

Golden West College

INSTRUCTIONAL PROGRAM REVIEW

Spring 2016

Program Name: Environmental Studies

Division Name: CTE

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INSTRUCTIONAL PROGRAM REVIEW PROMPT

PROGRAM INFORMATION:

The Environmental Studies program provides the basic skills and certifiable expertise that individuals desire and need for an environmental career. Students gain proficiency in the knowledge of environmental principles, field and laboratory methods, computer application use, effective oral and written communication skills, applied mathematics and environmental regulatory compliance. Internships are a required part of the program and provide valuable “real world” experiences. Many students are working in environmentally related jobs or are anticipating working in the field as soon as they graduate and work schedules are opened. Transfer of students to the CSULB Engineering and Industrial Technology program with emphasis in environment is an option some of the students pursue. As part of the department’s ongoing activities, Environmental Studies students participate in community events such as Earth Day, local water monitoring projects and environmental docent programs. Outreach activities include participation in college-wide vocational career days and high school senior day activities, as well as presentations by faculty at local high schools and community events.

College’s mission (check all that apply)

- Basic Skills
- Career Technical Education
- Transfer
- Offer Degrees/Certificates

College goals(check all that apply):

- Institutional Mission & Effectiveness
- Instructional Programs
- Student Support Services
- Library and Learning Support Services
- Student Engagement
- Student Equity
- Human Resources
- Facilities & Campus Environment
- Technology
- Fiscal Resources
- Planning Processes
- District Collaboration
- Community Relations
- Business, Industry, Governmental Partnerships

Program Contributions: Describe how your department contributes to the campus. Consider areas such as diversity, campus climate, student success, campus processes, student support, and other college goals below.

The Environmental Studies program contributes to the campus by participating in the campus' Environmental Studies student club, Earth Day activities on and off campus, by participating in Coastkeepers program of regional water testing, and by students involving themselves in docent and internship programs with local companies such as Long Beach Aquarium and Amigos de Bolsa Chica. In addition, faculty attends local and regional workshops and conferences such as Vital Link conferences, and CCAOE curriculum and planning conferences.

External Requirements: Indicate any requirements that are imposed on your program by the state, federal regulations, or other external accrediting bodies (if applicable).

The Environmental Studies program is actively engaged with the California State Chancellor's Community College Office to implement the State's mandate to educate and implement its Zero Net Energy mandate for new homes to be Zero Net Energy ready by 2020. Curriculum is being changed and developed to meet the need of workers in the field to come up to speed with the state's mandates. We are actively working with our local high school and industry partners to develop collaborative educational courses and programs to meet state mandates for zero net energy buildings implementation.

REVIEW OF LAST CYCLE PROGRAM REVIEW

Provide assessment of your previous program review initiatives. Summarize any accomplishments that your program achieved. (2 pg limit)

The Environmental Studies program has shown decreases in enrollments in Fall and Spring but increases in Summer sessions (2010 and 2013.) The times the courses were offered in Fall and Spring were in the afternoon when students traditionally taking the courses were working. This has lead to offerings in the evening. There has been an increase in the percentage of women enrolling into the program. Also there has been an increase in the percentage of economically disadvantaged and disability students into the program. When looking at overall retention and success rates there has been a slight drop in Spring and Fall and an increase in summer.

It can be shown that the dropoff of enrollments have coincided with a lack of space to teach the courses. We have lost space and actually have been concentrated into a much smaller space. This space does not lend itself to practical application of hands-on experiences.

The drop off in course completions can also be attributed to the college's decision to not continue the support of the Recycling and Resource Management program. This includes ET 140 through ET 144 courses.

It is only recently that the workbenches in the room have been assembled. The program has also been moved 3 times since the last program review. The program needs a permanent location.

Support for the program has been minimal. It is only since the new dean has arrived, this year, that the program has been supported with materials. It remains to be seen whether the program will see a growth in equipment to support and motivate a rise in enrollments.

FOR CTE PROGRAMS ONLY

Labor Market Demand: How is your program meeting labor market demands? Should you expand, contract or stay the same? Is there competition from other programs in the area? If yes, from what institution? How is the competition affecting your program? Are there any other external factors about which you are concerned?

Enter text here.

VTEA Core Indicators: When reviewing the state VTEA core indicators, what are the trends that contribute to or impede student success? Why is this occurring?

Advisory Council Input: What type of inputs have your program received from your industry advisory council in the last three years?

Program faculty have participated in multiple advisories within the region. All Vital-Link meetings have been attended. The faculty serves on the California State Solar Instructors Network, the IEEE CTE organization, the California State Electronics instructors council, meets with regional high schools, colleges and CCCAOE meetings to upgrade curriculum to meet the state's mandates for Zero Net Homes by 2020. The program works closely with Grid Alternatives Organization that is the integrator for California for the financially qualified to receive solar photovoltaic systems on their building roofs.

SWOT ANALYSIS

Strengths:

- This program is one of the few of its kind in the country. The program is led by an experienced instructor certified by Building Performance Institute and master teacher at the National Renewable Energy Laboratory (NREL) as well as having a C-46 contractor's license. The underlying philosophy of the program is stewardship, conservation and restoration of the environment and ecosystems of the planet. The program is an approved Electronics Training Agency (ETA). The program consists of a comprehensive solar energy and renewable energy and energy efficiency

program. The program is continuously improving to meet the constantly changing market place for renewable energy and energy efficiency professionals. The program is enjoying continued growth in attendees with high student persistence. The instructor has obtained several grants to support the program and continues to actively seek resources to keep the program current and viable. The program maintains strong relationships with industry partners, such as Ballsells, Ricoh electronics, and Power Progressive Group Solar Industries. Students have internship opportunities throughout the community, such as Rainbow Disposal, Amigos de Bolsa Chica, and Long Beach Aquarium. The program has a strong student club on campus: the Environmental Sustainability Association. The students are actively engaged in environmental community organizations, such as the Norma Brandell Gibbs Park (Huntington Beach), CoastKeepers, and several environmental parks within the community.

Weaknesses:

- In what areas does your program need to improve?
- What are your program's immediate needs?
- What limitations or barriers is your program experiencing?

Within your program's control:

Better integrate ET 100 within the Environmental Studies Program by working on setting up the wind turbine (need 30' tower) within the classroom, but would have to modify the equipment to accommodate the classroom's space limitations.

Beyond your program's control:

Allocation of space for a general laboratory for environmental studies, where the equipment can be set up properly. Solar cells should be out in the sunlight. The wind turbine is not being utilized due to space limitations on campus. Classroom space is inadequate for utilizing the equipment that exists, but has not been used adequately. On-going funding for instructional materials is a necessary component to support program goals and objectives. Currently, there is no budget for the program.

Opportunities

- What opportunities exist for your program?

Our world is faced with growing energy and environmental challenges. Through education and real-world experience, we can collaborate to empower our students and graduates to lead positive change right now on campus and in their communities and become the leaders of the energy workforce to combat these issues into the future.

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- What trends are happening in the field or subject area that may allow your program to expand?
- The state of California is a progressive state when it comes to energy and conservation. Many mandates, such as the zero-net energy mandate for new homes, are making it imperative for this program to expand to meet that need.
- What external funding opportunities are available for your program?
- There are new opportunities opening up for this program such as the “Energize Colleges” program that works with California campuses to expand and/or create courses, certificates, and degree programs that integrate energy career skills training in energy efficiency, distributed generation, and demand response into current academic offerings. They collaborate with faculty to build dynamic, project-based courses that prepare students for a career in the green economy. Energy Education program includes the following services:
 - Faculty training and workshops
 - Curriculum support and resources
 - Faculty grants
 - Career pathway planning
 - Access to best practices and the California Energize Colleges network
- What potential industry, high school, college/university or other external partnerships can be established or expanded to benefit your program?

- We are working with our local high schools and with the Integrated Sustainability Incorporated to develop collaborative curriculum to provide pathways for high school students to our college and Environmental Studies program.

Threats/Challenges

- What challenges exist for your program?
- Our biggest challenge is geography and resources for the program. We need both space and monetary resources to provide equipment and materials for the successful implementation of course work.
- What budgetary constraints is your program facing?
- The program currently receives \$600/year for materials. This is obviously inadequate
- What kind of competitive disadvantages is your program facing?
- We lack an adequate geographical space for the full implementation of the program.
- Are there upcoming changes to state and federal regulations that will impact your program? If so, please explain.
- The State of California has implemented a policy for all new buildings to be zero-net energy by 2020. There will be a need to train and re-train employees on the implementation techniques for this mandate.

CURRICULUM REVIEW

Course Outlines of Record: It is expected that all Course Outlines of Record (CORs) will be reviewed every three years. Starting in summer 2016, courses featured in the College Catalog will directly link to the courses’ official CORs. It is crucial for all CORs to be reviewed to ensure their accuracy. Upon reviewing the courses in your disciplines through [CurricUNET](#), please provide a 3 year timeline of when all of the CORs under your disciplines will be reviewed. Please follow the table format below.

CORs needing review/ revision	Timeline to complete review	Person responsible
<i>(example ENGL 225)</i>	<i>October 2017</i>	
ES 100	October 2017	ES Faculty

ES 133	October 2017	ES Faculty
ES 160	October 2017	ES Faculty
ES 162	October 2017	ES Faculty
ES 170	October 2017	ES Faculty
ES190	October 2017	ES Faculty
ET 100	October 2017	ET Faculty

C-ID Designation: In 2006, the Academic Senate for California Community Colleges developed the [Course Identification Numbering System \(C-ID\)](#). This system improves curricular consistency for courses throughout the state and provides many articulation/transfer benefits to our students. Many courses at Golden West College have been approved for C-ID alignment. Please review the list provided by Office of Research, Planning, and Institutional Effectiveness and discuss the following:

1. Does your department plan to submit more courses for C-ID designation? If yes, which ones? (These courses may or may not be part of an ADT. See C-ID.net for more information regarding courses, descriptors, and ADTs.)

The program is participating with the Chancellor's office to do this. We have met and are collaborating with College of the Desert, Santa Monica, and Cerritos College to implement C-ID designation. We are tentatively calling our program Zero Net Energy Program and are submitting curriculum and information to that end.

Dual-listed courses: Review the list of dual listed courses in your area and complete the following chart.

Dual Listed Courses	Date of Faculty Discussion and Review	Recommendations
<i>None</i>		

Curriculum Offering: Review the list of active courses in your programs that were offered and not offered in the last three years. Based on your review, what courses could you add, suspend, or retire to improve your overall program to ensure student success? (Data provided by ORPIE)

Course Name	Recommended Action (add/suspend/retire)
<i>ES 140</i>	<i>suspend</i>
ES 141	suspend
<i>ES 142</i>	<i>Suspend</i>
<i>ES 143</i>	<i>Suspend</i>
<i>ES 144</i>	<i>Suspend</i>

PROGRAM DATA AND ANALYSIS (Items in black font are provided by ORPIE)

SLO Assessments

List of courses with ongoing assessment

List of courses offered in the last 3 years that have not been assessed

Question:

We plan to assess all the courses over the next two years.

Student Demographics (Headcount by Discipline)

Please see attached Statistics for the program.

- Gender
- Age
- Ethnicity
- Disability
- Economic Disadvantage
- Veteran
- Foster Youth

Comparison to GWC

Questions:

Please see attached statistics file.

Program Enrollment (Filter by: Discipline, Session Type, Large Lecture Factor)

Please see attached statistics file for 2015 year

Enrollment at Census
Sections Offered (by CRN)
Fill Rate at Census
FTES/FTEF

Questions:

Consider sections offered, session type, and your current PT faculty pool as part of your analysis.

- What factors have contributed to your trends in enrollment, sections offered, and fill rate?

We have no part-time faculty.

- Based on your review of the data, should you increase, decrease, or keep the same number of sections offered?

We suggest keeping the offerings the same as well as the number.

- How does your department average FTES/FTEF compare to college-wide average FTES/FTEF?

We are low compared to the rest of the college

Course Retention and Success

Please see the Statistics File attached with the program review.

Overall

By Ethnicity, Age, Gender

By Large Lecture

By Session Type (Day, Evening, Hybrid, Online)

Questions:

- Looking at success rates for different demographic groups (age, gender, ethnicity), which groups are experiencing disproportionate impact (success rates for those groups are lower than the average success rates) in student success?

Always the disabled and financial aid students are at a disadvantage. They cannot take advantage of community, regional opportunities as well as those who have transportation and resources to get them to extra-curricular opportunities, such as, the Southern California Edison CTAC center offerings and internship opportunities in Southern LA counties for photovoltaic installations.

- If there are student groups experiencing disproportionate impact, what's your department's plan to address the disproportionate impact?

It would require using district transportation to allow these students to take advantage of these opportunities.

Degrees and Certificates

Number of degrees and certificates conferred in the last 6 years

Completers are defined

- Please see attached Statistics file.

Questions:

- Based on the number of degrees/certificates you are awarding, discuss any differences between your expectations and actual numbers.

The expectations were higher for the department. Lack of resources for both space for the program and equipment are the suspected differences in outcome.

- Please answer this question for programs that have fewer than 10 completers in the last 6 years: What strategies will you implement within your department to increase/attract completers or majors?

Adequate funding and space for the program.

Faculty Staffing

Percentage of courses taught by full-time versus part-time faculty

- In recent years, what successes/challenges have you had in hiring and retaining qualified part-time faculty?

No new hiring is occurring in the program. The program is not on a hiring list for new faculty, full or part-time.

- Based on your department discussion, what do you see as your ideal number of full-time faculty to promote student success?

Currently, there is adequate faculty to implement program.

PROGRAM PLANNING

Based on your analysis of previous program review and current data:

- What does your program want to accomplish in the next three years?

Increase enrollments by obtaining resources and space.

- What areas does your program plan to improve?

Equipment and space allocation

- What specific actions will you take to improve upon those areas?

Write proposals for that space and equipment.

- How will you assess whether your program has accomplished those goals?

We will assess the space and equipment allocations at the end of the three years.

RESOURCE ALLOCATION

In order to accomplish those goals, what resources do you need? You will need to fill out the resource request forms and include them with your Program Review Report.

- o Staffing
 - o Facilities
 - o Technology
 - o Equipment
 - o Funding for Professional Development
- Resources Needed:
 1. Space: we need a space of approximately 40 feet by 40 feet at a minimum to create an installation laboratory for photovoltaics, solar thermal and if possible wind energy.
 - b. Equipment: we need new electronics instrumentation:
 1. Oscilloscopes: 12 Tektronics at \$1200.00
 2. Digital multimeters: 12 Flukes at \$600.00
 3. 12 Micro-inverters: Enphase at \$300.00
 4. 12 balance of system kits at \$ 9000.00
 5. 24 seats for lab at \$ 4000.00
 6. National Instruments ELVIS Stations at \$36,000.00