelationship of California agriculture and society at the local, state, national, and international levels.</td>
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<tr>
<td>C1.4 Research the economic impact of leading California agricultural commodities.</td>
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</table>
Title: Advanced Interdisciplinary Science for Sustainable Agriculture

Length of Course: Full Year (2 semesters; 3 trimesters; 4 quarters)

Subject Area – Discipline: Laboratory Sciences ("d") – Interdisciplinary

UC Honors designation: Honors

CTE Sector: Agriculture and Natural Resources

CTE Pathway: Agriscience

Grade Level(s): 9-12

Prerequisite(s): Algebra 1 or IM 1; successful completion of life science & physical science

Overview:

This integrated class combines an interdisciplinary approach to laboratory science and research with agricultural management principles. Using skills and principles learned in the course, students design systems and experiments to solve agricultural management issues currently facing the industry. Additionally, students will connect the products created in this class with industry activities to link real world encounters and implement skills demanded by both colleges and careers. The course culminates with an agriscience experimental research project in which students design and conduct an experiment to solve a relevant issue. Final projects will be eligible for Career Development Event competition at FFA events. Throughout the course, students will be graded on participation in intracurricular FFA activities as well as the development and maintenance of an ongoing Supervised Agricultural Experience (SAE) program.

Course Content:

Unit 1: Research Methods in Agriscience

The final unit will culminate in an agriscience experimental research project. Students will identify a problem related to the aspects of agriculture explored in this course (plant science, animal science, natural resources, and food science). After completing studies in plant science, animal science, natural resources, and food science, students will develop an agriculture problem to be solved using the scientific method. Such examples of problems identified by the student may include the effects of estrus synchronization of ovulation, a comparison of the germination rates of GMO and conventional seeds, or an investigation of perceptions of community members towards alternative agriculture practices. The research problem should be current and relevant, and may be applicable on a local, regional, national, or global level. Students will utilize the empirical method to design an experiment that will test their own authentic hypothesis using the skills and processes learned throughout the course that include dissecting published research and
In this first unit, students will practice research skills in agriscience that will give them the skills needed to successfully complete the unit labs and capstone project.

**Unit 1: Key Assignments**

1. **Background Scholarly Research** In this assignment, students begin the work of investigation into their project. Students will read and deconstruct scholarly journal articles to identify the key components of agriscience research. The manner in which this assignment is completed can be determined by the individual teacher. Examples of student outcomes of the journal assignment could be: graphic organizer, abstract, oral presentation, visual aids, etc.

2. This assignment models the expected outcomes of all projects in the coming units.

**Unit 2: Plant Systems**

Students will examine the chemical and biological principles that govern plant science and crop production, using prior knowledge of plant pathology, taxonomy and biological principles to inform the unit's activities. Plant pests are present in all plant systems. Pest populations must be managed to prevent economic losses. Integrated pest management strategies are used to achieve desired results while using cost-effective and environmentally-friendly practices. Students will collect primary and secondary research regarding plant production models, chemical or biological control methods for pest management and agricultural yield expectations. Specifically in this unit, students will examine chemical irradiation methods, botanical extracts, microbial control, predator use, synthetic pesticides, etc. Through this unit, students will gather information regarding the risks and benefits of each method in regard to plant production, agricultural yields and environmental sustainability.

**Unit 2: Key Assignments**

1. **GMO's/Organic vs. Conventional Farming Debate and TED talk**

To further their understanding of accepted, conventional farming practices as well as alternative methods of production, students will distinguish between each practice, the characteristics of production that define each, and the concerns raised by society, then report their findings through visual media (TED). Genetic engineering is known as one of the great advancements of our times, but is also one of the most controversial. Often conventional farming methods and agriculture corporations are highly criticized for their creation of GMO (genetically modified organisms) products and use of chemicals. This assignment will help students understand the technologies and practices used in conventional and organic farming and be able to defend a practice or a product and support their position with scientific evidence. After instruction in conventional and organic farming, students will engage in secondary research to investigate differences between the two, the use of biotechnology and GMO's, by preparing and executing a yield differential lab that synthesizes their knowledge of biological and chemical principles. Specifically, students will calculate levels of chemical inputs and forecast environmental impacts of anticipated chemical reactions between a GMO crop, a
traditional crop and an organic crop. After the conclusion of that process, students will engage in primary research with a yield differential lab. The lab will ask students to prepare a soil sample that works for a locally-relevant crop and to plant and grow that crop in both GMO and organic forms, comparing yields at the conclusion of the lab.

Upon conclusion of their primary research, students will prepare a presentation that will highlight the results both of their secondary and primary research. The presentation should focus on the relationship between chemical use and anticipated chemical reactions in various production scenarios and expected yields from the same scenarios, with students presenting recommendations to peers or industry guests. The desired goal is for students to inform their decision with a research validated analysis of the tradeoffs associated with each production method.

For activity enhancement: Students review biased documents/media (e.g. Food Inc.) to review and discuss their inaccuracies, contrasting the results of their lab with their media review. The conclusion of this assignment will ask students to present their comparative analysis to their peers and engage in a peer review process.

Additionally, students can research scientific journal articles, laws, regulations, case studies or other scientific evidence that supports or refutes claims, then produce and submit a 4-5 minute TED talk to be reviewed by their peers. Students will select the two TED talks produced by their classmates that they feel are the most fair, balanced, and scientifically based. They will discuss their selection in an individual class blog posting.

2. Categorizing Agriculture Pests
In this activity, students will categorize pests based on biological and physical characteristics. One of the key components of an IPM plan is being able to correctly identify a pest, which is then used to determine an appropriate control method. Students will collect a weed sample (eg from home, ag dept, school), and utilizing the UC IPM website, they will learn the difference between broadleaf, sedge, grass and aquatic weeds. They will then determine what type of weed their sample is and mount it. Examples of scientific sampling methods that may be used to collect weeds include: Random Sampling, Systematic Sampling or Stratified Sampling. Students will use taxonomic classification principles in order to label the identifying characteristics that distinguish it from other weed types. Being able to identify the type of weed will assist in determining what an appropriate control is and will be utilized to create their comprehensive crop production plan. Students will then conduct a laboratory experiment using a selected chemical or biological control and report their findings via a podcast, paper or blog post.

Students will continue their study of pests by examining vertebrate and invertebrate pests, pest damage (instructor will provide samples of common pest/damage for the region) and make predictions about which pest caused the damage. Students will be able to match crop damage to the pest that caused it using indicators like mouthparts, digging and pecking. Students will be able to identify pest using mouth parts, body segments, excrement, etc. Students will create a biological dichotomous key for the identification of vertebrate and invertebrate pests. Students will research and then create a handbook that assists in identifying nematode and plant disease damage. The
dichotomous key will be added to the handbook. The knowledge gained in creating this handbook will be used as part of the IPM plan in the unit project.

3. Controlling Pests Through Integrated Pest Management
Students will demonstrate the integration of pest management techniques by designing and conducting an experiment where they compare the four methods of pest management (biological, cultural, mechanical/physical, and chemical) on a specific pest and crop, for example, snails in citrus trees or vegetables. After the conclusion of this experiment, students will construct an explanation on the effects of pest management techniques on biodiversity, ecosystem balance and agricultural productivity and include that information in their lab report. Suggested areas for experimentation might include chemical controls (soap and water), use of beneficial predators (avians or various invertebrates), cultural (tilting soil), and mechanical/cultural (physically removing the pest). One method must include a chemical control, with students describing the relationship between specific elements in the chemical control and the elements and reaction processes that facilitated the management of the pest.

4. Crop Production Plan
Based on prior knowledge and activities, students will create a comprehensive crop production calendar for a specific crop (eg row crops, trees, vines, greenhouses), organic or conventional farming methods and a specific location. The calendar will include various cultural practices, time frames on pest controls and monitoring, analysis of neighboring field plantings, fertilization, post harvest procedure, soil amendments, days to re-entry, and harvest and land preparation. In addition, students will include a solution for reducing the impacts of human activities on the environment and biodiversity through crop production practices. Students will utilize descriptions of the soil’s chemical and physical profiles, chemical profiles for all soil amendments and genetic plant planning procedures for all plants used in the production scheme.

Related Research and Forming a Hypothesis
As they begin work on their year-long research project, students use skills in research and forming hypotheses developed in the plant systems unit to develop a hypothesis for their agriscience research project. Students will use credible sources to conduct background research on the agricultural issue they are investigating, and they will use this research to generate a testable hypothesis related to the scientific problem they have identified. The hypothesis developed by the student will be constructed with the independent and dependent variables in mind, and ultimately reviewed by the instructor.

Unit 3: Animal Systems
Each livestock species has a series of parasites or diseases that can be managed to help produce healthier livestock. This unit builds on the basic format for research methods developed through activities in Unit One and Unit Two to help students understand how animals are affected by parasites and other infectious diseases. Students will review basic livestock anatomy and physiology, livestock production systems, and the goals and objectives associated with the production of livestock as a food and fiber source.

In order to achieve production goals, the management of the livestock herd must include
an understanding of how diseases and parasites can impact livestock production in terms of growth efficiency and outcome of an animal. Students will research the basic cycles of the parasites and their prevention and how they are treated. The students will conduct experiments with pathogens, disease and infections related to livestock herds and examine information about the mode of infection and chemistry of the illness as well as the immune response of the species to the parasite or illness. Furthermore, students will propose methods for breaking the cycle of parasite and disease resistance by utilizing alternative management options outside of the traditional pharmacological treatments as part of the Parasite and Disease Management Plan (unit culminating activity).

**Unit 3: Key Assignments**

1. **Facility Visits** – In order to understand the interaction of parasite life cycles with livestock production, students will be taken to livestock production facilities to discover which type of facilities and feeding systems may have an impact on parasite infections. Additionally, students will collect fecal samples from the site to determine the presence of common pathogens and parasites in an upcoming lab. Interviews on site with producers and handlers will provide insight as to how housing and facilities will impact diseases and parasites, thereby dictating the management plans on their farms. Students will then develop a written or live recommendation to the producer regarding the management protocols and handling needs to mitigate the parasites or pathogens found as a result of the experiments.

2. **Survey** – To foster professional contacts, students will complete a formal research survey (possibly using a Google Form Survey) which will require students to contact a variety of local facilities, producers, and veterinarians. Students will begin by engaging in secondary research to investigate major livestock conditions, diseases and parasites, with focus on the inherent biological and chemical conditions that precede or enhance the condition. Students will then use this background knowledge to develop the questions in order to examine the professional’s role in diagnosing and resolving infections or conditions that may occur frequently in the local community. Students will synthesize and analyze their data to determine best practices gleaned from the survey responses. Students will select a research topic related to the results of their survey. Students will include the final results of this survey in their parasite management plan along with their research.

3. **Technical Reading and Research** – Taking direction from the results of their survey, students will analyze journal research and published studies and merge their survey data to create an infographic to be included in their final parasite management plan. An example of a topic could include; the use of crossbreeding in livestock to help a livestock producer achieve greater natural resistance to some parasites, the natural selection and parasite resistance to medicines or specific veterinary applications of remedies.

4. **Lab Experiment 1 – Fecal Egg Counts-Practice**

Providing practical, agriscience research skills, students will use the Modified McMaster’s Fecal Egg Counting Protocol to perform a fecal egg count on livestock. In this pathogen experimentation the fecal egg counts will be compared to demonstrate how management affects internal parasite populations in livestock. Students will incorporate
the scientific skills learned in the first unit in this laboratory experiment. A hypothesis will be constructed to predict the outcome of the research. A McMaster’s fecal egg counting slide will allow students to quantify parasite infection through the egg counting and recording process. Students will produce a formal lab report and conclusion document which includes some suggested topics for further experimentation. These suggested topics will inform the selection of the Experimental Design Topic.

5. Lab Experiment 2 – Experimental Design
Using their experiences from the first experiment, students will design and conduct a related experiment in which they investigate a parasite topic of their choice related to the final capstone project.

Examples of variables that may be tested could include:

- Livestock that have been dewormed versus those that haven’t.
- Livestock that have been dry lotted after having been dewormed versus livestock that are returned immediately to graze on pasture.
- Livestock that are crossbred with breeds known to exhibit parasite resistance.
- A comparison of the effectiveness of various anthelmintics (dewormers) available to producers or commonly used on local production facilities.

A statistical analysis may be conducted to help the student determine the likelihood that the results are due to the applied variable, rather than chance. Students will revisit the original hypothesis as they draw conclusions based upon the data. A discussion of limitations to the research and further studies will be included. A formal lab report will be written and will include all parts of this study, therefore reinforcing the empirical method of scientific research. Any citations and resources should be made using APA format.

6. Final Product: Parasite/Disease Management Plan for Livestock – Components:
Using their research, surveys, and information from their visits and interviews, students will create a parasite management plan. The final product of this unit will be a written, research-based report which identifies a livestock species of interest and the disease or parasite that is affecting the livestock species of interest. After the best practices management plan is developed, students will present their portfolios to their peers and/or to local industry professionals at a formal symposium. All products should include qualitative and quantitative data recorded from the first five assignments of this unit.

Includes:

- Parasite/disease identified including biological/microbiological profile of the pest as well as a physiological analysis of the effect of the pest on the host.
- Vaccine/medication/anthelmintic- type and dosage to be administered, method of administration, withdrawal/recovery period, possible rotational schedule to prevent resistance. A chemical profile of the medication should also be included, with students specifically examining the presence of heavy metals, toxic elements and potential reactivity that require specific withdrawal periods when applied to food animals.
- Annual calendar or plan for vaccination and treatment of the animals in production.
- Facilities Design and Plan - livestock handling, pens/restraints, holding, equipment, pasture management/rotation. Specific considerations should be made for animal psychology, species-specific physiology and pest management through quality
design.

- **Human and Animal Safety** considerations to be made. Specifically in relation to chemicals being used in the pest management protocol, which have hazardous reactions with humans and must be stored, managed and disposed of in particular manners?
- **Labor requirements**
- **Alternative control methods** that may be considered to help prevent or diminish the impact of the parasite/disease. Which holistic or homeopathic methods are effective in managing pests for alternative agricultural production models? What are the chemical profiles and potential reaction processes of alternative medicines that could be used to manage pests?
- **Industry professional** to mentor any part of the development of the management plan. For example, a veterinarian may be consulted on dosage and administration or a pharmaceutical representative may be asked to provide guidance on new medications. To develop a continued connection to agricultural careers, who locally could be potentially consulted in the implementation of this plan?
- **Prevention plan** to deter future infestations and disease or parasite resistance. What biological, physical and chemical elements can be put into a management protocol that would enhance prevention methods?

**Experimental design and conducting experimentation**

Students continue work on their year-long agriscience project by constructing an experimental design to test the hypothesis they developed in this unit. Students will draw on the experimental design and experimentation lessons learned during both fecal egg count laboratory activities. A written experimental design should be constructed consistent with scientific protocol using a systematic approach outlined in the previous units. Students will have their experimental designs reviewed by professional contacts (industry experts, agricultural instructors, local growers/producers, researchers or university representatives). After validating the design using the peer review process, students will move to the experimentation stage of their research. Experimental designs should include replicates, control groups, and determine the variables to be controlled and how. Additionally, a determination should be made as to the type of data that will be collected and in what ways, with the emphasis placed on quantitative data or quantifying data that is qualitative in nature. Students will use their experimental design to test their hypothesis. For example, a study could be conducted to determine if administering an injection of selenium is more effective than simply providing selenium salts in the diet in an effort to prevent selenium deficiency and white muscle disease in a sheep herd. Raw data should be recorded using a field book or electronic device.

**Unit 4: Natural Resources**

Natural resources can be defined as items found on earth that are of use to humans such as fuel, food, shelter, or a source of wealth. It is what humans do with these resources and the management practices that will determine if these will be available to future generations. In this unit, students will conduct primary research to draw conclusions regarding the impacts of plant and animal systems (units 2 and 3) on natural resources. Students will create model environmental impact reports that include secondary research backing, industry needs, primary research analysis and sustainability.
recommendations in watersheds located in agricultural regions. Students will identify local agriculture production areas and their relationships between land characteristics, water quality, and habitat growth and maintenance. Referencing local environments and agriculture practices, students will analyze possible sources of pollution and erosion and determine the impact of animal and plant systems, wildlife interactions, and beneficial and detrimental production practices. Students will use their knowledge to make recommendations on ecological friendly solutions on improving watersheds. Students evaluate the importance of soil and water conservation, the effects of animals, erosion, pollution, and urban sprawl on watersheds, and human impact on the environment and natural resources.

**Unit 4: Key Assignments**

1. **Water Quality**
   In order to understand that natural resources like water are affected by the environment, students will locate and retrieve a sample of untreated water from local sources that have agricultural runoff, if none are nearby instructors may include local creeks, lakes, watersheds, or reservoirs, one from a source near an agriculture producing facility and one away from an agriculture producing facility. Using a standard water testing kit, the water samples will be analyzed for the various particulates and contaminants. They will record pH, lead, nitrates, presence of pesticide residue, and coliform bacteria as well as sediment levels. They will use this information to determine which pollution factors are affecting local watersheds and their source, including an analysis of possible erosion sources, chemical contaminants and biological inputs (wildlife, livestock, etc.). Following their data collection and analysis, they will use problem solving skills to make recommendations for pollutant elimination, the reporting format will be determined by the instructor (example: oral presentation, visual aide, lab write up, etc).

2. **Agriculture Practices, Natural Resource Conservation, and Case Studies**
   Now that students have an understanding of factors that affect water quality they will be exposed to agencies that regulate the use of these resources. Local directors of the United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), the Resource Conservation District (RCD), or any other pertinent industry professionals will present students with information about practical applications of water conservation, limiting pollutants, and practices that reduce environmental impacts of agriculture practices. Local agriculture producers will also be invited to come and discuss their practices and how they are limiting their negative impacts on the natural resources available to them. Students will read and evaluate case studies of agriculture producing farms implementing sustainable practices. Case studies could include cover crops, owl boxes, crop rotation, and water runoff. The outcome of the visit(s) and case study will result in a reference included and cited in the future irrigation plan or environmental impact report that will be generated at the end of this unit. Both the irrigation plan or the environmental impact report should reference the data collected from assignment one.

3. **Water Flow, Irrigation Plan, and Efficiency Model**
   Using the information and data collected in assignments one and two, students will create a plan to analyze irrigation practices and efficiency in order to identify an appropriate irrigation system. Students will also gather knowledge of adhesion, cohesion
and chemical bonding principles that govern water management through analysis of
industry articles and scientific texts. Through the practice of building a water flow and
efficiency model, students will identify innovative conservation approaches and irrigation
methods such as scheduling irrigation rotations depending upon soil moisture, crop
growing periods, availability of water, and methods of irrigation such as tape, drip, micro
sprinklers, pressurized sprinklers, furrow, and flood. Sources of surface water and
groundwater will be identified. Student irrigation plans will be based on a selected crop
and data will be collected, analyzed, and interpreted, to form conclusions based on:

- acreage farmed
- types of crops
- methods of irrigation (to include a model demonstrating water flow and efficiency,
  see information below)
- sources of water
- acre feet of water for crops grown
- programs available for irrigation implementation funding or conservation
- cost effectiveness of farming versus selling water
- runoff and contamination
- environmental impact report culmination

Water flow and efficiency model:
Students will break into groups to demonstrate methods of irrigation. They are to create
a “farm” of their choice (garden beds, farm plots, container created plots, etc.). Each
group will be provided a set amount of water to demonstrate their method of irrigation
(each group should choose different methods such as furrow, drip, micro-sprinkler, etc.).
They shall record the amount of water used, soil moisture, and runoff. At the conclusion
of the lab, students will be able to justify best practices of irrigation for crops grown and
the impact on environment and water resources. Students will utilize knowledge of
capillary action in soil, plant physiology as well as chemical bonding in water to inform
their laboratory experiment. Students will present their best practices in a format to be
determined by the instructor (example: oral presentation, visual aide, lab write up, etc)

Analyzing data, interpreting data and forming conclusions.
Students will determine the best methods for organizing their data using tables. The skills
in analyzing and interpreting data used during the water flow and efficiency model during
the Natural Resource unit will be applied to the final agriscience research project.
Specifically students were asked to determine the most efficient irrigation application
method during the water flow and efficiency model. Students will make similar
determinations on their Agriscience research. Students will use mathematical principles
to synthesize their data, calculating a mean. Furthermore, a statistical analysis of the
data will help the student determine if the results are due to chance or the independent
variable that was tested. Students will choose the best way to present their data using
graphs they believe will most effectively demonstrate their findings, and will further
summarize what each graph shows. Finally, students will interpret the data and
formulate conclusions based on the results. In the written conclusion, students will use
their data to either accept or reject the original hypothesis. Conclusions should be
directly supported by the data and supported by previous research. Students will also
identify the limitations of their research, improvements that could be made to the
experimental design, as well as future studies that may be conducted that relate the study at hand.

**Unit 5: Food Systems**
The purpose of this unit is to use prior knowledge of chemical and biological principles and apply them to end-stage agricultural practices in food safety and food preservation. Utilizing research skills and technical plant, animal and pest knowledge from earlier units, students will create a consumer-focused and locally-relevant food product (examples: jerky, jam, pickles). They will utilize scientifically proven food safety and preservation methods and will create a comprehensive food safety plan including a food label following FDA guidelines for presentation to be judged by industry professionals. As part of the comprehensive food safety plan students will investigate the importance of implementing Hazardous Analysis Critical Control Point (HACCP) plans in the prevention of foodborne illness. HACCP plans will identify areas of potential contamination in the food chain for a specific product’s production from the raw commodities, preparation, packaging and through storage by the consumer.

**Unit 5: Key Assignments**
1. **Foodborne Disease and its Role in Food Safety**
   To begin the convergence of scientific principles and food safety, students will research a specific foodborne illness, and their findings in this research will be linked to laboratory investigations where they will determine the types of disease causing agents they collected on food samples and from the food preparation areas and tools. They will use knowledge from prior units to identify the type of disease causing agent (fungal, bacterial, viral, parasitic, noninfectious), transmission, treatment, and prevention in addition to reviewing production practices responsible for a specific outbreak of that disease. In their review of the outbreak, they will propose recommendations for prevention of future outbreaks of that type. Students will create and present a PowerPoint including their research findings; upon the conclusion of the presentations students will submit their project to a shared document to be used as a class resource in developing a comprehensive food safety and marketing plan.

2. **Osmosis in Food Preparation**
   After learning appropriate food-handling protocols to reduce incidents of illness, students will engage in a series of chemistry-based exercises to learn the methods for preserving consumer food products safely. In particular this activity promotes student understanding of how jamming, dehydrating, and drying with salt or sugar are effective forms of food preservation, as they remove the water and change the chemical composition of food and delay the growth of microorganisms from harmful bacteria rendering the food safe for consumption. Groups of students will read a technical document on food preservation methods (e.g. smoking, canning, jamming). Students will create a graphic organizer to compare methods. Students will then conduct an experiment where they dissolve the shell of an egg and place it in various solutions over the course of a week to determine how osmosis and concentrations of solutions impacts movement through the cell membranes. Students will then apply their understanding of osmosis from this lab to a given commodity, and will be able to create a written recommendation for appropriate food preservation methods based on HACCP protocol.
They will later apply these findings to the creation of their safe food product at the end of the unit.

3. Identifying Components to HACCP
Students will create a visual display that identifies the seven principles of a HACCP plan, which is a systematic approach to the identification, evaluation, and control of food safety hazards based on the following seven principles: Principle 1: Conduct a hazard analysis, Principle 2: Determine the critical control points (CCPs), Principle 3: Establish critical limits, Principle 4: Establish monitoring procedures, Principle 5: Establish corrective actions, Principle 6: Establish verification procedures, and Principle 7: Establish record-keeping and documentation procedures. Consequently each of these principles will be researched and applied through experimentation throughout the unit, to create a comprehensive food safety plan for the food product students design for their final unit project.

4. Swabbing Hazards
After learning basic HACCP procedures, students will visit a commercial food production facility (school cafeteria, restaurant, processing site) and conduct a hazard analysis (as a basis for learning to investigate Principle 1 & 5 of a HACCP plan), swab samples of various surfaces (including but not limited to hands, door handles, tables, cutting surfaces, food preparation tools), and prepare and grow culture plates. After a period of growth, students will determine if potential disease-causing agents are present, and if so, identify the specific pathogen. Students will record their findings in a written report. As a result students will determine the critical control points for that location (Principle 2 of the HACCP plan) based on the data generated from the swabs. Students will apply this skill in the development of their product and food safety plan.

5. Chemical Properties in Preservation
Given the top 5 seasonally available commodities in a growing region, as well as common ingredients (granulated sugar, lemon, etc.) for preservation of those commodities, students will determine chemical properties of those commodities through their prior knowledge of pH, brix and water content. They will collect and record their data in a chart they design. Students will study the effects of pH on cut apple preservation (as a basis for learning to investigate Principle 3 & 4 of a HACCP plan). Each group will make a selection of a test solution based on scientific research. Students will gather data on bacterial colony counts that develop on swabs they take of samples from the cut apples. As a result groups will report to the class their findings and groups will evaluate the data. Groups will also brainstorm and determine other possible critical control limits for the sliced apple product. Students can employ several different possible methods of reporting their findings. (examples of reports include: oral presentation, visual aide, lab write up, etc)

6. Implementing Procedures and Practices
Students will begin by reviewing a locally obtained HACCP plan (as a basis for learning to investigate Principle 6 of a HACCP plan). From the plan students will annotate and 1) identify areas of critical control 2) identify scientific evidence used as expert advice to validate HACCP protocols 3) identify specific procedures and practices to implement protocol in the plant. Student findings will be recorded using a graphic organizer that will
be included in their final food safety plan (examples include: Three Circle Venn Diagram, Comparison Chart, Cause and Effect, Factors in the Cause or Sorting Organizer). Upon gathering that information, students will conduct a primary research investigation to test the HAACP principles in a controlled environment using radiation and chemical methods. Though much of the scientific research they will have read shows that appropriate temperature and time kills microorganisms, there is also a significant body of evidence that dramatic pH alterations can inhibit microorganism growth. As such, students will conduct a second research protocol within the HAACP protocol that contrasts the radiation and chemical methods of microorganism prevention in order to determine the relative efficacy of each method. Students will combine their graphic organizer with their research conclusion and present their findings in a lab report, which will also be added to their final food safety plan.

7. Food Labeling
Students will wrap up their unit by developing an infographic that highlights food allergens and their role in food labeling. Students will research to prepare the infographic, which will include symptoms, major food allergens, treatment/when to seek treatment, the relationship of livestock antibiotic withdrawal periods and what must be included in origin labeling. An analysis of several different allergen-causing foods should occur, with investigations conducted regarding the elemental makeup of each food and the chemical reactions that cause the allergic reaction, specifically drawing a relationship between the interactions of the chemical world and the microbiology of the human body. The final infographic should showcase their findings using technical nomenclature, pictures, and supporting statistics.

8. Food Safety Product and Plan
The final project for the unit will ask student to develop a physical food product such as a fruit jam, dried vegetable product, oil, herb or seasoning mix, citrus juice, etc. and create a comprehensive food safety plan for the product that includes the HAACP and labeling standards. Students will choose a commodity from their growing region and utilizing food safety principles preserve it following scientifically proven preservation methods. Students will also engage in industry-standard testing protocols to assess the chemical profile of the food product (pH level, potential toxicity, etc.) as well as engage in a multi-interval microorganism testing protocol. Students will follow FDA guidelines and use prior unit knowledge to develop an appropriate label for their food that follows legal standards as well as agricultural marketing practices. They will prepare a written and 3-5 minute visual presentation (students will choose the media) for a panel of industry professionals.

Agriscience Research Paper and Display
Throughout all units, students will gather knowledge through laboratory exercises to further develop and enhance their Agriscience Research programs. At the conclusion of the course, students will submit their research in a written paper, and it will include the following components: problem/purpose, background research, hypothesis, methodology, results/data, and discussion/conclusion. The paper will be written using skills associated with technical and scientific writing, for example, refraining from the use of personal pronouns or keeping discussion limited to what the research and data suggest rather than personal opinion and bias. APA format will be utilized to reference.
and cite sources. Students will create a visual display board, using a digital format that mirrors the use of research posters in higher education, which will also include all of the components of the paper, but in a condensed form. The peer group that reviewed the original experimental design will review the final research paper. The project and its findings will be shared with the class in an oral presentation, with the research board on display to aid in communicating the results of the research.

**Course Materials:**


* FDA HACCP [http://www.fda.gov/Food/GuidanceRegulation/HACCP/ucm2006801.htm](http://www.fda.gov/Food/GuidanceRegulation/HACCP/ucm2006801.htm)


* Ball Canning [http://www.freshpreserving.com/](http://www.freshpreserving.com/)


* How to Write a Scientific Paper by Robert A. Day

* Statistics for Veterinary and Animal Science by Aviva Petrie and Paul Watson

* Environmental Protection Agency - Crop Production: [http://www.epa.gov/oecaagci/ag101/cropsoil.html#operations](http://www.epa.gov/oecaagci/ag101/cropsoil.html#operations)


* National FFA Research Report Template [https://www.ffa.org/programs/awards/agriculturefair/Pages/default.aspx](https://www.ffa.org/programs/awards/agriculturefair/Pages/default.aspx)
Chico High School - Agriscience Pathway

These templates are designed to help guide students. The order of some classes may vary and individual variation can be applied.

Agriscience Pathway—Field Technician

<table>
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<tr>
<th>Freshman:</th>
<th>Sophomore:</th>
<th>Junior:</th>
<th>Senior:</th>
</tr>
</thead>
</table>

* Health class can be taken any year and is offered online. *10th Grade PE can be taken any year or as Ind Study.

Agriscience Pathway—California State University Admissions.

<table>
<thead>
<tr>
<th>Freshman:</th>
<th>Sophomore:</th>
<th>Junior:</th>
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<tr>
<td>2. For Lang 1</td>
<td>2. World History</td>
<td>2. U.S. History</td>
<td>2. Govt/Econ</td>
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<tr>
<td>5. Health*</td>
<td>5. For Lang 2</td>
<td>5. Floral</td>
<td>5. Elective</td>
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*Health class can be taken any year and is offered online. *10th Grade PE can be taken any year or as Ind Study.

Agriscience Pathway—University of California Admissions

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<td>1. English (Hon)</td>
<td>1. AP English^</td>
<td>1. AP English^</td>
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<td>2. Health*</td>
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Health class can be taken any year and is offered online. *10th Grade PE can be taken any year or as Ind Study.

* Can be taken any year. ^ Recommend by UC ** Strong Senior schedule recommended by UC + Capstone Class ~ integrated class

vp receives UC/CUSD Visual/Performing Arts & Receives College Credit

dw/15
AGENDA ITEM: Chico High School – Textbook Purchase – Advanced Interdisciplinary Science for Sustainable Agriculture

Prepared by: Courtney Champlin – Teacher, Mark Beebe - Principal

X ______ Consent

_____ Information Only

_____ Discussion/Action

Board Date: 12/14/16

Background Information

The textbook looking to be adopted for the new course: Advanced Interdisciplinary Science for Sustainable Agriculture is Agriscience: Fundamentals & Applications, 6th edition. This textbook is written be DeVere Burton.

Education Implications

This textbook covers all the Agriculture science standards to be taught in the course. It covers California Agriculture, Global Agriculture, Animal Science, Plant Science, Sustainable Agriculture, Soil Science, Pest Management and Agriculture applications and research.

Fiscal Implications

The purchase of these textbooks will be done through the CTE Incentive Grant.
Current book price: $171.95
Quantity: 105 (70 student books and 35 class copies)
Total cost: $18,054.76
CHICO UNIFIED SCHOOL DISTRICT
REQUEST FOR TEXTBOOK APPROVAL
Page 1 of 3

11.2.21.
Page 2 of 5

Department: Agriculture
Course: Advanced Interdisciplinary Science for Sustainable Agriculture
Grade Level: 9-12

Contact Person: Courtney Champlin
Campus: Chico High School

***Please include six copies of the text or instructional materials when submitting this form.***

A. New Adoption

1. Proposed Text

Title: Agriscience Fundamentals and Applications
Author: L. DeVere Burton
Publisher: Delmar, Cengage Learning Center
Copyright Date: 2015
Current List Price: 171.95
Material is on the California Legal Compliance List? X YES □ NO

2. Approximately how many classes will be using this text? 1-2 Classes: Advanced Interdisciplinary Science for Sustainable Agriscience

3. How many copies of the text will be purchased? _105___

4. List other districts using this text: Galt Unified, Lodi Unified

5. List other textbooks considered in the selection and their current list price:
   This textbook was recommended by UCCI when adopting the course. No other books were considered due to the recommendation from UCCI.

6. The proposed text for all courses that have state approved standards must align with those standards. Indicate areas that are supported by the proposed text and areas where supplementary material will be needed. Attach a list of those standards and the corresponding text correlation. SEE ATTACHED

<table>
<thead>
<tr>
<th>Check each criterion that applies in terms of the course and ability level to which the material is to be submitted</th>
<th>Excellent</th>
<th>Good</th>
<th>Average</th>
<th>Poor</th>
<th>Does not apply</th>
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<tbody>
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<td>2. How well does the material align with California State Standards?</td>
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<td>3. How well does the material cover the scope of student and teacher needs at the grade level for which it is being considered?</td>
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<td>4. How well does material employ a variety of pedagogical methods of instruction?</td>
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<td>5. How well are the assessment tools linked to the content and instructional methodology?</td>
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<td>6. How successfully are formal, informal and alternative assessment systems incorporated into the teacher resource guide?</td>
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<td>7. How well does the material provide for the needs of English language learners?</td>
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<td>8. How appropriate are the supplementary materials in supporting the effective use of the text?</td>
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<td>9. To what degree does the teacher resource material provide support and guidance?</td>
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<td>10. Classify the ease of use of the teachers' manual?</td>
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7. Is supplementary material available for the adoption? YES  X NO
   Is it necessary for instructional purposes?       YES  NO
   If yes, why?
   What costs are involved?

8. Textbook previously used
   Title:          N/A
   Author:         
   Publisher:      
   Copyright Date: 

   a. Date of initial adoption: ________________________

   b. State reason for the previous text no longer serving the purpose for which it was originally adopted:
DEPARTMENT CHAIRPERSON APPROVAL TO USE TEXTBOOK

Chico High School Department Chairperson

Pleasant Valley High School Department Chairperson

Fair View High School Department Chairperson

Oakdale High School Department Chairperson

DATE

12/10/10

Campus Principal Approval

Chico High School Principal

Pleasant Valley High School Principal

Fair View High School Principal

Oakdale High School Principal

12/6/10

12/6/10

12/6/10

Admin Designee

Admin Designee

Consideration may be: approval or rejection. If rejected, it must be returned to originator with rationale.

CUSD Educational Services Approval

DATE

12/8/10

Governing Board Approval

DATE
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AGENDA ITEM: Chico High School – New Course Designation – Floral Design

Prepared by: Courtney Champlin – Teacher, Mark Beebe - Principal

X ___ Consent

_____ Information Only     Board Date: 12/14/16

_____ Discussion/Action

Background Information

This course has already been Board approved as an elective at Chico High School named “Floral Design.” The purpose of this agenda item is to seek Board approval for a revised course to fulfill the Visual & Performing Arts requirement and High School Art graduation requirement. It is a change in order to meet the “F” requirement of the A-G UC/CSU System. This course is part of the Agriculture Program at Chico High School. Students participating in this class can also participate in FFA.

Education Implications

This course provides additional opportunity for students to meet the “F” requirement for the UC/CSU System. This course complements our proposed CTE Pathway in Agriculture. Additional components of Art History will be added to this course.

Fiscal Implications

Floral supplies will be purchased through the Agriculture Incentive Grant and the Agriculture site budget.
NEW COURSE PROPOSAL OUTLINE

Course Title: Floral Design
Grade Level: 9-12
Required/Elective: Elective to fill Visual and Performing Arts requirement and high school art requirement
Length/Credits: 1 year/ 5 units per semester
Prerequisites: None

I. Course Rationale and Description:

This course focuses on the historical trends of floral design and the current design features of floral products. Major units of study will cover historical connections of usage of foliage, floral preservation, and current day trends. Students also learn agribusiness concepts in merchandising, advertising, sales and operating a retail flora; business. Improving computer and workplace skills will be a focus.

This course is designed to provide the student with theories and principles related to fine arts. Students will apply their knowledge in a series of design elements and laboratory experiments understand the impact of the world’s economy on the floral industry. This course is intended to both successfully prepare students who plan on majoring in agricultural sciences at a four-year college and/or university or enter into an agricultural trade after high school. Specific student outcomes are:

a. Students balance art theory and design principles to the requests of a customer.
b. Students balance detailed knowledge of the principles of art and design to the business practices of retailing and merchandising.
c. Students produce arrangements that are conducive to the event and flowers of the season.

Course objectives are as follows:
1. Employ senses to perceive and apply the elements and principles of visual design through works of art, objects in nature, events and the environment.
2. Explore the role of floral design in human history and culture through creative design concepts in two and three dimensional media, based on floral arranging.
3. Derive meaning from artworks and floral art designs, including floral symbolism, through analyzing interpretations, and judgement of various pieces developed by renown artists of different historical and contemporary periods.
4. Demonstrate skills in utilizing the language of visual arts design as the foundation for creating and analyzing the visual structures and functions of art.
5. Develop and create original artwork based on relating visual art design concepts and processes to their own personal experiences and lifelong learning.

II. Instructional and Supplemental Materials:
III. **Course Outline/Standards/Instructional Methods/Assessments:**
Prepare a course outline that indicates the following: 1) name of unit; 2) time allocated for the unit; 3) standards addressed in each unit (please use Content Standards Framework numbering system and write out each standard); 4) Instructional strategies used in each unit; 5) Assessments utilized. (Use additional pages as needed.)

<table>
<thead>
<tr>
<th>Unit Name</th>
<th>Standards Addressed</th>
<th>Time</th>
<th>Instructional Strategies</th>
<th>Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Art</td>
<td>Visual Arts Standards (VAPA): 1.1, 1.3, 1.5</td>
<td>2-3 weeks</td>
<td>• Group/Individual Projects &lt;br&gt;• Group Work &lt;br&gt;• Individual work &lt;br&gt;• Student Presentations &lt;br&gt;• Instructor lead Lectures &lt;br&gt;• Demonstrations with models &lt;br&gt;• Labs</td>
<td>• Group Tests  &lt;br&gt;• Quizzes &lt;br&gt;• Individual Tests &lt;br&gt;• Projects &lt;br&gt;• Presentations &lt;br&gt;• Formative Assessments &lt;br&gt;• Portfolio of Work &lt;br&gt;• Production Costs sheets</td>
</tr>
<tr>
<td>Historical Contributions and Cultural Dimensions</td>
<td>Visual Arts Standards (VAPA): 1.3, 1.4, 1.5,</td>
<td>4-5 weeks</td>
<td>• Group/Individual Projects &lt;br&gt;• Group Work &lt;br&gt;• Individual work &lt;br&gt;• Student Presentations &lt;br&gt;• Instructor lead Lectures &lt;br&gt;• Demonstrations with models &lt;br&gt;• Labs</td>
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<tr>
<td>Aesthetic Valuing and Making Judgements on Individual Works of Art</td>
<td>Visual Arts Standards (VAPA): 3.1, 3.2, 3.3</td>
<td>4-5 weeks</td>
<td>• Group/Individual Projects &lt;br&gt;• Group Work &lt;br&gt;• Individual work &lt;br&gt;• Student Presentations &lt;br&gt;• Instructor lead Lectures &lt;br&gt;• Demonstrations with models &lt;br&gt;• Labs</td>
<td>• Group Tests  &lt;br&gt;• Quizzes &lt;br&gt;• Individual Tests &lt;br&gt;• Projects &lt;br&gt;• Presentations &lt;br&gt;• Formative Assessments &lt;br&gt;• Portfolio of Work &lt;br&gt;• Production Costs sheets</td>
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<td>Art Elements of Design</td>
<td>Visual Arts Standards (VAPA): 2.1, 2.2, 2.3, 2.4</td>
<td>4-5 weeks</td>
<td>• Group/Individual Projects &lt;br&gt;• Group Work &lt;br&gt;• Individual work &lt;br&gt;• Student Presentations &lt;br&gt;• Instructor lead Lectures &lt;br&gt;• Demonstrations with models &lt;br&gt;• Labs</td>
<td>• Group Tests  &lt;br&gt;• Quizzes &lt;br&gt;• Individual Tests &lt;br&gt;• Projects &lt;br&gt;• Presentations &lt;br&gt;• Formative Assessments &lt;br&gt;• Portfolio of Work &lt;br&gt;• Production Costs sheets</td>
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**Group/Individual**
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<th>Projects</th>
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<tr>
<td></td>
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<td>• Demonstrations with models</td>
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<td>• Labs</td>
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<tr>
<td></td>
<td>Creative Expression through Applying Articic Processes and Skills to Original Works of Art</td>
<td>5-6 weeks</td>
<td>Projects</td>
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<td>Visual Arts Standards (VAPA): 1.1, 2.3, 2.4, 2.6, 3.1</td>
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<td>• Group/Individual Projects</td>
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<td>• Demonstrations with models</td>
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<td>• Labs</td>
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<td>• Portfolio of Work</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Production Costs sheets</td>
</tr>
</tbody>
</table>
IV. Instructional Methods: Please indicate instructional methods to be used for special needs students, including Special Education, English Language Learners, and Honors.

All required accommodations based upon the students IEP, SST or 504 will be met. In addition the presentation of material will be presented in a well-rounded method so as to encourage learning for all types of learners. This course’s curriculum will provide the opportunity for all students to meet or exceed expected state and local standards. The course will focus on teaching students of varied abilities and backgrounds through the use of the following strategies:
- Use of SDAIE strategies for ELD students
- Scaffolding for all levels of learners
- Notes both visually and verbally
- Group projects and work to encourage being a good communicator and collaborative worker/learner.
- Individual/Group discovery and discussion
- Student presentations to also encourage good communication skills and quality production.
- Differentiated Instruction as needed based upon the students learning needs.
- Real-world application of material taught in class

V. Grading Policy:

Student grading progress will be reported in accordance with the CUSD Board Policy. Grade will reflect assessments of each student’s work as determined by the stated assessment and evaluations.

90-100: A  
80-89: B  
70-79: C  
60-69: D  
59 and below: F  

Aligned with State Frameworks: (X) Yes   ( ) No
Course intended for a CTE Pathway: ( ) Yes*   (X) No
  *If yes, which: ( ) Introductory   ( ) Concentrator   ( ) Completer
Already CUSD Board Approved:
  (X) Yes, sites currently offering: _________________________
  (X) No
Is course intended to meet CSU/UC Requirement: (X) Yes**   ( ) No
  **If yes, site must complete attached addendum
Chico Unified School District – Secondary New Course Proposal – Addendum

Date Submitted to Site Registrar: __________________________

To be completed by Site Department Chair/Designee:

Course Title: ________________ Floral design ________________
Department: ________________ Agriculture ________________
Department member responsible for course description for Catalog/Student Handbook: ________________ Courtney Champlin ________________

UC/CSU A-G Subject Area (check one):

   ___ A: History/Social Science
   ___ B: English
   ___ C: Mathematics
   ___ D: Laboratory Science
   ___ E: Language Other Than English
   ___ F: Visual & Performing Art
   ___ G: College Preparatory Elective

Department member responsible for UCOP submission: ________________ Courtney Champlin ________________

UCOP Website/Directions = https://hs-articulation.ucop.edu/agemp/login#/ /

UCOP portal opens Feb. 1. Final deadline is Sept. 15. Applies to initial and any re-submissions

To be completed by Site Office Personnel:

<table>
<thead>
<tr>
<th>Action</th>
<th>Date of confirmation</th>
<th>Person who confirmed action</th>
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<td>Submission to UCOP portal</td>
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<tr>
<td>Status of submission:</td>
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<tr>
<td>Approved by UCOP (attach email)</td>
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<tr>
<td>Rejected by UCOP</td>
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<tr>
<td>Resubmission, if necessary</td>
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<td>In UC Doorways Course List</td>
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<tr>
<td>Course Offerings Document Updated</td>
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<tr>
<td>Course Catalog/Student Handbook Updated</td>
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</tbody>
</table>

Chico Unified School District – Secondary New Course Proposal - Signature Page
Course Title: Floral Design
Submitted by: Courtney Champlin
Department: Agriculture
School: Chico High School
Planned Start Date: Fall 2017

Approvals (Signature & Date):

Dept. Chair/Admin. (High Schools)
Chico High: [Signature]
PVHS: [Signature]
Alt. Ed.: [Signature]
Inspire: [Signature]

Dept./Admin. (Jr. High)
Bidwell: [Signature]
Chico Jr.: [Signature]
Marsh: [Signature]
Alt. Ed.: [Signature]

Educational Services: [Signature]

- If rejected, return to originator with rationale or conditions for approval.
- If approved, date taken to board of education for board approval:

  - Board of Education action: □ Approve    □ Reject
Chico High School - Agriscience Pathway

These templates are designed to help guide students. The order of some classes may vary and individual variation can be applied.

Agriscience Pathway--- Field Technician

**Freshman:**
1. English
2. Health/Elective*
3. Math C
4. P.E 9
5. Welding 1
6. Introduction to Ag.

**Sophomore:**
1. English
2. World History
3. Int Math 1
4. P.E. *
5. Welding 2
6. Plant Science

**Junior:**
1. English
2. U.S. History
3. Int Math 2
4. Elective
5. Advanced Welding
6. Ornamental Horticulture

**Senior:**
1. English
2. Ag. Gov/Econ
3. Elective
4. Elective
5. Advanced Welding
6. Floral

* Health class can be taken any year and is offered online. *10th Grade PE can be taken any year or as Ind Study.

Agriscience Pathway--- California State University Admissions.

**Freshman:**
1. English
2. For Lang 1
3. Int Math 1
4. PE 9
5. Health*
6. Biology and Sustainable Ag

**Sophomore:**
1. English
2. World History
3. Int Math 2
4. P.E. *
5. For Lang 2
6. Chemistry and Agriscience

**Junior:**
1. English
2. U.S. History
3. Int Math 3
4. For Lang 3
5. Floral
6. Adv. Interdisciplinary Science

**Senior:**
1. English
2. Govt/Econ
3. Math (recommend)
4. Ag. Leadership
5. Elective
6. Ag. Science Specialty
   for Sustainable Agriculture (Hon) + (Vet Science, Plant Science, Horticulture)

*Health class can be taken any year and is offered online. *10th Grade PE can be taken any year or as Ind Study.

Agriscience Pathway—University of California Admissions

**Freshman:**
1. English (Hon)
2. Health*
3. Int Math 1
4. PE 9
5. For Lang 1
6. Biology and Sustainable Ag

**Sophomore:**
1. English (Hon)
2. World History
3. Int Math 2
4. P.E.*
5. For Lang 2
6. Chemistry and Agriscience

**Junior:**
1. AP English^*
2. AP U.S. History^*
3. Int Math 3
4. Ag Leadership
5. For Lang 3^
6. Adv. Interdisciplinary Science

**Senior:**
1. AP English^*
2. AP Govt/Econ
3. Math Analysis^*
4. Physics^*
5. Floral
6. Ag Leadership
   for sustainable Agriculture (Hon) +

^ Recommend by UC
^* Strong Senior schedule recommended by UC + Capstone Class ~ integrated class

Can be taken any year. "Strong Senior schedule recommended by UC + Capstone Class ~ integrated class

vp receives UC/CUSD Visual/ Performing Arts & Receives College Credit
dw/15
AGENDA ITEM: Warrant Authorization

Prepared by: Jaclyn Kruger, Director Fiscal Services

X Consent Board Date December 14, 2016

☐ Information Only

☐ Discussion/Action

Background Information
Warrants in the amount of $2,188,026.04 for the period November 8, 2016 through December 6, 2016, have been reviewed and are ready for Board approval.

Educational Implications
Services and supplies are acquired by the District in support of the District's goals.

Fiscal Implications
The issuing of warrants affects all accounts and funds in the district and is supported by the District's approved budget.

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<th>Description</th>
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<td>09</td>
<td>Charter Sch Spec Rev 3412</td>
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<td>12</td>
<td>Child Development (3407)</td>
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<td>Cafeteria (3401)</td>
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<td>109,767.24</td>
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<td>Measure E (3429) 21 Cap Proj</td>
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<td>Cap Fac State Cap (3408) 25-26</td>
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<td>Payroll Warrants</td>
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Total Number of Checks: 488
Less Unpaid Tax Liability: 3,260.12-
Net (Check Amount): 2,188,026.04

Includes checks for only Bank Account COUNTY
AGENDA ITEM: Independent Contractor Agreements

Prepared by: Kevin Bultema, Assistant Superintendent

☐ Consent  Board Date December 14, 2016

☐ Information Only

☐ Discussion/Action

Background Information

Per Board Policy 3600 Consultants/Independent Contractor, all Consultant/Independent Contractor Agreements shall be brought before the board for approval.

- Donna Henderson (PVHS, ASB)
- Candace LiVolsi (CHS, ASB)
- Michelle Mori (Secondary Sites)
- Michael Neasham (CJHS, ASB)
- Dylan Smith (Inspire, ASB)
- Sandy McWhorter (Inspire)
- Aidan Sobot (Inspire, ASB)

Educational Implications

Per Board Policy 3600, the Board of Education authorizes the use of consultants/independent contractors to provide expert professional advice or specialized technical or training services which are not needed on a continuing basis and which cannot be provided by district staff because of limitations of time, experience or knowledge. Individuals, firms or organizations employed as consultants may assist management with decisions and/or project development related to financial, economic, accounting, engineering, legal, administrative, instructional or other matters.

Fiscal Implications

Consultant/Independent Contractor Agreement(s) to be paid from accounts noted on approval forms.
AGENDA ITEM: Contracts

Prepared by: Kevin Bultema, Assistant Superintendent

☐ Consent [x] Board Date December 14, 2016

☐ Information Only

☐ Discussion/Action

Background Information

Per Board Policy 3312 Contracts, all Contracts shall be brought before the board for approval and/or ratification.

- Habitat for Humanity (YouthBuild)
- Junior Leadership Development Program Contract (BJHS)
- Progress Advisor (Maintenance Operations & Transportation; 2 contracts)
  - Annual Contract
  - Annual Contract Walk-Thru Component
- Ray Morgan, Water Unit (BJHS)
- School Specialty Inc./Sporttime Spark (PEP Grant/School Sites)

Educational Implications

Per Board Policy 3312 Contracts, the Governing Board recognizes its responsibility to enter into contracts on behalf of the district for the acquisition of equipment, supplies, services, and other resources necessary for the achievement of district goals. In exercising this authority to enter into a contract, the Board shall ensure that the district's interest is protected and that the terms of the contract conform to applicable legal standards, including the bidding requirements in Public Contract Code 20111.

The Board may, by a majority vote, delegate to the Superintendent or designee the authority to enter into contracts on behalf of the district. To be valid or to constitute an enforceable obligation against the district, all such contracts must be approved and/or ratified by the Board.

Every contract entered into on behalf of the district shall be made available for public inspection, except when the law prohibits disclosure. No contract shall prohibit a district employee from disparaging the goods or services of any contracting party.

Fiscal Implications

Contracts shall be paid according to agreed upon terms noted.
AGENDA ITEM: Nord Country School – Lot Line Adjustment

Prepared by: Julia Kistler, Director Facilities & Construction

☐ Consent  Board Date December 14, 2016

☐ Information Only

☐ Discussion/Action

Background Information
In October of 2014 the Chico Unified School District Facilities Department was made aware of a lot line issue at Nord Country School. A “Gentleman’s Agreement” was made in the past creating new lot lines that were never properly documented and recorded with Butte County. This has resulted in neighbor structures being constructed on the school’s parcel. For liability reasons, the lot lines must be adjusted and recorded. Additionally, Nord Country School desires to construct a track for their middle school program and they need the land for this use.

The District has worked with the existing property owners to adjust the lot lines according to the attached plat map.

Fiscal Implications
The fees for the lot line adjustment will be paid for out of developer fees, the individual property owners are responsible to pay for their own title, deed and tax expenses.

Recommendation
It is recommended that the Board of Education authorize the Superintendent of designee to enter perform the lot line adjustment according to the attached plat map.
NOTES
1. OWNER: CHICO UNITED SCHOOL DISTRICT
2. Location: CENTRAL AMERICA - 5200 CALIFORNIA STREET
3. ORM: 21-182-04
4. LEGEND: "CALCULATED POINT MOUTH G001 OR G001" - "CALCULATED DISTANCE MOUTH G001 OR G001"
5. TRANSFER AREAS (ACRES):
   - ORM: 4.780
   - ORM: 5.564
   - ORM: 1.239
   - ORM: 1.239
   - ORM: 1.239
6. PARCEL AREAS (ACRES):
   - ORM: 4.095
   - ORM: 4.959
   - ORM: 0.356
   - ORM: 0.356
7. SURVEYOR'S STATEMENT:
   - ORM: 49.11
   - ORM: 49.11
   - ORM: 49.11
   - ORM: 49.11
   - ORM: 49.11
8. LOT LINE ADJUSTMENT PLAT FOR CHICO UNITED SCHOOL DISTRICT - NORTHERN COUNTRY SCHOOL - COUNTY OF BUTTE - STATE OF CALIFORNIA

CHICO, CA 95928
PHONE: (530) 893-1200 • www.northstar.com
111 MODERN MACHU MALL, SUITE 100, CHICO, CA 95928

APRIL 207-189-002
NOVEMBER 15, 2017
JOB NO. 14-247 SHEET 1 OF 1
DATE: December 14, 2016
MEMORANDUM TO: Board of Education
FROM: Kelly Staley, Superintendent
SUBJECT: Certificated Human Resources Actions

### Temporary Appointments – 2016/17

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<th>Employee</th>
<th>Assignment</th>
<th>Effective</th>
<th>Comment</th>
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<td>Birkle, Jennifer</td>
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<td>1.0 FTE</td>
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<tr>
<td>Deome, Gale</td>
<td>Special Education</td>
<td>11/17/16-6/07/17</td>
<td>0.5 FTE</td>
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<td>Leen, Candy</td>
<td>Elementary</td>
<td>11/28/16-6/07/17</td>
<td>1.0 FTE</td>
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### Leave Requests – 2016/17

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<td>Mendez, Monica</td>
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<td>12/6/16-3/24/17</td>
<td>1.0 FTE Child Bonding Leave</td>
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### Retirements/Resignations

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<td>Craig, John</td>
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<td>STRS Retirement</td>
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<tr>
<td>Odlin, Rhonda</td>
<td>Special Education</td>
<td>1/1/2017</td>
<td>0.4 FTE Resignation (Remaining 0.6 FTE)</td>
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CHICO UNIFIED SCHOOL DISTRICT  
1163 E. 7th STREET  
CHICO, CA 95928-5999  

DATE:  December 14, 2016  

MEMORANDUM TO:  Board of Education  

FROM:  Kelly Staley, Superintendent  

SUBJECT:  Classified Human Resources Actions  

<table>
<thead>
<tr>
<th>ACTION</th>
<th>NAME</th>
<th>CLASS/LOCATION/ASSIGNED HOURS</th>
<th>EFFECTIVE</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPOINTMENT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aldrovandi, Jayne</td>
<td>Cafeteria Assistant/Marigold/2.5</td>
<td>11/28/2016</td>
<td>Vacated Position</td>
<td></td>
</tr>
<tr>
<td>Ayala, Paola</td>
<td>IA-Special Education/CHS/2.5</td>
<td>11/28/2016</td>
<td>Vacated Position</td>
<td></td>
</tr>
<tr>
<td>Bates, Sierra</td>
<td>Sr Office Assistant/PVHS/8.0</td>
<td>11/28/2016</td>
<td>Vacated Position</td>
<td></td>
</tr>
<tr>
<td>Cummings, John</td>
<td>IA-Special Education/CHS/6.0</td>
<td>11/7/2016</td>
<td>Vacated Position</td>
<td></td>
</tr>
<tr>
<td>Dawson, Rachelle</td>
<td>Instructional Assistant/Citrus/2.5</td>
<td>12/5/2016</td>
<td>New Position</td>
<td></td>
</tr>
<tr>
<td>Dawson, Rachelle</td>
<td>Instructional Assistant/Citrus/1.0</td>
<td>12/5/2016</td>
<td>New Position</td>
<td></td>
</tr>
<tr>
<td>Dawson, William</td>
<td>Campus Supervisor/BJHS/1.0</td>
<td>11/16/2016</td>
<td>Vacated Position</td>
<td></td>
</tr>
<tr>
<td>Duggins, Deborah</td>
<td>Cafeteria Cook Small School/Nord/7.0</td>
<td>11/8/2016</td>
<td>Existing Position</td>
<td></td>
</tr>
<tr>
<td>Dunn, Valerie</td>
<td>Preschool Assistant/McManus/8.0</td>
<td>12/5/2016</td>
<td>New Position</td>
<td></td>
</tr>
<tr>
<td>Farrell, Tami</td>
<td>Sr Library Media Assistant/CHS/8.0</td>
<td>11/28/2016</td>
<td>Vacated Position</td>
<td></td>
</tr>
<tr>
<td>Herrick, Debi</td>
<td>LT Parent Classroom Aide-Restr/ Sierra View/2.0</td>
<td>11/3/2016-12/22/2016</td>
<td>New LT Position</td>
<td></td>
</tr>
<tr>
<td>Hess, Colleen</td>
<td>Elementary Guidance Specialist/ Chapman/3.5</td>
<td>10/27/2016</td>
<td>Vacated Position</td>
<td></td>
</tr>
<tr>
<td>Kearns, Mary</td>
<td>IA-Special Education/Citrus/3.0</td>
<td>11/10/2016</td>
<td>Vacated Position</td>
<td></td>
</tr>
<tr>
<td>Langston, Dennel</td>
<td>IA-Special Education/Citrus/5.0</td>
<td>11/16/2016</td>
<td>Vacated Position</td>
<td></td>
</tr>
<tr>
<td>Lucio, Patricia</td>
<td>IPS-Classroom/Emma Wilson/6.0</td>
<td>11/28/2016</td>
<td>Vacated Position</td>
<td></td>
</tr>
<tr>
<td>Molina, Mario</td>
<td>Delivery Worker/Nutrition Services/8.0</td>
<td>11/16/2016</td>
<td>Vacated Position</td>
<td></td>
</tr>
<tr>
<td>Rodgers, Laura</td>
<td>IPS-Classroom/Parkview/4.0</td>
<td>12/5/2016</td>
<td>Vacated Position</td>
<td></td>
</tr>
<tr>
<td>Rodriguez, Ricardo</td>
<td>LT IA-Bilingual/Rosedale/5.3</td>
<td>10/31/2016-2/18/2017</td>
<td>During Absence of Incumbent</td>
<td></td>
</tr>
<tr>
<td>Sclare, John</td>
<td>Construction Manager/Facilities/8.0</td>
<td>12/1/2016</td>
<td>New Position</td>
<td></td>
</tr>
<tr>
<td>Snow, Sandra</td>
<td>Health Assistant/McManus/5.0</td>
<td>10/31/2016</td>
<td>Vacated Position</td>
<td></td>
</tr>
<tr>
<td>Vinson, Donna</td>
<td>Campus Supervisor/MJHS/3.0</td>
<td>12/5/2016</td>
<td>Vacated Position</td>
<td></td>
</tr>
</tbody>
</table>

<p>| LEAVE OF ABSENCE | |
|-----------------|---|---|---|---|
| Alchin, Jessica | IPS-Healthcare/LCC/6.0 | 4/27/2017-5/1/2017 | Per CBA 5.3.3 |
| Hammon, Keli | Custodian/CJHS/8.0 | 11/8/2016-11/30/2016 | Per CBA 5.3.3 |
| Wycoff, Larissa | IPS-Classroom/Chapman/4.0 &amp; 2.0 | 1/23/2017-5/26/2017 | Per CBA 5.12 |</p>
<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Date</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gonzales, Christopher</td>
<td>IA-Computers/Neal Dow/5.0</td>
<td>12/17/2016</td>
<td>Voluntary Resignation</td>
</tr>
<tr>
<td>Klingener, Sarah</td>
<td>IPS-Healthcare/PVHS/3.5 &amp; 3.5</td>
<td>11/15/2016</td>
<td>39-Mo Re-employ List</td>
</tr>
<tr>
<td>Moniz, Robert</td>
<td>Custodian/Marigold/8.0</td>
<td>12/27/2016</td>
<td>PERS Retirement</td>
</tr>
<tr>
<td>Ross, Matthew</td>
<td>Sr Custodian/BJHS/8.0</td>
<td>12/1/2016</td>
<td>Voluntary Resignation</td>
</tr>
<tr>
<td>Rouse, DeAnne</td>
<td>IPS-Classroom/Loma Vista/3.5 &amp; 3.0</td>
<td>11/30/2016</td>
<td>STRS Retirement</td>
</tr>
<tr>
<td>Smith, Annie</td>
<td>IPS-Healthcare/CHS/4.0</td>
<td>10/31/2016</td>
<td>Voluntary Resignation</td>
</tr>
<tr>
<td>Bates, Sierra</td>
<td>Sr Office Assistant/MJHS/2.0</td>
<td>11/27/2016</td>
<td>Increase in Hours</td>
</tr>
<tr>
<td>Cummings, John</td>
<td>IA-Special Education/FVHS/5.0</td>
<td>11/6/2016</td>
<td>Increase in Hours</td>
</tr>
<tr>
<td>Dominguez-Calkins, Debra</td>
<td>Elementary Guidance Specialist/McManus/2.5</td>
<td>11/18/2016</td>
<td>Voluntary Resignation</td>
</tr>
<tr>
<td>Farrell, Tami</td>
<td>Sr Office Assistant/PVHS/3.0</td>
<td>11/27/2016</td>
<td>Voluntary Transfer</td>
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<tr>
<td>Fashing, Kari</td>
<td>Parent Classroom Aide-Restr/LCC/3.0</td>
<td>12/22/2016</td>
<td>Voluntary Resignation</td>
</tr>
<tr>
<td>Langston, Dennel</td>
<td>IA-Special Education/Citrus/3.0</td>
<td>11/15/2016</td>
<td>Increase in Hours</td>
</tr>
<tr>
<td>Lucio, Patricia</td>
<td>IPS-Classroom/CJHS/3.0</td>
<td>11/27/2016</td>
<td>Increase in Hours</td>
</tr>
<tr>
<td>Molina, Mario</td>
<td>Delivery Worker/Nutrition Services/6.5</td>
<td>11/15/2016</td>
<td>Increase in Hours</td>
</tr>
<tr>
<td>Nelson, Samantha</td>
<td>Sr Library Media Assistant/BJHS/1.6</td>
<td>1/8/2017</td>
<td>Voluntary Resignation</td>
</tr>
<tr>
<td>Rodgers, Laura</td>
<td>IPS-Classroom/Parkview/6.0</td>
<td>12/4/2016</td>
<td>Voluntary Reduction in Hours</td>
</tr>
<tr>
<td>Sclare, John</td>
<td>Information Systems Analyst/Info Tech/8.0</td>
<td>11/30/2016</td>
<td>Appointment</td>
</tr>
<tr>
<td>Vinson, Donna</td>
<td>Campus Supervisor/MJHS/1.0</td>
<td>12/4/2016</td>
<td>Increase in Hours</td>
</tr>
</tbody>
</table>
AGENDA ITEM: College Readiness Block Grant Expenditure Plan

Prepared by: John Bohannon

Consent

Information Only

Discussion/Action

Board Date Dec. 14, 2016

Background Information
As a condition of receiving a one-time state allocation from the College Readiness Block Grant, the district must develop and adopt an expenditure plan prior to January 1, 2017. This one-time funding in the amount of $223,084 is to be spent over a three year period, starting with the 2016-17 year and ending with the 2018-19 year. The plan must be explained in a public meeting of the governing board and adopted at a subsequent board meeting.

The College Readiness Block Grant plan was explained at the Nov. 16th meeting of the board as an information only item. The board is asked to approve the plan at this subsequent meeting (Dec. 14th, 2016) as a discussion/action item. This approval of the plan will enable Education Services staff to submit the required report to the State Superintendent of Public Instruction, by January 1, 2017.

Also required is the submission of a report to the California Department of Education on how the district will measure the impact of the funds received. We will measure the impact via monitoring a-g, AP and IB enrollment, college and university acceptance rates and increased percentage of students considered college ready.

The grant, which is available for expenditure through the 2018–19 fiscal year, comes from a $200 million College Readiness Block Grant (CRBG) program administered by the California Department of Education (CDE) and approved by the Governor and the Legislature.

The grants were established to increase the number of students who enroll in institutions of higher education and complete an undergraduate degree in four years, with a special emphasis on helping English learners, economically disadvantaged students, and foster youth.

Educational Implications
These funds will help increase options and enhance chances of success for students by improving their readiness for college. Targeted groups as well as the student population in general will experience an increase in enrollment in college preparation courses and in readiness for college.

Fiscal Implications
This one-time state allocation of $223,084 does not impact the general fund.
## Proposed Expenditure Plan - College Readiness Block Grant monies

<table>
<thead>
<tr>
<th>Area of expenditure</th>
<th>Example expenditures</th>
<th>%</th>
<th>Aligned with LCAP Goal</th>
</tr>
</thead>
</table>
| Increase counseling services to pupils and their families regarding college admission requirements and financial aid programs. | • Parent - Student 4 yr, planning  
  • Freshman transition plans  
  • Evening parent meetings  
  • Meet with incoming 8th graders  
  • Comprehensive advising plans to support pupil completion of A-G course requirements.                                                                                                                                                                                                  | 52%| 3, 4                   |
| Subsidize costs associated with Test administration      | • Provide subsidies to unduplicated pupils to pay fees for taking advanced placement and/or IB exams.  
  • Pay PSAT testing fees for all students at one grade level in high school.  
  • Purchase materials that support college readiness, including materials that support high performance on assessments required for admittance to a postsecondary educational institution.                                                                                          | 34%| 3                      |
| Provide supportive Test environment                      |                                                                                                                                                                                                                                                                                                                                                        |    | 1                      |
| ERWC and AP materials                                    | • Purchase core curriculum materials for Expository Reading and Writing Course, AP courses, and other a-g courses which support college readiness.                                                                                                                                                                                                      | 12%| 1, 3                   |
| College readiness programs (e.g. AVID)                  | • Pay AVID annual fees (PV) and research AVID and other readiness programs (CHS)                                                                                                                                                                                                                                                                       | 2% | 3, 5                   |
AGENDA ITEM: Extended School Year – Waiver Request

Prepared by: Eric Snedeker, Director of Special Education

☐ Consent
☐ Information Only
☒ Discussion/Action

Board Date December 14, 2017

Background Information

Extended School Year is a requirement for Special Education services (IEP). The purpose for ESY is to prevent regression of educational skills acquired during the school year. ESY has been offered as a 19 day service at 4 hours per day (76 hours). Traditionally, ESY has started one week following the end of the school calendar through July 6th. This waiver request is necessary to change dates/times of ESY for 2017 program.

Educational Implications

The ESY waiver request proposes for a three week (15 days) ESY program at 5 hours per day (75 hours). The proposed ESY program would start Monday, June 12th and end Friday, June 30th. The schedule allows for a continuation of the school year without a break between the traditional school calendar and ESY. It adds an hour of instruction per day for 15 days.

Fiscal Implications

Programs and services will maintain current ESY costs.
AGENDA ITEM: 2016-17 1st Interim Budget

Prepared by: Kevin Bulbeta – Assistant Superintendent, Business Services

☐ Consent

☐ Information Only

☒ Discussion/Action

Board Date December 14, 2016

Background Information

Chico Unified School District (CUSD) is required to submit two interim budget reports during the fiscal year and certify, on the basis of the interim report and any additional financial information known, whether the district will be able to meet its financial obligations for the remainder of the fiscal year and for two subsequent fiscal years. The 1st Interim Budget represents adjustments to the 2016-17 Original Budget including carryover funds from the prior year. It also represents actual revenues and expenditures received or incurred from July 1, 2015 through October 31, 2016.

Educational Implications

The proper accounting, reporting, and use of the district’s financial resources supports high quality and broad based educational programs for the students of the Chico Unified School District.

Fiscal Implications

The 2016-17 1st Interim Budget estimates a negative change in fund balance of -$3,346,369 for unrestricted programs and a negative change of -$3,054,026 in restricted programs. These negative changes in fund balance are due largely to the spending of prior year carryover dollars.

CUSD’s ending general fund balance for both unrestricted and restricted programs is projected to be $16,776,587 as of June 30, 2017. The unrestricted ending balance is estimated to be $15,302,273 and the restricted ending fund balance estimated is $1,474,314. The 1st Interim report includes compensation settlements with the Chico Unified Teachers Association (CUTA) and the Chico Unified Management Association (CUMA).

The Multi-Year Projection (MYP) currently shows the district will meet its economic reserve requirement in the current and subsequent two years. Thus, the 1st Interim Budget meets the definition of a “Positive” certification.

*A detailed report of the 2016-17 1st Interim Budget will be presented at the board meeting.
AGENDA ITEM: Resolution 1359-16, Elimination of Classified Services and Ordering Layoffs in the Classified Service for the 2016-2017 School Year

Prepared by: Jim Hanlon, Assistant Superintendent, Human Resources

☐ Consent

☐ Information Only

☒ Discussion/Action

Board Date December 14, 2016

Background Information
The District no longer needs or no longer has the funds to support the positions noted in the Resolution.

Educational Implications
None.

Fiscal Implications
The District will save the cost of this position.
CHICO UNIFIED SCHOOL DISTRICT
1163 East Seventh Street
Chico, California 95926-5999
(530) 891-3000

RESOLUTION 1359-16

ELIMINATION OF CLASSIFIED SERVICES AND
ORDERING LAYOFFS IN THE CLASSIFIED SERVICE
FOR THE 2016-2017 SCHOOL YEAR

WHEREAS, due to lack of work or lack of funds, this Board hereby finds that it is the best interest of the
Chico Unified School District that certain services now being provided by said School District be reduced
or discontinued by the following extent:

Elimination of the following position(s):

<table>
<thead>
<tr>
<th>Classification</th>
<th>Full-Time Equivalent</th>
<th>Site/Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent Classroom Aide-Restricted</td>
<td>0.375</td>
<td>Little Chico Creek/Categorical</td>
</tr>
</tbody>
</table>

NOW, THEREFORE, BE IT RESOLVED that as of the 14th day of December 2016 classified position(s) of
the CHICO UNIFIED SCHOOL DISTRICT be reduced or discontinued to the extent hereinabove set forth.

BE IT FURTHER RESOLVED that the Superintendent of this School District be and hereby is authorized
and directed to give notice of termination of employment to affected classified employee(s) of this School
District pursuant to Merit System rules and regulations and applicable provisions of the Education Code
of the State of California not less than 60 days prior to the effective date of layoff as set forth above.

The Board authorizes and directs the Superintendent to carry forth all layoff proceedings resulting from
the elimination of position(s) ordered herein above, including proceedings for layoff provided by the
exercise of displacement rights and to service layoff notices to employees affected thereby. Where an
employee displaces an employee holding a position in another class, the Superintendent is hereby
authorized and directed to carry forth layoff proceedings resulting therefrom and to serve layoff notices to
employees affected thereby.

In the event that an employee affected by the layoff proceedings authorized by this resolution chooses to
retire or resign from District service, or other appropriate resolution is made, the Superintendent is
authorized to rescind the layoff.

The foregoing RESOLUTION was passed and adopted at a meeting of the Board of Trustees of the
CHICO UNIFIED SCHOOL DISTRICT on the 14th day of December, 2016, by the following vote to wit:

AYES: 
NOES: 
ABSTENTIONS: 
ABSENT:

DATED this 14th day of December, 2016.

______________________________
Clerk of the Governing Board
of the Chico Unified School District
AGENDA ITEM: Nomination of CSBA Delegate Assembly for Region 4-B

Prepared by: Eileen Robinson, Board President

☐ Consent  Board Date December 14, 2016
☐ Information Only
☒ Discussion/Action

Delegate Assembly
CSBA's Delegate Assembly is a vital link in the association's governance structure. Working with local districts, county offices, the Board of Directors and Executive Committee, Delegates ensure that the association reflects the interests of school districts and county offices of education throughout the state.

Roles and Responsibilities
The Delegate Assembly provides policy direction for the association, elects officers and directors, and ensures that the association reflects the interests of school districts and county offices of education. The Delegate Assembly consists of:

- More than 270 elected board members from CSBA's 21 geographic regions
- 34 members of the Board of Directors
- Past presidents of CSBA serving on local school boards
- The immediate past president of the California County Boards of Education

As described in Article III, Section 1, of CSBA's Bylaws, the Delegate Assembly has the following powers and duties:

- Adopt the policy platform every two years. The policy platform provides a broad framework for implementing the association's vision, mission and strategic directions, and as such guides the association's policy and political leadership activities
- Adopt policies and positions as needed to supplement the policy platform
- Provide testimony or input on critical issues during special hearings at Delegate Assembly meetings
- Elect the association's officers and Board of Directors
- Serve on standing committees, councils, task forces, and focus groups
- Adopt the corporate bylaws
- Provide two-way communication with local board members
- Provide advocacy on behalf of children, public education, school boards and the Association
- Support and participate in the association's activities and events.

Election to office
Delegates are elected by CSBA member boards in the region the delegate is elected to represent and serve a two-year term. Nominees for a delegate seat must be a school board member of a CSBA member board within that geographic region.
Delegate Assembly Nomination Form

Due: Saturday, January 7, 2017

Mail to: CSBA | Attn: Executive Office | 3251 Beacon Blvd., West Sacramento, CA 95691 | fax: (916) 371-3407 | or email: nominations@csba.org.

CSBA Region/subregion # 4-B

The Board of Education of the Chico Unified School District (Nominating District) wishes to nominate Eileen Robinson (Nominee).

Chico Unified School District (Nominee’s District), which is a member of the California School Boards Association.

☐ The nominee has consented to this nomination.

☐ Attached is the nominee’s required one-page, single-sided, candidate biographical sketch form and optional one-page, single-sided résumé.

☐ The nominee’s required one-page, single-sided, candidate biographical sketch form and optional one-page, single-sided résumé will be sent by Saturday, January 7, 2017.

______________________________
Board Clerk or Board Secretary (signed)

Kelly Staley

______________________________
Board Clerk or Board Secretary (printed)

12/21/2016

Date

PLEASE NOTE: The nomination and candidate biographical sketch forms may be emailed to nominations@csba.org, faxed to (916) 371-3407 or mailed to CSBA, Attn: Executive Office, 3251 Beacon Blvd., West Sacramento, CA 95691, postmarked by the U.S.P.S. no later than Saturday, January 7, 2017. It is the nominee’s responsibility to confirm that all nomination materials have been received by the CSBA Executive Office by the due date. Late submissions cannot be accepted. If you have any questions, please contact the Executive Office at (800) 266-3382 or Charlyn Tuter at ctuter@csba.org. Thank you.
2017 Delegate Assembly Candidate Biographical Sketch Form

DUE: Saturday, January 7, 2017

Mail to: CSBA | Attn: Executive Office | 3251 Beacon Blvd., West Sacramento, CA 95691 | fax: (916) 371-3407 | or email: nominations@csba.org.

Please complete, sign and date this required one-page candidate biographical sketch form. An optional, one-page, single-sided, résumé may also be submitted; both will be copied exactly as received. Please do not state “see résumé” and please do not re-type this form. Any additional page(s) exceeding this one-page candidate form will not be accepted. It is the candidate’s responsibility to confirm that all nomination materials have been received by the CSBA Executive Office. Late submissions will not be accepted. If you have any questions, please contact the Executive Office at (800) 266-3382.

<table>
<thead>
<tr>
<th>Name: Eileen Robinson</th>
</tr>
</thead>
<tbody>
<tr>
<td>District or COE Name: Chico Unified School District</td>
</tr>
<tr>
<td>Profession: Retired Classified School Emp</td>
</tr>
<tr>
<td>CSBA Region-subregion #: 4-B</td>
</tr>
<tr>
<td>Contact Number: 530-521-9756</td>
</tr>
<tr>
<td>Years on board: Six</td>
</tr>
<tr>
<td>E-mail: <a href="mailto:erobinson46@gmail.com">erobinson46@gmail.com</a></td>
</tr>
</tbody>
</table>

Are you a continuing Delegate? □ Yes □ No. If yes, how long have you served as a Delegate? ________

Why are you interested in becoming a Delegate? Please describe the skills and experiences you would bring to the Delegate Assembly.

I wish to represent Chico Unified and other districts in Butte County to bring voice to the needs and opinions of districts with 15,000 ADA or less. My experience in governance through a statewide organization goes back 40 years and includes representational offices in PTA, the California School Employee's Association and the National Committee on Equity Pay for Woman and Minorities. I served as a Director for Area A, CSEA and chaired many statewide committees including, Legislative, Comparable Worth Committee, Member Education and Staff Development Committee and the Judicial Panel. I organized and conducted member training seminars on Collective Bargaining and other related topics. I have lobbied in Sacramento on many public education related issues such as adequate funding for education, employee rights, and training for school board members.

Please describe your activities and involvement on your local board, community, and/or CSBA.

I have served on the district’s Nutrition and Health and Facilities committees, served as the certificated negotiations observer, and helped to develop criteria for the Special Education workshop. I have advocated for the City of Chico plan to improve traffic safety around various schools, speaking at City Council meetings. I schedule regular school site observations and attend special recognition ceremonies. I attended CSBA and ACSA Legislative Lobby days in 2015-16. I served two (2) years as the CUSD representative to the Board of Directors of Inspire School of Arts and Sciences and a CUSD charter school.

What do you see as the biggest challenge facing governing boards and how can CSBA help address it?

I believe the biggest challenge is increasing member capacity on such issues as LCAP development, increasing the number of students meeting a-g requirements, increasing CTE pathway offerings, understanding trends in test score results, understanding district budget priorities and controls and how they must be tied to the LCAP three year planning outlook. Learning to disaggregate data to determine whether or not district programs are resulting in closing the achievement gap, increasing graduation rates and supporting the social/emotional needs of students is critical. CSBA can help by target trainings to help build capacity in these areas being mindful that trainings need to be adaptable for districts of any size ADA.

Your signature indicates your consent to have your name placed on the ballot and to serve as a Delegate, if elected.

Signature: [Signature] Date: 11/25/2016
PROPOSED AGENDA ITEM: Approval of Board Policy Adoptions/Updates

Prepared by: Administration

☐ Consent  Board Date December 14, 2016

☐ Information Only

☒ Discussion/Action

Background Information
In order to govern effectively, Districts are required to have accurate and up-to-date Board Policies. By law, Districts are mandated to adopt many policies to ensure legal compliance. Working in conjunction with the California School Boards Association (CSBA) Policy Services, CUSD continues to update and revise Board Policies to ensure CUSD is legally compliant.

Education Implications
Up-to-date policies provide clarity to the expectations for students, parents, and staff.

Fiscal Implications
CUSD is required to have up-to-date and legally compliant policies. Failure to have such policies in place jeopardizes funding opportunities, especially in regards to Categorical dollars.