SEE8225: ENVIRONMENTAL ASSESSMENT

Effective Term
Semester A 2025/26

Part I Course Overview

Course Title
Environmental Assessment

Subject Code
SEE - School of Energy and Environment
Course Number
8225

Academic Unit
School of Energy and Environment (E2)

College/School
School of Energy and Environment (E2)

Course Duration
One Semester

Credit Units
3

Level
R8 - Research Degree

Medium of Instruction
English

Medium of Assessment
English

Prerequisites
Nil

Precursors
Nil

Equivalent Courses
SEE6225 Environmental Assessment

Exclusive Courses
Nil

Part II Course Details

Abstract
This course enables students to develop competency in both designing and executing scientific studies analyzing temporal and spatial, as well as economic, human, and social dimensions of energy and environmental issues. It trains students how

to conceptualize and operationalize key concepts in formulating research questions. It also helps students build a toolkit comprised of both qualitative and quantitative methods needed for data collection and analysis. This course serves as a foundation for developing the ability of doctoral students to work methodologically as independent scholars using relatively advanced designs and techniques in their work.

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Formulate and operationalize research questions relevant for energy and the environment, and locate relevant literature on the research topics and critically evaluate existing studies	30	x	x	
2	Understand and assess the trade-offs between alternative research design and analytic techniques	30	x	x	
3	Execute a small scale research project selecting and deploying one or more methods for collecting and analyzing data.	40	x	x	x

A1: Attitude
Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability
Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to real-life problems.

A3: Accomplishments
Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

Learning and Teaching Activities (LTAs)

	LTAs	Brief Description	CILO No.	Hours/week (if applicable)
1	Seminars	To deliver knowledge on theories and techniques on both quantitative and qualitative research methods for data collection and analysis	1, 2	
2	Class discussion and debate	An opportunity for students to clarify and evaluate research questions, key concepts and operationalization through exchange and interaction with others; an exercise for students to listen to and appreciate alternative views and arguments.	1, 2, 3	

3	Consultation	Individual consultation and inquiry together with teachers.	1, 2, 3	
4	Quizzes	To evaluate the learning progress of students on the conceptualization and operationalization of research questions and knowledge of techniques for data collection and analysis.	1, 2	
5	Written report	To document the processes of conducting the research and to communicate the findings.	1, 2, 3	

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks ("-" for nil entry)	Allow Use of GenAI?
1	Class participation and discussion	1, 2	20	-	Yes
2	Quizzes	1, 3	40	-	No
3	Project report	3	40	-	Yes

Continuous Assessment (%)

100

Examination (%)

0

Minimum Continuous Assessment Passing Requirement (%)

30

Additional Information for ATs

To pass a course, a student must do ALL of the following:

a. obtain at least 30% of the total marks allocated towards coursework (combination of assignments, pop quizzes, term paper, lab reports and/ or quiz, if applicable);
b. obtain at least 30% of the total marks allocated towards final examination (if applicable); and
c. meet the criteria listed in the section on Assessment Rubrics.

Assessment Rubrics (AR)

Assessment Task

Class participation (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

Willingness to contribute to class discussions by asking questions, making statements, debating and explaining issues related to social research methods.

Excellent

(A+, A, A-) Always contributes to class discussions.

Good

(B+, B, B-) Often contributes to class discussions

Fair

(C+, C, C-) Occasionally contributes to class discussions.

Marginal

(D) Rarely contributes to class discussions.

Failure

(F) Never contributes to class discussions.

Assessment Task

Quizzes (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

- knowledge of key theories, methods and practices entailed in the formulation and execution of a scientific research project. - ability to discuss relative strengths and limitations of different methods.

Excellent

(A+, A, A-) An excellent standard of knowledge of key theories, methods and practices entailed in the formulation and execution of scientific research and a highly developed ability to discuss relative strengths and limitations of different methods.

Good

(B+, B, B-) A generally good standard of knowledge of key theories, methods and practices entailed in the formulation and execution of scientific research and a sound ability to discuss relative strengths and limitations of different methods.

Fair

(C+, C, C-) Rudimentary standard of knowledge of key theories, methods and practices entailed in the formulation and execution of scientific research and a basic ability to discuss relative strengths and limitations of different methods.

Marginal

(D) Poor knowledge of key theories, methods and practices entailed in the formulation and execution of scientific research and a very little ability to discuss relative strengths and limitations of different methods.

Failure

(F) Almost no knowledge or understanding of key theories, methods and practices entailed in the formulation and execution of scientific research. No discernible ability to discuss relative strengths and limitations of different methods.

Assessment Task

Research project (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

Ability to articulate a clear research question, review relevant research, choose appropriate methods, analyse and discuss data in a clear and succinct manner.

Excellent

(A+, A, A-) Excellent ability to articulate a clear research question, review relevant research, choose appropriate methods, analyse and discuss data in a clear and succinct manner.

Good

(B+, B, B-) Good ability to articulate a clear research question, review relevant research, choose appropriate methods, analyses and discuss data in a clear and succinct manner.

Fair

(C+, C, C-) Basic ability to articulate a clear research question, review relevant research, choose appropriate methods, analyse and discuss data in a clear and succinct manner.

Marginal

(D) Poor ability to articulate a clear research question, review relevant research, choose appropriate methods, analyse and discuss data in a clear and succinct manner.

Failure

(F) Inability to articulate a clear research question, review relevant research, choose appropriate methods, analyse and discuss data in a clear and succinct manner.

Assessment Task

Class participation (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

Willingness to contribute to class discussions by asking questions, making statements, debating and explaining issues related to social research methods.

Excellent

(A+, A, A-) Always contributes to class discussions.

Good

(B+, B) Often contributes to class discussions

Marginal

(B-, C+, C) Rarely contributes to class discussions.

Failure

(F) Never contributes to class discussions.

Assessment Task

Quizzes (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

- knowledge of key theories, methods and practices entailed in the formulation and execution of a scientific research project. - ability to discuss relative strengths and limitations of different methods.

Excellent

(A+, A, A-) An excellent standard of knowledge of key theories, methods and practices entailed in the formulation and execution of scientific research and a highly developed ability to discuss relative strengths and limitations of different methods.

Good

(B+, B) A generally good standard of knowledge of key theories, methods and practices entailed in the formulation and execution of scientific research and a sound ability to discuss relative strengths and limitations of different methods.

Marginal

(B-, C+, C) Poor knowledge of key theories, methods and practices entailed in the formulation and execution of scientific research and a very little ability to discuss relative strengths and limitations of different methods.

Failure

(F) Almost no knowledge or understanding of key theories, methods and practices entailed in the formulation and execution of scientific research. No discernible ability to discuss relative strengths and limitations of different methods.

Assessment Task

Research project (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

Ability to articulate a clear research question, review relevant research, choose appropriate methods, analyse and discuss data in a clear and succinct manner.

Excellent

(A+, A, A-) Excellent ability to articulate a clear research question, review relevant research, choose appropriate methods, analyse and discuss data in a clear and succinct manner.

Good

(B+, B) Good ability to articulate a clear research question, review relevant research, choose appropriate methods, analyses and discuss data in a clear and succinct manner.

Marginal

(B-, C+, C) Poor ability to articulate a clear research question, review relevant research, choose appropriate methods, analyse and discuss data in a clear and succinct manner.

Failure

(F) Inability to articulate a clear research question, review relevant research, choose appropriate methods, analyse and discuss data in a clear and succinct manner.

Part III Other Information

Keyword Syllabus

Qualitative methods analysis, field interviews, case studies, survey research, theory development, hypothesis testing, factor analysis, comparison of means, statistical inference, variables, measurements, mobile methods, ethics of social research.

Reading List

Compulsory Readings

	Title
1	Babbie, Earl R. 2010. The practice of social research. 12th ed. Belmont, CA: Thomson Wadsworth.
2	Breen, Richard, Kristian Bernt Karlson, and Anders Holm. 2013. "Total, direct, and indirect effects in logit and probit models." Sociological Methods & Research no. 42 (2):164-191. doi: 10.1177/0049124113494572.
3	Clifton, Allan, and Gregory D. Webster. 2017. "An introduction to social network analysis for personality and social psychologists." Social Psychological and Personality Science no. 8 (4):442-453. doi: 10.1177/1948550617709114.
4	Corbin, Juliet M., and Anselm Strauss. 1990. "Grounded theory research: Procedures, canons, and evaluative criteria." Qualitative Sociology no. 13 (1):3-21. doi: 10.1007/bf00988593.
5	Marshall, Catherine, and Gretchen B. Rossman. 2016. Designing qualitative research. 6th ed. Los Angeles, California: SAGE.

6	Pearce, Warren, and Sujatha Raman. 2014. "The new randomised controlled trials (RCT) movement in public policy: challenges of epistemic governance." Policy Sciences no. 47 (4):387-402. doi: 10.1007/s11077-014-9208-3.
7	Rosenberg, Steven A., Batya Elbaum, Cordelia Robinson Rosenberg, Yvonne Kellar-Guenther, and Beth M. McManus. 2017. "From flawed design to misleading information: The U.S. Department of Education's early intervention child outcomes evaluation." American Journal of Evaluation no. 39 (3):350-363. doi: 10.1177/1098214017732410. (optional)
8	Servick, Kelly. 2018. "Social science studies get a ‘generous’ test." Science no. 361 (6405):836-836. doi: 10.1126/science.361.6405.836.

Additional Readings

	Title
1	Collier, David. 2011. "Understanding process tracing." PS: Political Science and Politics no. 44 (4):823-830.
2	Kim, Jeong-Hee. 2016. "Chapter 6 : Narrative data analysis and interpretation." In Understanding narrative inquiry : the crafting and analysis of stories as research 185-224. Los Angeles: SAGE.
3	Levitt, Steven D., and Stephen J. Dubner. 2009. Freakonomics : a rogue economist explores the hidden side of everything. New York: Harper Perennial. ——. 2014. Think like a freak : the authors of Freakonomics offer to retrain your brain. First edition. ed. New York, NY: William Morrow, an imprint of HarperCollinsPublishers.
4	Li, Wanxin. 2011. "Self-motivated versus forced disclosure of environmental information in China: A comparative case study of the pilot disclosure programmes." The China Quarterly no. 206:331-351. doi: 10.1017/S0305741011000294.
5	Li, Wanxin, Jieyan Liu, and Duoduo Li. 2012. "Getting their voices heard: Three cases of public participation in environmental protection in China." Journal of Environmental Management no. 98:65-72. doi: 10.1016/j.jenvman.2011.12.019.
6	Li, Wanxin. 2016. "Failure by design - national mandates and agent control of local land use in China." Land Use Policy (52):518-526. doi: 10.1016/j.landusepol.2014.12.010.
7	Ospina, Sonia M., and Jennifer Dodge. 2005a. "It's about time: Catching method up to meaning--The usefulness of narrative inquiry in public administration research." Public Administration Review no. 65 (2):143-157. ——. 2005b. "Narrative inquiry and the search for connectedness: Practitioners and academics developing public administration scholarship." Public Administration Review no. 65 (4):409-423.