

ENVS 210: ENVIRONMENTAL DATA SCIENCE

In Workflow

1. ENVS Committee Chair (wayne.linklater@csus.edu)
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3. SSIS College Committee Chair (flamenbaum@csus.edu)
4. SSIS Dean (mendriga@csus.edu)
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9. Catalog Editor (catalog@csus.edu)
10. Registrar's Office (k.mcfarland@csus.edu)
11. PeopleSoft (PeopleSoft@csus.edu)

Approval Path

1. Wed, 28 Sep 2022 23:31:09 GMT
Wayne Linklater (wayne.linklater): Approved for ENVS Committee Chair
2. Wed, 28 Sep 2022 23:44:22 GMT
Wayne Linklater (wayne.linklater): Approved for ENVS Chair
3. Fri, 04 Nov 2022 18:54:40 GMT
Emily Wickelgren (wickelgr): Rollback to ENVS Chair for SSIS College Committee Chair
4. Tue, 08 Nov 2022 17:58:57 GMT
Wayne Linklater (wayne.linklater): Rollback to ENVS Committee Chair for ENVS Chair
5. Tue, 08 Nov 2022 19:51:11 GMT
Wayne Linklater (wayne.linklater): Rollback to Initiator
6. Tue, 07 Feb 2023 18:13:38 GMT
Wayne Linklater (wayne.linklater): Rollback to Initiator
7. Wed, 28 Jun 2023 20:31:16 GMT
Wayne Linklater (wayne.linklater): Rollback to Initiator
8. Fri, 28 Jul 2023 21:37:01 GMT
Wayne Linklater (wayne.linklater): Approved for ENVS Committee Chair
9. Tue, 12 Sep 2023 20:15:07 GMT
Wayne Linklater (wayne.linklater): Approved for ENVS Chair
10. Thu, 21 Sep 2023 00:54:53 GMT
Rachel Flamenbaum (flamenbaum): Approved for SSIS College Committee Chair
11. Thu, 28 Sep 2023 21:51:00 GMT
Marya Endriga (mendriga): Approved for SSIS Dean
12. Mon, 30 Oct 2023 16:23:23 GMT
Katie Hawke (katiedickson): Approved for Academic Services

New Course Proposal

Date Submitted: Thu, 13 Jul 2023 20:31:48 GMT

Viewing: ENVS 210 : Environmental Data Science

Last edit: Fri, 28 Jul 2023 21:36:53 GMT

Changes proposed by: Ajay Singh (219697401)

Contact(s):

Name (First Last)	Email	Phone 999-999-9999
Ajay Singh	Singh@csus.edu	9162786751

Catalog Title:

Environmental Data Science

Class Schedule Title:

Environmental Data Science

Academic Group: (College)

SSIS - Social Sciences & Interdisciplinary Studies

Academic Organization: (Department)

Environmental Studies

Will this course be offered through the College of Continuing Education (CCE)?

No

Catalog Year Effective:

Fall 2024 (2024/2025 Catalog)

Subject Area: (prefix)

ENVS - Environmental Studies

Catalog Number: (course number)

210

Course ID: (For administrative use only.)

TBD

Units:

3

Is the only purpose of this change to update the term typically offered or the enforcement of existing prerequisites at registration?

No

In what term(s) will this course typically be offered?

Fall, Spring

Does this course require a room for its final exam?

Yes, final exam requires a room

Does this course replace an existing experimental course?

No

This course complies with the credit hour policy:

Yes

Justification for course proposal:

This course will be the core, required methods and data analytics course for the new MS in Environmental Studies. This course will provide students with technical skills and understanding on how to analyze large environmental datasets and communicate results to the lay-public. In our survey and discussions with employers, a skill that was identified is quantitative reasoning and analysis. This course addresses that need.

Course Description: (Not to exceed 80 words and language should conform to catalog copy.)

This course introduces the field of data science in environmental research to help students develop skills and techniques to solve environmental problems. Students are introduced to various techniques to analyze and communicate environmental data through use of software for searching, cleaning, managing, and analyzing data. By the end of the course students will be able to: design a research proposal, develop environmental datasets, analyze environmental data, and communicate environmental data analysis through written and verbal methods.

Are one or more field trips required with this course?

No

Fee Course?

No

Is this course designated as Service Learning?

No

Is this course designated as Curricular Community Engaged Learning?

No

Does this course require safety training?

No

Does this course require personal protective equipment (PPE)?

No

Does this course have prerequisites?

Yes

Prerequisite:

Graduate standing or instructor permission

Prerequisites Enforced at Registration?

No

Does this course have corequisites?

No

Graded:

Letter

Approval required for enrollment?

No Approval Required

Course Component(s) and Classification(s):

Lecture

Lecture Classification

CS#02 - Lecture/Discussion (K-factor=1WTU per unit)

Lecture Units

3

Is this a paired course?

No

Is this course crosslisted?

No

Can this course be repeated for credit?

No

Can the course be taken for credit more than once during the same term?

No

Description of the Expected Learning Outcomes and Assessment Strategies:

List the Expected Learning Outcomes and their accompanying Assessment Strategies (e.g., portfolios, examinations, performances, pre- and post-tests, conferences with students, student papers). Click the plus sign to add a new row.

	Expected Learning Outcome	Assessment Strategies
1	Discuss the use and application of environmental data science to address environmental problems	Participation and engagement, Data Assignments [PLO 1, 3, 4]
2	Judgement and selection of statistical methods in the environmental sciences	Participation and engagement, Data Assignments [PLO 1, 3]
3	Analyze, examine, infer, and organize environmental data using a range of techniques and software	Data Assignments, Final Paper and Presentation [PLO 3]
4	Create presentations of environmental data	Data Assignments, Final Paper and Presentation [PLO 2, 4, 6]

Attach a list of the required/recommended course readings and activities:

ENVS 210 Environmental Data Science.docx

For whom is this course being developed?

Majors in the Dept

Majors of other Depts

Is this course required in a degree program (major, minor, graduate degree, certificate?)

Yes

Has a corresponding Program Change been submitted to Workflow?

Yes

Identify the program(s) in which this course is required:

Programs:

MS Environmental Studies

Does the proposed change or addition cause a significant increase in the use of College or University resources (lab room, computer)?

No

Will there be any departments affected by this proposed course?

No

I/we as the author(s) of this course proposal agree to provide a new or updated accessibility checklist to the Dean's office prior to the semester when this course is taught utilizing the changes proposed here.

I/we agree

University Learning Goals

Graduate (Masters) Learning Goals:

Disciplinary knowledge
Communication
Critical thinking/analysis
Information literacy
Professionalism
Research (optional)

Is this course required as part of a teaching credential program, a single subject, or multiple subject waiver program (e.g., Liberal Studies, Biology) or other school personnel preparation program (e.g., School of Nursing)?

No

Is this a Graduate Writing Intensive (GWI) course?

No

Please attach any additional files not requested above:

ENVS 210 Environmental Data Science 07132023.docx

Reviewer Comments:

Emily Wickelgren (wickelgr) (Fri, 04 Nov 2022 18:54:40 GMT): Rollback: See email on 11/4/22

Wayne Linklater (wayne.linklater) (Tue, 08 Nov 2022 17:58:57 GMT): Rollback: for revision

Wayne Linklater (wayne.linklater) (Tue, 08 Nov 2022 19:51:11 GMT): Rollback: .

Wayne Linklater (wayne.linklater) (Tue, 07 Feb 2023 18:13:38 GMT): Rollback: For revision wrt MS

Wayne Linklater (wayne.linklater) (Wed, 28 Jun 2023 20:31:17 GMT): Rollback: see email 6/28/23

Key: 14811