

Environmental Science CTE Advisory Committee Meeting Minutes

September 2, 2022

3:30pm, Zoom

Call to order

Attendees:

- Malachi Whitford – Clovis Community College Professor, Environmental Science Faculty
- Grace Freymiller – Clovis Community College Professor, Biology
- Rodney Olsen – Fresno City College Professor, Co-owner of Olsen Landscape and Design, Sierra Foothill Conservancy Board Member
- Beverly Schubert - Intermountain Nursery Owner, Plant Growth and Sales Manager.
- Samantha Fulbright - Intermountain Nursery Representative, Plant Caretaker, Arborist
- Denise Jameson – Buchanan High School Environmental Science Instructor
- Brandi Asmus – Woodland Community College

**Gray highlighted text indicates feedback from the advisory committee*

- i. Introductions and Attendance**
- ii. Overview of the Clovis Community College (CCC) Environmental Science Program**
 - a. Environmental Science is a relatively new program at CCC
 - b. Environmental Science (Biol 2) is now being taught, and will be changing to Biol 13/13L in Spring 2023
 - c. Environmental Science ADT completed
 - i. Updated ADT includes Biol 13 as a requirement
- iii. Proposed/planned new courses and certificates**
 - a. Potential courses to develop
 - i. Plant science and/or botany
 1. Overview of curriculum and textbook
 2. Committee recommendations:
 - Focus on general botany topics to give students a strong background
 - Plant science curriculum
 - i. Seeds scarification
 - ii. Fire ecology
 - Federal/state money to grow native pollinator species
 - i. Buckwheat, Salvia, and Toyon, etc.

- ii. Grow in unusable areas of fields
- Use CalFlora

ii. Soil science

1. Overview of curriculum and textbook

2. Committee recommendations:

- Teach students to articulate information/corrections from verbal description of plant issues
- Identify nutrient deficiencies
- It is important for students to be capable of discussing plant diseases/issues with customers using non-scientific language.

iii. CTE Plant Science/Botany and Soil Science certificate

1. Potential jobs available to students with certificates

• Committee Recommendations

- i. Retail
- ii. Propagation
- iii. Floral shops
- iv. Greenhouse operations/Management
- v. Agricultural consultant
- vi. ACRT – vegetation management (Power Companies)

2. What skills do students need?

• Committee Recommendations

- i. Plant propagation
- ii. Plant identification
- iii. Plant disease and pest identification through visual and non-visual information (e.g., customer describing symptoms)
- iv. Discern soil quality and soil texture
 - 1. Relationship to plant growth
 - 2. Assist with customer relationships
- v. Remediation – healing plants and soils
- vi. Soil chemistry, organic matter, physics
- vii. Restoration and fire ecology
 - 1. Restore biomes, wildlife
 - 2. Local adaptation
 - 3. Seed harvesting

3. What certificate would serve students the best?

- Committee Recommendations
 - i. Plant and soil ADT/CTE
 - ii. Encourage students to get an arborist degree/certificate

iv. Discuss potential other courses that CCC could offer

1. Example courses:

- Natural History ([example from West LA College](#))
- Plant Identification ([Example Cosumnes River College](#))
- Conservation Biology
- Climate change related courses
- California water related courses

2. Committee recommendations:

- Plant identification
 - i. Native, horticultural, agricultural
- Regenerative farming
 - i. Options besides conventional farming
 - ii. Sustainable agriculture
- Native American Environmental Horticulture
 - i. Bring guest speaker to courses
- California sustainable Agricultural
 - i. Water use, pollution, water availability, aquifers
- Sustainable landscaping in California

v. **Vote**

1. Results of the committee's vote to proceed with building and offering the courses listed below.

- Plant science and/or botany
- Soil Science
- **Vote Results: *Unanimous approval***

2. Results of the committee's vote to proceed with building and offering the certificates listed below.

- Plant and soil science certificate
- **Vote Results: *Unanimous approval***

iv. **Additional topics brought up by the advisory committee**

- a. Dual Enrollment with Clovis high schools (particularly Buchanan)
 - i. Environmental Science

1. Energy pathway

b. Visit high schools to advertise the CCC Environmental Science Program

i. Clovis Area High Schools

ii. Sierra High School

v. **Next meetings:** TBD

vi. **Adjournment**

Malachi Whitford

From: Rodney Olsen
Sent: Saturday, March 11, 2023 1:13 PM
To: Malachi Whitford
Subject: Re: Clovis College Environmental Science CTE Advisory Committee

Thank you, Malachi. All of this looks good. In case you were not aware, we put a plant science course (Biol 16) through curriculum last semester. This should not affect your program but may need to be communicated through your curriculum process. Let me know if you need info.

Rodney

From: Malachi Whitford <malachi.whitford@cloviscollege.edu>
Date: Thursday, March 9, 2023 at 1:46 PM
To: denisejameson@cusd.com <denisejameson@cusd.com>, grow@intermountainnursery.com <grow@intermountainnursery.com>, Rodney Olsen <rodney.olsen@fresnocitycollege.edu>, bustermain@live.com <bustermain@live.com>, John.Shelton@sjrc.ca.gov <John.Shelton@sjrc.ca.gov>
Subject: Clovis College Environmental Science CTE Advisory Committee

Hi CCC Environmental Science CTE Advisory Committee,

**If you are receiving this email, you either attended the last CCC Environmental Science CTE Meeting, have expressed interest in participating, or were recommended as a good person to have on the committee.*

I have incorporated a lot of your feedback since the last Clovis College Environmental Science CTE Advisory Committee meeting, so I wanted to send out an update and get additional feedback/suggestions. Most of the recent work has been focused on curriculum. Currently, we have nearly finished the on-campus curriculum process for a variety of courses, certificates, and degrees (listed below).

Courses:	CTE Certificates:	Degrees:
PLS 1: Introduction to Plant Science	Environmental Science Certificate	Associate in science in Agriculture Plant Science for Transfer Degree
PLS 1L: Plant Science Lab	Plant Science Certificate	
PLS 2: Soils		
PLS 2L: Soils Lab		
BIOL 7: Field Biology		

Currently, Clovis College is in the process of constructing a new building which will house the environmental science program. The building is tentatively scheduled to open for classes during the Fall 2024 semester, which is likely when most of the courses listed above will start being offered. We have also received funding to build a greenhouse adjacent to the new building, which will be used by the environmental science program and a few other programs on campus. While the greenhouse will be used for a variety of lab exercises, I would also love to use the space to give back to the community and our local natural resources. If you have any interest in having plants grown for restoration efforts or similar projects, please do not hesitate to reach out.

During our last meeting, we also discussed potentially offering dual-enrollment environmental science classes. Clovis College is still trying to figure out the exact procedure for offering dual-enrollment classes, but I am working to ensure environmental science stays in the discussion. From a recent meeting, it does sound like an environmental science dual-enrollment course will be possible, but it may be offered in conjunction with geology.

If you have any questions or advice, or just want to chat about potential collaborations and/or projects, please do not hesitate to reach out. Also, if you can let me know if you approve of the courses, certificates/degrees, and current trajectory of the program, it would be greatly appreciated. Getting feedback from the advisory committee is a requirement for CTE programs, and being in a CTE program comes with many perks (e.g., funds) that allow me to grow a strong and reputable program.

Thanks for all your help!!

Malachi Whitford, Ph.D. (he/him)
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