Program Change Request

Date Submitted: 03/20/25 3:30 pm

Viewing: 5104 : ~~Earth, Society, &~~ Environmental Sustainability: Science of the Earth System, BSLAS

Last approved: 03/30/19 5:12 pm

Last edit: 08/21/25 11:21 am

Changes proposed by: Jonathan Tomkin

Catalog Pages Using this Program: Earth, Society, & Environmental Sustainability: Science of the Earth System (SES), BSLAS

Proposal Type:
Concentration (ex. Dietetics)

This proposal is for a:
Revision

In Workflow

1. U Program Review
2. Gen Ed Review
3. 1901-ESEC Head
4. 1265-SESE Head
5. KV Dean
6. University Librarian
7. COTE Programs
8. Provost
9. Senate EPC
10. Senate
11. U Senate Conf
12. Board of Trustees
13. IBHE
14. HLC
15. Catalog Editor
16. DMI

Approval Path

1. 01/27/25 2:53 pm Donna Butler (dbutler): Approved for U Program Review
2. 01/30/25 4:27 pm Melissa Steinkoenig (menewell): Approved for Gen Ed Review
3. 02/19/25 4:49 pm Jonathan Tomkin (tomkin): Approved for 1265-SESE Head
4. 02/28/25 1:40 pm Melissa Reedy (murray): Rollback to Initiator

5. 03/27/25 1:17 pm Donna Butler (dbutler): Approved for U Program Review
6. 03/27/25 3:59 pm Melissa Steinkoenig (menewell): Approved for Gen Ed Review
7. 03/27/25 4:35 pm Jonathan Tomkin (tomkin): Approved for 1901-ESEC Head
8. 03/27/25 5:16 pm Robert J. Trapp (jtrapp): Approved for 1265-SESE Head
9. 04/21/25 1:52 pm Melissa Reedy (murray): Approved for KV Dean
10. 04/21/25 2:53 pm Tom Teper (tteper): Approved for University Librarian
11. 04/21/25 4:15 pm Suzanne Lee (suzannel): Approved for COTE Programs
12. 04/23/25 5:37 pm Brooke Newell (bsnewell): Rollback to KV Dean for Provost
13. 05/02/25 11:21 am Melissa Reedy (murray): Approved for KV Dean
14. 05/05/25 12:13 pm Tom Teper (tteper):

Approved for University Librarian
15. 05/05/25 12:29 pm Suzanne Lee (suzannel): Approved for COTE Programs
16. 05/07/25 11:23 am Brooke Newell (bsnewell): Rollback to KV Dean for Provost
17. 06/04/25 12:37 pm Melissa Reedy (murray): Approved for KV Dean
18. 06/04/25 1:27 pm Tom Teper (tteper): Approved for University Librarian
19. 06/04/25 2:13 pm Suzanne Lee (suzannel): Approved for COTE Programs
20. 08/13/25 6:30 pm Brooke Newell (bsnewell): Approved for Provost

History

1. Mar 30, 2019 by Deb Forgacs (dforgacs)

Administration Details

Official Program Name	~~Earth, Society, &~~ Environmental Sustainability: Science of the Earth System, BSLAS

Diploma Title	
Sponsor College	Liberal Arts & Sciences
Sponsor Department	Sch Earth, Soc, Environ Admin ~~Earth, Society, and Environment Courses~~
Sponsor Name	Jonathan Tomkin
Sponsor Email	tomkin@illinois.edu
College Contact	Stephen R. Downie
College Contact Email	sdownie@illinois.edu
College Budget Officer	Michael Wellens
College Budget Officer Email	wellens@illinois.edu

If additional stakeholders other than the Sponsor and College Contacts listed above should be contacted if questions during the review process arise, please list them here.

Does this program have inter-departmental administration?

No

Effective Catalog Term

Effective Catalog Term	Fall 2025
Effective Catalog	2025-2026

Proposal Title

Proposal Title (either Establish/Revise/Eliminate the Degree Name in Program Name in the College of XXXX, i.e., Establish the Bachelor of Science in Entomology in the College of Liberal Arts and Sciences, include the Graduate College for Grad Programs)

Revise the Concentration in Science of the Earth System in the Bachelor of Science in Liberal Arts and Sciences in Earth, Society, & Environmental Sustainability in the College of Liberals Art and Sciences

Does this proposal have any related proposals that will also be revised at this time and the programs depend on each other? Consider Majors, Minors, Concentrations & Joint Programs in your department. Please know that this information is used administratively to move related proposals through workflow efficiently and together as needed. Format your response like the following "This BS proposal (key 567) is related to the Concentration A proposal (key 145)"

The BS proposal (key 695) is related to the ESES Concentration proposals Science of the Earth System (key 694) and Society and the Environment (key 696).

Program Justification

Provide a brief description, using a numbered item list, of the proposed changes to the program.

1. Sponsor department name was updated.
2. The formatting of the POS and additional text (including graduation requirements, university requirements, and general education requirements) has been modified to adhere to the campus General Education Template.
3. The major (Key 695) requirements have been added to this concentration.

The following justifications (4-21) are specific to the changes made to the major (Key 695):
4. The program name has been shortened to “Environmental Sustainability”.
5. The ESES Introductory Core “approved courses” list is removed. The following courses were moved to concentration (Keys 696 and 694) specific coursework, but all others (29 courses) are no longer options:
Courses removed: ESE 111, GEOL 143, IB 100, IB 103, IB 105, MCB 150, NRES 105, UP 205, ATMS 100, ATMS 201, GGIS 222, ACE 210, ACE 251, GGIS 106, HIST 202, REL 270, RST 242, SOC 160, ANTH 278, CPSC 215, GEOL 208, LA 250, NPRE 101, NPRE 201, PS 224, PS 225, SOC 270, ATMS 207, GGIS 105
Key 696: ATMS 120, ATMS 140, GEOL 100, GEOL 107, GEOL 117, GEOL 118, GGIS 103
Key 694: GEOL 107, IB 150

6. A Major Requirements and hours line is added.
7. “Coursework” is now capitalized.
8. ENSU 300 which was previously listed as its cross listed rubric, LA 370 under the Sustainability, Policy, and Global Change header, has been moved to the major requirements.
9. GGIS 379 under ESE coursework header is listed now as its cross listed rubric, ESE 379 under ESE Coursework.
10. The number of required Advanced Courses has increased from 5 to 6.
11. The listing of advanced courses has been updated, and courses are now listed individually rather than as a list.
12. ESE 401 and 497 are added as Advanced Course options under the header Capstone and Experiential.
13. ESE 389 was moved from Environmental & the Human Response header to the Advanced Course options under the header Capstone and Experiential.
14. IB 440 and NRES 431 were listed individually under the header Earth’s Biosphere & Ecology, and we kept only IB 440 in the same list.
15. GEOL 401 listed under Earth’s Physical Systems, Resources, & Hazards is listed now as its cross listed rubric ESE 411 under the same header.
16. IB 362 and IB 411 have been added as an Advanced Course option.
17. AGCM 430, ENG 315, GGIS 468, IB 447, IB 485, NRES 424, NRES 426, UP 405 are removed as an Advanced Course option.
18. CHLH 469 is changed to HK 408 as an Advanced Course option.
19. ESE 467, ESE 477 and ESE 498 are added as Advanced Course options under the header Environment & the Human Response.

20. GGIS 455 and GGIS 483, IB 405, LA 314, and UP 418 were removed as an Advanced Course option.
21. GGIS 407 was add as an Advanced Course option under the header Visualizing the Earth System.

The following justifications (22-27) pertain to this concentration:
22. The delivery method was updated to match the already approved major.
23. The total number of hours required in this major + concentration change from 48-58 to 47-56. The overall credit hours for the program did not change, they remain at 120 hours.
24. The concentration coursework is defined by the heading “Science of the Earth System Concentration Requirements”.

25. Two courses (GEOL 107 and IB 150) which were previously on the course list for the major (Key 695) were removed from the ESES Introductory Core course list and added to this concentration’s requirements.
26. Cognate Course Work total increased from 15-18 hours to 19-22 hours.
27. ECON 102 is no longer highly recommended.

Did the program content change 25% or more in relation to the total credit hours, since the most recent university accreditation visit? See the italicized text below for more details.

No

Provide the reasoning for why each change was necessary, using a corresponding numbered item list as it relates to the brief description numbered list above.

1. The original Sponsor Department was incorrect due to a migration error.
2. Per Office of the Provost General Education initiative for transparency and accessibility.
3. For student transparency and clarity, the major requirements + concentration requirements are now found together.

4. By shortening our major name, we will more concisely describe the program, bring usual practice in line with the official name, and reduce confusion with other program names on campus. Students and faculty have long referred to the major as “Environmental Sustainability” (a shortening of the full name). This is the same name as the course rubric for courses in the program (“Environmental Sustainability” is abbreviated to ENSU in the course catalog). After consultation with students (including focus groups, surveys of majors, and surveys of non-majors), we would like to standardize the name to be the same as this rubric. This change is supported by a large majority of current students. The change has also been partly motivated by Geology changing its name to “Earth Science and Environmental Change” (ESEC), which is very similar to the current major name (ESES). As it has tuned out, students both in and outside the major, and several faculty and staff, have trouble distinguishing between these two names and rubrics.
5. These courses are replaced by Concentration specific Learning Outcome course choices, by ENSU 300, and by additional advanced courses. This reduces the number of introductory courses in the program, which enable an increase in advanced hours (in preparation of the incoming 40 advanced hour requirement) while holding total required hours in the program constant. We have made changes that follow the recommendations set out in "EP.24.068 Interim Guidance Regarding Implementation of the Illinois Board of Higher Education 40 Upper-Division Hour Criterion". The targeted concentration courses are specifically chosen to be those that most contribute to Learning Outcomes 1 and 2. The change also allows the addition of ENSU 300 as a required course, which is specifically designed for Learning Outcome 1. This change simplifies this degree, which is relatively complex, and so improves the program design.
6. This brings the POS into current practice.
7. This corrects a formatting error.
8. This increases the number of advanced courses in the program (in preparation of the incoming 40 advanced hour requirement). This addition is part of our Learning Outcomes process – this new course will directly focus on deepening student understanding of Learning Outcome 1. ENSU 300 is cross listed as LA 370, formerly in the Sustainability, Policy, and Global Change list. We are listing the course as ENSU 300 because the School of Earth, Society and the Environment (SESE) has become the controlling unit of the course and is also taking over the instruction of the course, and it is consistent that readers of the catalog now see SESE’s rubric.
9. When possible, the rubric ESE has been used throughout the POS for consistency to the program name.
10. References to the (now non-existent) Introductory Core has been removed, and the number of 300- and 400- level courses has been updated to six. This increase in advanced courses is in

preparation of the incoming 40 advanced hour requirement.
11. Advanced courses were previously listed in blocks. To conform to current POS standards, each course is listed on its own line with credit hours shown. The previous grouping of topic areas has been retained for clarity.
12. ESE 401 and 497 are cross-cutting courses developed by SESE and added to our curriculum. They don't focus on a single topic area and so are not in the groupings.
13. ESE 389 is a field expedition course and is suited for the Capstone and Experiential courses required.
14. The error in the course list was correct to remove the duplication.
15. When possible, the rubric ESE has been used throughout the POS for consistency to the program name.
16. IB 362 and IB 411 are new courses that was added as part of our Learning Outcome Assessment process.
17. AGCM 430 is no longer a course in the catalog. Deactivated FA23.
ENG 315 is no longer a course in the catalog. Deactivated FA22.
IB 447 is no longer a course in the catalog. Deactivated SP23.
IB 485 is no longer a course in the catalog. Deactivated SP23.
NRES 424 is no longer a course in the catalog. Deactivated FA23
NRES 426 is no longer a course in the catalog. Deactivated SP25.
GGIS 468 is no longer a course in the catalog. Deactivated SP25.
UP 405 is no longer a course in the catalog. Deactivated SP25.
18. "Environmental Health" changed its rubric from CHLH to HK when the Department of Community Health changed its name. This change reflects the course's new rubric.
19. ESE 467, 477 and 498 are new courses developed and offered by the School of Earth, Society and the Environment that contributes to Learning Outcome 4.
20. GGIS 455, GGIS 483, IB 405, LA 314, and UP 418 were removed from our course list as part of our Learning Outcome Assessment process; it was determined to insufficiently match our Learning Outcomes.
21. GGIS 407 is a new course developed by the Department of Geography and Geographic Information Science, a unit in the School, that contributes to Learning Outcome 5.

22. Due to the major being added to the concentration, the already approved delivery method being on-campus and online was updated for the concentration.
23. The minimum number of hours has changed as the updated POS reflects the current credit hours of courses in the POS. For this concentration, Science of the Earth System (SES), the elimination of the introductory "Approved courses" reduces the total number of courses by four, and this is replaced by three courses: ENSU 300, a 3 or 4-credit hour Advanced Course, and a 4-credit hour SES course (GEOL 107 or IB 150), which reduces the total number of credit hours in this Concentration by 1-2 credit hours.
24. To clearly show where the major requirements end, and the concentration requirements begin in the POS.
25. GEOL 107 and IB 150, which most fit the Learning Outcomes and Advanced Course needs of this Concentration, are now located in the Cognate Course Work section. These courses

this concentration, are now located in the cognate course work section. These courses originate from the ESES Introductory Core course list that has been removed from the major (Key 695) but retained in the concentration.
26. The total number of hours changed with the addition of GEOL 107 or IB 150. The overall credit hours for the program did not change, they remain at 120 hours.
27. This course is removed from our recommendation list as part of our Learning Outcome Assessment process; it was determined to insufficiently match the Learning Outcomes for the Concentration.

Instructional Resources

Will there be any reduction in other course offerings, programs or concentrations by your department as a result of this new program/proposed change?

No

Does this new program/proposed change result in the replacement of another program?

No

Does the program include other courses/subjects outside of the sponsoring department impacted by the creation/ revision of this program? If Yes is selected, indicate the appropriate courses and attach the letter of support/ acknowledgement.

Yes

Courses outside of the sponsoring department/interdisciplinary departments:

ACE 210 - Environmental Econ & Policy
ACE 251 - The World Food Economy
ANTH 278 - Climate Change & Civilization
ATMS 100 - Introduction to Meteorology
ATMS 120 - Severe and Hazardous Weather
ATMS 140 - Climate and Global Change
ATMS 201 - General Physical Meteorology
ATMS 207 - Weather and Climate Data Sci
CPSC 215 - The Prairie and Bioenergy
ECON 102 - Microeconomic Principles
ENGL 477 - Advanced Environmental Writing
GEOL 100 - Planet Earth
GEOL 107 - Physical Geology
GEOL 111 - Emergence of Life
GEOL 117 - The Oceans
GEOL 118 - Natural Disasters
GEOL 143 - History of Life
GEOL 208 - History of the Earth System
GGIS 103 - Earth's Physical Systems

GGIS 106 - Geographies of Globalization
GGIS 222 - Big Rivers of the World
GGIS 407 - CyberGIS & Geospatial Data Sci
GGIS 455 - Geog of Sub-Saharan Africa
GGIS 483 - Urban Geography
HIST 202 - American Environmental History
LA 250 - Environmental Site Analysis
LA 314 - History of World Landscapes
MCB 150 - Molec & Cellular Basis of Life
NPRE 201 - Energy Systems
NRES 105 - Climate Change and Ecosystems
PS 224 - Politics of the National Parks
PS 225 - Environmental Politics&Policy
REL 270 - Religion, Ethics, Environment
RST 242 - Nature and American Culture
IB 100 - Biology in Today's World
IB 103 - Introduction to Plant Biology
IB 105 - Environmental Biology
IB 150 - Organismal & Evolutionary Biol
IB 362 - Marine Biology
IB 405 - Evol of Traits and Genomes
IB 411 - Bioinspiration
SOC 160 - Global Ineq and Social Change
SOC 270 - Global Demography
UP 205 - Ecology & Env Sustainability
UP 418 - GIS for Planners
NPRE 101 - Introduction to Energy Sources

Please attach any letters of support/ acknowledgement for any Instructional Resources. Consider faculty, students, and/or other impacted units as appropriate.	ACE_Acknowledgement.pdf ANTH_Acknowledgement.pdf UP_Acknowledgement.pdf SOC_support.pdf SIB_support2.pdf SIB_support.pdf SIB_Acknowledgement.pdf RST_Acknowledgement.pdf REL_acknowledgement2.pdf PS_Acknowledgement.pdf NRES_acknowledgement2.pdf NPRE_Acknowledgement.pdf MCB_Acknowledgement.pdf LA_Acknowledgement.pdf HIS_Acknowledgement.pdf

GGIS_support2.pdf
GGIS_support.pdf
GGIS_Acknowledgement.pdf
GEOL_support2.pdf
Geol_acknowledgment2.pdf
ESEC_acknowledgement.pdf
ENGL_support2.pdf
ECON_acknowledgement.pdf
CPSC_acknowledgement.pdf
ATMS_support.pdf
ATMS_Acknowledgement.pdf

Program Features

Academic Level Undergraduate

Is this program part of an ISBE approved licensure program?

No

Will specialized accreditation be sought for this program?

No

Additional concentration notes (e.g., estimated enrollment, advising plans, etc.)

Does this program prepare graduates for entry into a career or profession that is regulated by the State of Illinois?

No

Program of Study

Provide detailed information (course rubrics, numbers, and credit hours) of how a student could obtain 40 credit hours of upper-division coursework.

The major explicitly requires 25-31 credit hours: all students in the major are required to take ENSU 300 (3 hours), ESE 379 (4 credit hours), and 18-24 credit hours chosen from an advanced course list in the Program of Study.
The remaining 9-15 credit hours can be completed with upper division free electives of which there are 33 credit hours noted in the sample sequence.

Revised programs KEY694_Environmental Sustainability_SAE_BSLAS_5_2.docx

Key694_SidebySide_EnvironmentalSustainability_SES_5_1.xlsx

Catalog Page Text - Overview Tab

Catalog Page Overview Text

The Science of the Earth System concentration provides a rigorous exploration of the physical and biological processes that shape our planet. The concentration allows specialization in physical sciences, biological sciences, or information science that are connected to the environment. field methods, remote sensing, and Geographic Information Science (GIS). Graduates of the program prepared for professional roles or graduate study in sustainability consulting, environmental science, engineering, and related fields.

Is the overview text above correct?

Yes

Statement for Programs of Study Catalog

Graduation Requirements

Minimum hours required for graduation: 120 hours.

Minimum required major and supporting course work: Normally equates to 47-56 hours. Twelve hours of 300- and 400-level courses in the major must be taken from this campus. Substitutions may be made with advisor approval.

University Requirements

The university and residency requirements can be found in the Student Code (§ 3-801) and in the Academic Catalog.

General Education Requirements

Follows the campus General Education (Gen Ed) requirements. Some Gen Ed requirements may be met by courses required and/or electives in the program.

Composition I	4-6
Advanced Composition	3
Humanities & the Arts (6 hours)	6
Natural Sciences & Technology (6 hours)	6
fulfilled by CHEM 102 or CHEM 202 and GEOL 107 or IB 150	
Social & Behavioral Sciences (6 hours)	6
Cultural Studies: Non-Western Cultures (1 course)	3
Cultural Studies: US Minority Cultures (1 course)	3
Cultural Studies: Western/Comparative Cultures (1 course)	3
Quantitative Reasoning (2 courses, at least one course must be Quantitative Reasoning I)	6-10
fulfilled by STAT 100, MATH 220 or MATH 221 and PHYS 101 or PHYS 211	

Language Requirement (Completion of the fourth semester or equivalent of a language other than English is required)		0-20
Orientation and Professional Development		
LAS 101	Design Your First Year Experience	1
OR		
LAS 100 & LAS 101	Success in LAS for International Students and Design Your First Year Experience	3
OR		
LAS 102	Transfer Advantage	1
Major Requirements		
ESE coursework		**10**
ESE 200	Earth Systems	3
ENSU 300	Environmental Sustainability	3
ESE 379	Introduction to Geographic Information Systems	4
Advanced Courses		**18-24**
A minimum of six 300- and 400-level courses (from the lists below), totaling at least 18 credit hours, and in an academically coherent program approved by the advisor, are required. At least three of these six advanced courses must be listed or cross-listed as an ESE or ENSU course.		
Capstone and Experiential		
ESE 389	Environment and Sustainability Field Expedition	3
ESE 401	ESE Capstone	3
ESE 497	Special Topics in ESE	1 to 4
Earth's Biosphere & Ecology		
ESE 439	Biogeography	3
HORT 430	Children and Nature	2
IB 362	Marine Biology	3
IB 411	Bioinspiration	3
IB 440	Plants and Global Change	3
IB 444	Insect Ecology	3
IB 451	Conservation Biology	4
IB 452	Ecosystem Ecology	3

IB 453	Community Ecology	3
IB 461	Ornithology	4
NRES 348	Fish and Wildlife Ecology	3
NRES 419	Env and Plant Ecosystems	3
NRES 420	Restoration Ecology	4
Earth's Physical Systems, Resources, & Hazards		
ABE 436	Renewable Energy Systems	3
ATMS 420	Atmospheric Chemistry	4
CEE 330	Environmental Engineering	3
CHEM 360	Chemistry of the Environment	3
ENSU 302	Air Pollution to Global Change	3
ESE 320	Water Planet, Water Crisis	3
ESE 333	Earth Materials and the Env	4
ESE 411	Geomorphology	4
ESE 445	Earth Resources Sustainability	3
ESE 470	Introduction to Hydrogeology	4
ESE 486	Environmental Consulting	3
GEOL 380	Environmental Geology	4
GEOL 450	Investigating the Earth’s Interior	3
GEOL 451	Environmental Geophysics	4
GEOL 460	Geochemistry	3
GGIS 401	Watershed Hydrology	3
GGIS 406	Fluvial Geomorphology	4
GGIS 408	Humans and River Systems	4
MSE 489	Matl Select for Sustainability	3
NRES 351	Introduction to Environmental Chemistry	3
Environment & the Human Response		
AGCM 330	Environmental Communications	3
HK 408	Environmental Health	3

ENGL 476	Topics in Literature and the Environment	3
ENSU 301	Soc Impacts Weather & Climate	3
ESE 311	Environmental Issues Today	3
ESE 360	Environmental Writing	3
ESE 467	Multimedia Environmental Communications	3
ESE 477	Advanced Environmental Writing	3
ESE 498	Environmental Writing for Publication	3
GGIS 350	Sustainability and the City	3
GGIS 384	Population Geography	3
GGIS 495	Advanced Topics in Geography	3 or 4
GGIS 496	Climate & Social Vulnerability	3
LA 430	Children and Nature	2
LA 450	Ecology for Land Restoration	4
NRES 340	Environ Social Sci Res Meth	3
NRES 472	Environmental Psychology	4
SOC 447	Environmental Sociology	3
Sustainability, Policy, and Global Change		
ACE 310	Natural Resource Economics	3
ACE 406	Environmental Law	3
ACE 411	Environment and Development	3
ATMS 307	Climate Processes	3
ATMS 447	Climate Change Assessment	3
ATMS 449	Biogeochemical Cycles	4
CPSC 336	Tomorrow's Environment	3
CPSC 415	Bioenergy Crops	3
CPSC 431	Plants and Global Change	3
ENSU 303	Sustainable Business I	4
ENSU 310	Renewable & Alternative Energy	4
ENSU 410	Sustainable Organizations	4

ESE 410	Green Development	4
ESE 465	Transportation &Sustainability	3
ESE 466	Environmental Policy	3
ESE 482	Challenges of Sustainability	3
ETMA 311	Humanity in the Food Web	3
NPRE 480	Energy and Security	3
NRES 325	Natural Resource Policy Mgmt	3
NRES 439	Env and Sustainable Dev	3
UP 446	Sustainable Planning Seminar	4
UP 456	Sustainable Planning Workshop	4
UP 480	Sustainable Design Principles	2
Visualizing the Earth System		
ATMS 305	Computing and Data Analysis	3
ESE 380	Geographic Information Systems II	4
ESE 421	Earth Systems Modeling	4
GGIS 371	Spatial Analysis	4
GGIS 407	Foundations of CyberGIS & Geospatial Data Science	4
GGIS 412	Geospatial Technologies & Society	3
GGIS 460	Aerial Photo Analysis	3
GGIS 476	Environmental Remote Sensing	3
GGIS 477	Introduction to Remote Sensing	3
GGIS 479	Advanced Topics in GIS	4
NRES 427	Modeling Natural Resources	4
NRES 454	GIS in Natural Resource Mgmt	4
Science of the Earth System Concentration Requirements		
Cognate Course Work		**19-22**
CHEM 102	General Chemistry I	3
or CHEM 202	Accelerated Chemistry I	
CHEM 103	General Chemistry Lab I	1

or CHEM 203	Accelerated Chemistry Lab I	
MATH 220	Calculus	5
or MATH 221	Calculus I	
STAT 100	Statistics	3
PHYS 101	College Physics: Mech & Heat	5
or PHYS 211	University Physics: Mechanics	
GEOL 107	Physical Geology	4
or IB 150	Organismal & Evolutionary Biol	
~~Cognate Course Work~~		~~15-18~~
~~CHEM 102~~	~~General Chemistry I~~	
~~or CHEM 202~~	~~Accelerated Chemistry I~~	
~~CHEM 103~~	~~General Chemistry Lab I~~	
~~or CHEM 203~~	~~Accelerated Chemistry Lab I~~	
~~MATH 220~~	~~Calculus~~	
~~or MATH 221~~	~~Calculus I~~	
~~STAT 100~~	~~Statistics~~	
~~PHYS 101~~	~~College Physics: Mech & Heat~~	
~~or PHYS 211~~	~~University Physics: Mechanics~~	
~~Highly recommended: ECON 102~~		

Program Relationships

Corresponding Program(s):

Corresponding Program(s)
Environmental Sustainability, BSLAS

Program Regulation and Assessment

Plan to Assess and Improve Student Learning

Illinois Administrative Code: 1050.30(b)(1)(D) Provision is made for guidance and counseling of students, evaluations of student performance, continuous monitoring of progress of students toward their degree objectives and appropriate academic record keeping.

Are the learning outcomes for the program listed in the Academic Catalog?

No

Student Learning Outcomes

1. Be able to recognize, critique and implement commonly accepted Sustainability models and ideas in a wide variety of settings, using systems thinking to link social and natural science concepts.
2. Have a fundamental understanding of the underlying natural science; being able to recognize and apply appropriate scientific methods.
3. Use quantitative methods to describe, understand and evaluate theoretical and applied issues in environmental and sustainability study; this includes direct calculation, working with data, and using quantitative models.
4. Be able to critically evaluate and then communicate environmental and sustainability concepts to both specialized and wide audiences.
5. Students will demonstrate professional competence in environmental and sustainability practice by executing appropriate laboratory and field techniques, applying Geographic Information Science tools and software, and selecting and employing suitable quantitative and qualitative analytical methods.

Describe how, when, and where these learning outcomes will be assessed.

Describe here:

Assessment Approach in the Environmental Sustainability Program

The Environmental Sustainability program employs a structured approach to assess student learning outcomes (LOs) through evaluations at foundational, mid-program, and capstone stages. Assessments are both direct and indirect.

Start of Program (Foundational Stage)

In the foundational stage, direct assessments occur within core courses. In ESE 200 (Earth Systems), students are introduced to sustainability models and systems thinking, with course based assessment. This serves as a baseline assessment of LO1, focusing on students' ability to recognize and apply basic sustainability concepts.

For Science of the Earth System Concentration students, cognate courses such as MATH 220/221, PHYS 101/211, CHEM 102, and STAT 100 provide students with natural science and quantitative foundations (LO2 and LO3). For Society and the Environment Concentration students, required social science courses and STAT 100 provide students with social science and quantitative foundations (LO2 and LO3).

These foundational assessments establish baselines across Learning Outcomes.

Mid-Program (Advanced Coursework and Integration)

Mid-program assessments focus on deeper disciplinary understanding and practical applications. Advanced ENSU and ESE courses, chosen based on each student's concentration. ENSU 300 (Environmental Sustainability) has learning objectives built around reaching proficiency in LO1. Students complete written assignments and introductory presentations, providing a direct assessment of their early ability to communicate sustainability concepts (LO4).

ESE 379 (Introduction to GIS) is focused on developing quantitative methods to describe geographic information using industry standard software, furthering LO3 and LO5.

Program specific communication courses (ESE 360 and ESE 467) have students evaluating and then communicating environmental and sustainability concepts (LO4).

Students choose focused upper level (300 and 400 level) courses as part of their concentration. These are chosen with an advisor to directly deepen their concentration understanding (LO2), with all courses related to one or more of LO1-5.

End of Program (Summative Assessment)

In the capstone paper and field expedition courses (typically ESE 389 and ESE 401), students demonstrate their ability to apply sustainability models (LO1), exhibit disciplinary knowledge in natural or social sciences (LO2), and use quantitative methods for data analysis (LO3). There is usually a presentation, (LO4), and an opportunity to draw on technical competencies, highlighting professional readiness (LO5).

Indirect Assessment Measures

In addition to these direct assessments, the program employs several indirect measures to assess student learning outcomes and program effectiveness. Each graduating senior completes

an exit survey upon graduation, providing feedback on their educational experience and self-assessment of their preparedness in relation to each learning outcome. Alumni and employer feedback are also collected to evaluate graduates' readiness and effectiveness in the professional sphere. Post-graduation metrics, including job placement rates, graduate school placement and acceptance, and feedback from employers, further assess program impact and identify areas for continuous improvement.

Identify faculty expectations for students' achievement of each of the stated student learning outcomes. What score, rating, or level of expertise will signify that students have met each outcome? Provide rating rubrics as necessary.

Faculty expect students to achieve Level 3 (Proficient) or higher across all learning outcomes by program completion, with some students reaching Level 4 (Exemplary) in specific areas. Proficiency is demonstrated through direct assessments (such as capstone projects, experiential courses, and advanced coursework), and indirect assessments (such as exit surveys and alumni responses). This rubric provides clear standards for evaluating student achievement of program goals and supports faculty in giving targeted feedback for growth.

The "program LOA rubric" and an example course rubric are attached.

Explain the process that will be implemented to ensure that assessment results are used to improve student learning.

To ensure that assessment results are effectively used to improve student learning in the Environmental Sustainability program, a continuous improvement process is employed. This process includes structured data collection, analysis, and feedback.

1. Annual Data Collection and Review:

o Each year, the Associate Director and faculty advisors collect data from both direct and indirect assessment measures. Direct assessment data include progress and feedback from foundational, advanced, and capstone courses, while indirect data come from exit and graduate surveys.

o Specific attention will be paid to capstone projects and advanced coursework, as these provide summative assessments of students' achievement in each learning outcome.

2. Analysis by the Courses & Curriculum Committee:

o The Courses & Curriculum Committee reviews the data for action items. This analysis focus's on identifying trends and areas where students may be struggling to meet learning outcomes, as well as areas where students excel.

o For each learning outcome, the committee will evaluate whether students are achieving the expected proficiency levels. This step evaluates the effectiveness of current teaching strategies, course content, and assessment methods.

3. Faculty Feedback and Discussion:

o Assessment results are shared with the entire faculty each year in a faculty meeting. Faculty members who teach foundational, advanced, and capstone courses will discuss specific challenges and successes they observed in student performance.

4. Action Plan Development:

o Based on the assessment data and faculty input, the Courses & Curriculum Committee develop an action plan, as needed. This plan may include modifications to course content, assessment methods, and instructional practices.

o The action plan will specify targeted improvements for each learning outcome as needed, along with timelines for implementation and designated faculty responsible for overseeing changes.

5. Implementation and Monitoring:

o Faculty members responsible for implementing changes will integrate the improvements into their courses in the following academic year. This may include revising syllabi, introducing new learning activities, or updating assessment rubrics to better measure specific outcomes.

o The Associate Director will monitor the implementation process, ensuring that changes are made as planned and providing support to faculty as needed.

6. Ongoing Feedback Loop:

o After implementation, the Associate Director and Courses & Curriculum Committee will continue to collect and review assessment data annually to monitor the impact of changes on student learning. Adjustments will be made as needed, based on whether improvements are yielding the desired outcomes.

o Additionally, feedback from exit surveys, alumni, and employer surveys will be incorporated into this process to gain insights on how well the program prepares students for professional success, providing an external perspective on curriculum effectiveness.

Program Description and Requirements Attach Documents	Capstone Rubric for ESES.docx program LOA rubric (1).docx

Delivery Method

This program is available:

~~On Campus - Students are required to be on campus, they may take some online courses.~~

On Campus and Online - 2 program types. Students can receive the entire program either on campus or online. Students can choose to take courses in either modality.

Describe the use of this delivery method:

Admin update to add online program to CIM record.

Enrollment

Describe how this revision or phase down/elimination will impact enrollment and degrees awarded. If this is an elimination/phase down proposal include the plans for the students left in the program.

N/A

Budget

Are there budgetary implications for this revision?	No

Will the program or revision require staffing (faculty, advisors, etc.) beyond what is currently available?

No

Additional Budget Information

Attach File(s)

Financial Resources

How does the unit intend to financially support this proposal?

Will the unit need to seek campus or other external resources?

No

Attach letters of support

Faculty Resources

Please address the impact on faculty resources including any changes in numbers of faculty, class size, teaching loads, student-faculty ratios, etc.

The total number of courses required remains the same, so we do not anticipate that this will alter faculty numbers, class sizes, teaching loads or student faculty ratios.

Library Resources

Describe your proposal's impact on the University Library's resources, collections, and services. If necessary please consult with the appropriate disciplinary specialist within the University Library.

According to Jessica Hagman, the subject specialist assigned to ESES, "The Library's existing resources, collections in the relevant subject areas, and services are sufficient to meet the needs of the proposed program as of Fall 2024."

EP Documentation

EP Control Number EP.26.011

Attach Rollback/ Approval Notices

Non-EP Documentation

U Program Review Comments

Rollback Documentation and Attachment

DMI Documentation

Attach Final Approval Notices

Banner/Codebook Name

Science of the Earth System

Program Code: 5104

Minor Code	Conc Code	5104	Degree Code	BSLAS Major Code
5313				

Senate Approval Date

Senate Conference Approval Date

BOT Approval Date

IBHE Approval Date

HLC Approval Date

DOE Approval Date

Effective Date:

Program Reviewer Comments

Donna Butler (dbutler) (05/14/24 8:13 am): BV- Office of the Registrar- Correction made to Department to Sch Earth, Soc, Environ Admin as this department was missing from department list in CIM before, and has now been added.

Brooke Newell (bsnewell) (05/15/24 8:53 am): Rollback: Email sent to Jonathan and Stephen D.

Melissa Steinkoenig (menewell) (01/30/25 4:27 pm): Made adjustments to the Gen Ed table to align with major per approval and review by Jonathan Tomkin

Melissa Steinkoenig (menewell) (01/30/25 4:27 pm): Gen Ed Table Check: Good

Melissa Reedy (murray) (02/28/25 1:40 pm): Rollback: Email sent to Jonathan, SESE Head, and Stephen

Brooke Newell (bsnewell) (04/23/25 5:37 pm): Rollback: Discussion via email with College and Dept Sponsor included. Rolled back to KV Dean per request of Melissa R.

Brooke Newell (bsnewell) (05/07/25 11:23 am): Rollback: Per request from College.