

**Docket Item:**

University Program Approval: Southern Oregon University, Bachelor of Science (B.S.) in Sustainability.

**Summary:**

Southern Oregon University proposes a new degree program leading to a B.S. in Sustainability. The statewide Provosts' Council has unanimously recommended approval. Higher Education Coordinating Commission (HECC) staff completed a review of the proposed program. After analysis, HECC staff recommends approval of the program as proposed.

**Staff Recommendation:**

The HECC recommends the adoption of the following resolution:

RESOLVED, that the Higher Education Coordinating Commission approve the following program:

B.S. in Sustainability at Southern Oregon University.



## **Proposal for a New Academic Program**

**Institution: Southern Oregon University**

**College/School: Division of Business, Communication, and the Environment**

**Department/Program Name: Environmental Science & Policy**

**Degree and Program Title: BS in Sustainability**

### **1. Program Description**

- a. Proposed Classification of Instructional Programs (CIP) number.  
33.3301 – Sustainability Studies
- b. Brief overview (1-2 paragraphs) of the proposed program, including its disciplinary foundations and connections; program objectives; programmatic focus; degree, certificate, minor, and concentrations offered.

The environmental science & policy program at Southern Oregon University currently delivers a robust Bachelor of Science degree in Environmental Science & Policy. The program is delivered to roughly 100 majors each year through courses taught by dedicated environmental science & policy faculty members, jointly appointed faculty members, and through courses offered by related programs such as Biology and Sociology & Anthropology. The program currently offers a major, minor, and a certificate in sustainability leadership. The certificate in sustainability leadership is a partnership between environmental science & policy and business.

Over the past several years, both the business program and the environmental science & policy program have developed new courses to meet the increased need for sustainability professionals. These emerging jobs in for-profit businesses, non-profit businesses, and government agencies require professionals with a robust set of skills in biological sciences, physical sciences, economics, business, and communication. In addition, the emerging discipline of sustainability science has contributed several concepts, theories, and research of its own. This new major in sustainability will call upon courses taught in business, environmental science & policy, and sociology & anthropology to deliver a unique curriculum for students interested in pursuing the diverse field of sustainability. The program will additionally offer a new minor in sustainability based on a similar course structure.

- c. Course of study – proposed curriculum, including course numbers, titles, and credit hours.

Requirements for the Major

1.

Fulfill baccalaureate degree requirements. Complete a total of 180 credits including a minimum of 55 credits in upper division Environmental Science and Policy or related courses, 36 credits of which must be completed at SOU.

2.

Students must have no grade lower than a C- in all coursework that will be applied to the major and have a minimum 2.5 GPA in SOU Sustainability courses required for graduation. Note: Only practicum (ES 409) and internship (ES 498) courses are P/NP; no other lower division Sustainability core courses or upper division Sustainability courses may be taken P/NP.

3.

Complete the requirements for the Sustainability major.

## Sustainability Requirements

(86-87 credits)

### Required Lower Division Core (32 credits):

ES 100 - The Southern Oregon Bioregion 2 credits

ES 101 - Introduction to Environmental Science: Earth Science 4 credits

ES 102 - Introduction to Environmental Science: Biological Science 4 credits

ES 103 - Introduction to Environmental Science: Social Science 4 credits

ES 210 - Environmental Challenges and Solutions 4 credits

MTH 243 - Introduction to Statistical Methods 4 credits

EC 201 – Principles of Microeconomics 4 credits

ES 120 – Sustainable Food Systems: The Harvest 2 credits

ES 121 – Sustainable Food Systems: The Field 2 credits

ES 122 – Sustainable Food Systems: The Planting 2 credits

### Upper Division Sustainability Core Requirements (12 credits):

ES 423 – Sustainability and Natural Resources 4 credits

ES 421 – Ecological Economics and Sustainable Development 4 credits

BA 483 – Sustainability Leadership 4 credits

### Upper Division Natural and Physical Science Options – Choose 2 (8 credits):

ES 327 - Energy and Climate Change 4 credits

ES 354 - Marine Conservation 4 credits

ES 314 - Hydrology 4 credits

ES 360 - Environmental Geology 4 credits

ES 379 - Biodiversity 4 credits

ES 433 - Soil Science 4 credits  
ES 435 - Water Resources 4 credits  
ES 480 - Forest Ecology 4 credits  
ES 482 – Climatology 4 credits  
ES 483 - Restoration Ecology 4 credits  
ES 481 - Geomorphology 4 credits

Upper Division Business and Ecological Economics Options – Choose 2 (8 credits):

BA 374 - Principles of Management 4 credits  
BA 430A - Nonprofit Grant Writing 4 credits  
BA 490 - Case Studies in Corporate Sustainability 4 credits  
ES 442 - Valuation of Ecosystem Goods and Services 4 credits  
ES 475 - Environmental Modeling 4 credits  
BA 411 - Sustainable Tourism 4 credits

Upper Division Society and Community Options– Choose 2 (8 credits):

SOAN 425 - Food, Power, and Agriculture 4 credits  
ES 437 - Conservation in the USA 4 credits  
ES 439 - Land Use Planning 4 credits  
SOAN 420 - Environmental Sociology 4 credits  
SOAN 355 - People and Forests 4 credits  
SOAN 311 - Community Studies 4 credits  
ES 351 - Environmental Policy and Impact Analysis 4 credits  
SOAN 451 - Cultural Ecology 4 credits  
SOAN 452 - Global Environmental Movements 4 credits

Research Gateway (8-9 credits)

ES 310 – Environmental Research Design 4 credits  
ES 386 – Environmental Data Analysis 5 credits  
OR SOAN 327: Quantitative Data Analysis (4 credits)

Capstone Requirements (10 credits):

ES 494A - Environmental Science and Policy Capstone I 2 credits  
ES 494B - Environmental Science and Policy Capstone II 2 credits  
ES 494C - Environmental Science and Policy Capstone III 2 credits

ES 498 - Internship 1-16 credits (4 credits required)

- d. Manner in which the program will be delivered, including program location (if offered outside of the main campus), course scheduling, and the use of technology (for both on-campus and off-campus delivery).

The newly proposed major and minor will be offered on SOU's main campus in Ashland. The curriculum is designed to be offered in-person largely using courses that are already being offered on the campus in four departments (Environmental Science & Policy, Business, Sociology & Anthropology, and Economics). One of the required lower-division courses and one of the upper-division elective options are currently taught online during summer sessions. Additional courses are being proposed to enhance offerings in sustainable food systems utilizing The Farm at SOU.

- e. Adequacy and quality of faculty delivering the program.

The program outlined above will be delivered entirely by full-time faculty members. No adjunct faculty are currently used to teach the courses proposed in the major or minor.

Faculty members include:

Dr. Vincent M. Smith	Associate Professor in Environmental Science & Policy and Sociology & Anthropology	Human Ecology, Agroecology, Sustainability Science
Dr. John Gutrich	Professor in Environmental Science & Policy	Ecological Economics
Dr. Karen Mager	Assistant Professor in Environmental Science & Policy	Ecology, Climate Adaptation
Dr. Scott Maguffin	Assistant Professor in Environmental Science & Policy	Hydrology, Geomorphology
Dr. Jamie Trammell	Associate Professor in Environmental Science & Policy	Geospatial Science, Climatology, Land Use
Ms. Leslie Eldridge	Instructor in Environmental Science & Policy	Education, Conservation, Marine Biology
Dr. Ellen Siem	Senior Instructor in Physics and Chemistry	Fluid dynamics, Alternative Energy
Dr. Bret Anderson	Associate Professor in Economics	Human Development, Market Inequalities
Dr. Mark Shibley	Professor in Sociology & Anthropology	Environmental Sociology, Forests and Fire

Dr. Mark Tveskov	Professor in Sociology & Anthropology	Archaeology, Cultural Ecology
Dr. Jessica Piekielek	Associate Professor in Sociology & Anthropology	Cultural Anthropology, Environmental Anthropology
Dr. Pavlina McGrady	Assistant Professor in Business	Sustainable Business, Sustainable Tourism
Dr. Donna Lane	Professor in Business	Computer Information Science, Business Management
Mr. Jeremy Carlton	Instructor in Business	Environmental Ethics, Sustainability

f. Adequacy of faculty resources – full-time, part-time, adjunct.

As noted above, all faculty members teaching regularly in this program are full-time faculty members. If enrollment increased dramatically, some lower-division courses in environmental science & policy could be taught by regionally interested adjunct faculty members. All but two of the faculty members teaching in this program hold doctoral degrees in areas of specialization relevant to this major and its curriculum.

g. Other staff.

In addition to faculty members identified here, two additional staff members have been essential in the development of the major and minor and will be collaborating in projects, internships, and research for undergraduates.

Jill Smedstad, Coordinator of the Student Sustainability Center (Student Life)

Rebecca Walker, Sustainability and Recycling Coordinator, (Facilities)

h. Adequacy of facilities, library, and other resources.

The sustainability major and minor will be delivered on SOU's main Ashland campus. All lab courses will be delivered from the newly renovated Science Building. The program will be supported by the Hannon Library with direct support by a dedicated librarian, Kate Cleland-Sipfle. The Hannon Library has indicated that resources, databases, and support are all in place to support this new major. In addition, course instruction will take place at The Farm at SOU: A Center for Sustainability and throughout southern Oregon through our numerous field courses.

i. Anticipated start date.

September, 2021

## 2. Relationship to Mission and Goals

a. Manner in which the proposed program supports the institution's mission, signature areas of focus, and strategic priorities.

Southern Oregon University is a regionally-engaged learning community committed to being the educational provider of choice for learners throughout their lives.

We inspire curiosity and creativity, compel critical thinking, foster discovery, and cultivate bold ideas and actions.

We achieve student success, professional preparation, and civic engagement through service excellence, evolving technologies, and innovative curriculum.

We foster access, equity, inclusion and diversity in thought and practice.

We prepare our learners to be responsible, engaged citizens in our democracy.

We promote economic vitality, sustainability, cultural enrichment, and social well-being in our region, the state, the nation, and the world.

The university has identified seven strategic directions. Strategic direction three is that “SOU will actively model an environmentally sustainable campus and engage in collaborative research to promote an ecologically-resilient bioregion.”

Goal One: SOU will be a model sustainable institution of higher education, integrating sustainable planning, practices, policies, and education throughout the university.

Goal Two: SOU will strengthen its organizational and financial infrastructure to support the advancement, promotion and reach of environmental sustainability at SOU.

**Goal Three: SOU will integrate sustainability, the environment, and conservation into its curriculum, scholarship, and creative activity.**

Goal three of strategic direction seven inspired the development of this new major and direction.

- b. Manner in which the proposed program contributes to institutional and statewide goals for student access and diversity, quality learning, research, knowledge creation and innovation, and economic and cultural support of Oregon and its communities.

The sustainability major will broaden access to higher education in the fields of environmental science and sustainability. SOU’s current major focuses heavily on upper-division natural and physical sciences. Students with strong interests in sustainability, but lacking an interest in hard sciences are currently unable to find a specific area of interest in southern Oregon. This new major will broaden reach and breadth of content delivery at SOU. SOU’s location within a region heavily focused on natural resource management, sustainable technology, and agriculture provide ideal opportunity to focus research and scholarship on sustainable solutions to Oregon’s growing challenges.

- c. Manner in which the program meets regional or statewide needs and enhances the state’s capacity to:

- i. improve educational attainment in the region and state;

As noted earlier, the environmental science & policy program at SOU loses students each year who are interested in environmental protection and sustainability, but who are not interested in or who are unable to complete a curriculum heavy in natural and physical lab sciences. This additional major will increase the retention of students in the program, permit a larger recruitment potential, and permit students

to identify more specific areas of interest to benefit Oregon's growing sustainable business focus.

- ii. respond effectively to social, economic, and environmental challenges and opportunities; and

The new sustainability major is a direct response to Oregon's environmental challenges. The program will now deliver a wide range of courses, two majors, two minors, and two certificates permitting students to focus on environmental challenges that range from stream hydrology and restoration to corporate sustainability.

- iii. address civic and cultural demands of citizenship.

One of the program's core objectives is: "Students will act as global citizens and engage in civic activities in their community addressing sustainability." We accomplish this objective through several measurable strategies. First, all students in the sustainability major will be required to complete a 120-hour internship. These internships with established regional and statewide partners provide an exchange of ideas and resources that are mutually valuable. Second, all sustainability majors will be required to complete a 2-year long capstone project. These projects which can range from basic science to project implementation will now include the development of sustainability plans for regional businesses and the drafting of new energy policies for regional governments. Students leave the program understanding the role of engaged citizens because we demand our students to be engaged citizens as part of their student experience.

### **3. Accreditation**

- a. Accrediting body or professional society that has established standards in the area in which the program lies, if applicable.

NO. There are no accrediting bodies for sustainability education. The program will continue to meet all requirements of the Northwest Commission on Colleges and Universities through program assessment, accreditation reporting, and regular program reviews.

- b. Ability of the program to meet professional accreditation standards. If the program does not or cannot meet those standards, the proposal should identify the area(s) in which it is deficient and indicate steps needed to qualify the program for accreditation and date by which it would be expected to be fully accredited.
- c. If the proposed program is a graduate program in which the institution offers an undergraduate program, proposal should identify whether or not the undergraduate program is accredited and, if not, what would be required to qualify it for accreditation.
- d. If accreditation is a goal, the proposal should identify the steps being taken to achieve accreditation. If the program is not seeking accreditation, the proposal should indicate why it is not.

### **4. Need**

- a. Anticipated fall term headcount and FTE enrollment over each of the next five years.



	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026
Head Count	20	35	50	65	70
FTE	900	1575	2250	2925	3150

b. Expected degrees/certificates produced over the next five years.

	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026
Environmental Science & Policy Majors	30	25	20	20	20
Sustainability Majors	0	10	15	20	25

c. Characteristics of students to be served (resident/nonresident/international; traditional/nontraditional; full-time/part-time, etc.).

We anticipate that this new major in sustainability will attract a similar demographic as our current major in environmental science & policy. Current student demographics are as follows:

Percent of students who are full-time: 82.3%

Percent of students who are 25 or older: 27.0%

Percent of students who are non-white: 39.9%

Percent of students who are Oregon residents: 50.4%

Percent of students who are veterans: 4.4%

d. Evidence of market demand.

As indicated throughout this proposal, sustainability professionals are being sought after in many Fortune 500 companies, non-profits, and agencies. In a 2014 survey of business executives by McKinsey Global Institute, 49% of CEOs stated that sustainability was one of the top three agenda items for the company. The emergence of professional conferences and professional organizations such as the International Society of Sustainability Professionals are also indicative of a growing market for sustainability professionals. Locally, our program's advisory council has further indicated a need for students trained in interdisciplinary sustainability skills.

e. If the program's location is shared with another similar Oregon public university program, the proposal should provide externally validated evidence of need (e.g., surveys, focus groups, documented requests, occupational/employment statistics and forecasts).

f. Estimate the prospects for success of program graduates (employment or graduate school) and consideration of licensure, if appropriate. What are the expected career paths for students in this program?

Some independent licensure does now exist in this field. The International Society of Sustainability Professionals does offer an ISSP Sustainability Professional Certification. This

certification involves an online exam. Students graduating from our program will be well positioned to complete this exam successfully should they desire the certification.

Occupational opportunities include:

1. Sustainability specialist
2. Climate Change analyst
3. Sustainability consultant
4. Energy consultant
5. Science/Environmental education
6. Risk management specialist
7. Corporate sustainability strategist
8. Non-profit management
9. Urban and/or regional planner
10. International sustainable development

## 5. Outcomes and Quality Assessment

- a. Expected learning outcomes of the program.

Expected learning outcomes for the sustainability major are similar to those of our existing major; environmental science & policy. Modifications have been made to highlight the specific interdisciplinary focus on environmental science, business, economics, and sociology.

Knowledge Outcome:

Students will be able to define and describe the fundamental scientific processes and major national/international laws or protocols relevant to sustainability in the natural/physical sciences, social sciences, in business and in economics.

Skill Outcomes:

Students will communicate effectively about sustainability issues in writing, speech, and visual images.

Students will be able to analyze hypotheses and sustainability problems utilizing statistical and data analyses.

Students will be able to develop and interpret sustainability indicators through application in a range of systems, certifications, and indices.

Disposition Outcome:

Students will act as global citizens and engage in civic activities in their community addressing sustainability.

- b. Methods by which the learning outcomes will be assessed and used to improve curriculum and instruction.

All learning outcomes are tracked as an institution using Nuventive Improve Software. Each of our learning outcomes will be tracked in the system through the use of one or more means of assessment. Those means of assessment are as follows:

Knowledge Outcome:

1. As a compliment to assessment and evaluation strategies ES&P utilizes a student self-assessment of outcomes. Students complete the self-assessment in their senior year as part of capstone. The survey asks students to address their perceptions of knowledge, skills, and dispositions.
2. Students participate in three courses (ES 210, ES 310, ES 494) taken in the junior and senior year designed to develop scientific communication skills. Each class has an associated term-long research paper. Three faculty members assess each paper against our standard rubric for knowledge outcomes. Expectations are assessed and reported annually across these courses.

#### Skill Outcome 1:

1. Students participate in three courses (ES 210, ES 310, ES 494) taken in the junior and senior year designed to develop scientific communication skills. Each class has an associated term-long research paper. Three faculty members assess each paper against our standard rubric. Communication quality is assessed and reported annually across these courses.
2. All students participate in a senior oral communication assessment at the Southern Oregon Arts and Research conference. ES&P faculty assess student performance using a standard oral communication rubric.

#### Skill Outcome 2:

1. As a compliment to assessment and evaluation strategies ES&P utilizes a student self-assessment of outcomes. Students complete the self-assessment in their senior year as part of capstone. The survey asks students to address their perceptions of knowledge, skills, and dispositions.
2. All sustainability students will complete a term-long data analysis task in ES 386 designed to demonstrate proficiency in scientific data analysis and scored by three members of the ES&P faculty using a data analysis rubric.

#### Skill Outcome 3:

1. All sustainability students will complete a term-long sustainability assessment in ES 423 designed to demonstrate proficiency in developing and interpreting sustainability indicators using the STARS reporting system. Projects are scored by three members of the ES&P faculty using a program-level rubric.
2. As a compliment to assessment and evaluation strategies ES&P utilizes a student self-assessment of outcomes. Students complete the self-assessment in their senior year as part of capstone. The survey asks students to address their perceptions of knowledge, skills, and dispositions.

#### Disposition Outcome:

1. All Sustainability students will be asked to develop a capstone that involves collaborative, community-based research and/or problem solving. Our capstone advisor determines whether or not students actively engage community and stakeholders.
- c. Nature and level of research and/or scholarly work expected of program faculty; indicators of success in those areas.
- Faculty scholarship expectations are determined by the departmental performance expectations for promotion & tenure. The extent to which a faculty member meets these expectations is regularly assessed through annual chair evaluations, evaluations

of the FPAR. Faculty will be subject to review based on the expectations of their home department. As an example of scholarship expectations in environmental science & policy, a faculty member wishing to meet the minimum acceptable level of scholarship in a promotion decision would need to meet the following

- At least one publication in a nationally recognized and refereed journal
- Participation in regional research to advance departmental and/or university mission (commissions/extramural funding/program evaluation/consulting)
- Demonstrated participation in the review of scientific data for publication or presentation.
- Disseminates professional research/expertise in at least one public form to potentially include (seminars, meetings, boards, commissions, conferences)

## 6. Program Integration and Collaboration

- a. Closely related programs in this or other Oregon colleges and universities. The only closely related program at SOU is the major in environmental science & policy. As noted throughout this proposal, these two majors will serve to better meet the range of interests and career directions of interested students. It will also serve to improve recruitment of students by providing more specific course directions for students.

Similar programs in Oregon:

Oregon State University: Sustainability Double Degree. This program permits students to earn a second BS in Sustainability by completing 32 credits of sustainability coursework beyond the first major.

Western Oregon University: Major in Sustainability: Students can earn a BS in sustainability by completing 60 credits of coursework in sustainability. This program is the most similar to the proposed new program at SOU. However, the program at WOU requires students to choose from one of two concentrations in either environment or business. Our proposed program requires students to take courses in three areas of concentration (Natural and Physical Science, Business and Economics, and Community and Society). As a result, the proposed major at SOU is substantially larger. (WOU=60 credits, SOU=86-87 credits)

Eastern Oregon University: Sustainable Rural Systems Degree. Focus is on rural and agricultural systems management.

University of Oregon Environmental Studies Major: University of Oregon hosts both an Environmental Science and Environmental Studies major. The Environmental Studies major is similar in some ways to our proposed major in sustainability.

Oregon Tech: Renewable Energy Engineering Degree. Focuses entirely on engineering perspectives and technology in renewable energy.

- b. Ways in which the program complements other similar programs in other Oregon institutions and other related programs at this institution. Proposal should identify the potential for collaboration.

The BS in Sustainability at SOU will directly complement the existing BS in Environmental Science & Policy. Both majors will be directed by the same academic unit. The new major

in sustainability reduces the total number of credits required in upper-division natural and physical sciences and dramatically increases the number of credits required in business and culture. The two complimentary majors will rely on some of the same courses and courses sequences, but will have significantly different goals and objectives. Students graduating in the environmental science & policy program graduate with a breadth of upper division science courses perfect for application to federal and state resource agencies. Students graduating with a degree in sustainability will be better prepared for jobs in non-profits and corporations working to advocate for or implement sustainability programming.

Some existing collaborations between Oregon university programs already exist and can be further developed through this new major. One strong existing relationship exists between SOU's environmental science & policy program and Southern Oregon Research and Extension Center. We regularly share students with SOREC and have co-authored grants, shared research projects, and served on many regional boards and commissions together. In addition, our students will continue to participate annually in WOHESC (Washington Oregon Higher Education Sustainability Conference). This annual conference brings together undergraduate students, graduate students, staff, and faculty together from universities across Oregon and Washington. Each year we discuss opportunities for collaboration, curriculum development, best practices, regional implementation grants, etc.

- c. If applicable, proposal should state why this program may not be collaborating with existing similar programs.
- d. Potential impacts on other programs.

It is unlikely, though possible that the existence of a new program in sustainability at SOU will compete with other Oregon institutions. However, given the current demographic of SOU students, we are far more likely to compete with similar programs in California.

## **7. External Review**

If the proposed program is a graduate level program, follow the guidelines provided in *External Review of New Graduate Level Academic Programs* in addition to completing all of the above information.

*Revised May 2016*

**Institution: Southern Oregon University**  
**Program: BS in Sustainability**


**Action:** At the **February 16, 2021** meeting, the Statewide Provosts Council approved a new program for **Southern Oregon University, BS in Sustainability** to move forward to the Oregon Higher Education Coordinating Commission for its review and approval. The **Southern Oregon University** Board of Trustees approved the **BS in Sustainability** program at its **January 21, 2021** meeting.

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**Eastern Oregon University**

Sarah Witte, provost

Approved  
 Opposed  
 Abstained



**Oregon State University**

Ed Feser, provost

Approved  
 Opposed  
 Abstained



**Portland State University**

Susan Jeffords, provost

Approved  
 Opposed  
 Abstained



**University of Oregon**

Patrick Phillips, provost

Approved  
 Opposed  
 Abstained



**Oregon Health & Science University**

Elena Andresen, interim provost

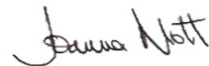
Approved  
 Opposed  
 Abstained



**Oregon Tech**

Joanna Mott, provost

Approved  
 Opposed  
 Abstained



**Southern Oregon University**

Susan Walsh, provost

Approved  
 Opposed  
 Abstained



**Western Oregon University**

Rob Winningham, provost

Approved  
 Opposed  
 Abstained

