MINOR IN ENERGY AND WATER SUSTAINABILITY

Program Learning Outcomes for the Minor in Energy and Water Sustainability

Upon completing the minor in Energy and Water Sustainability, students will be able to:

- 1. Apply basic economic concepts of energy and water sustainability including aspects of environmental economics and project-scale economic issues.
- 2. Understand basic environmental issues applicable to energy and water sustainability.
- 3. Conduct evaluations of social aspects from a sustainability perspective.
- 4. Evaluate projects and political systems from the standpoint of energy and water issues as well as more general sustainability issues.
- Apply sustainability concepts at varying scales and viewpoints, including project level, corporate level, and municipal, state, national, and international levels.
- 6. Understand the role of climate change on future projects and societies.

Requirements for the Minor in Energy and Water Sustainability

Students pursuing the minor in Energy and Water Sustainability must complete:

- A minimum of 7 courses (19 credit hours) to satisfy minor requirements.
- A minimum of 5 courses (16 credit hours) taken at the 300-level or above.
- A Design Practicum.¹
- A minimum of 1 course (3 credit hours) of the Elective Requirements should be completed for the minor only (not shared or double-counted with a student's major core requirements).

The courses listed below satisfy the requirements for this minor. In certain instances, courses not on this official list may be substituted upon approval of the minor's academic advisor, or where applicable, the Program Director. (Course substitutions must be formally applied and entered into Degree Works by the minor's <u>Official Certifier (https://registrar.rice.edu/facstaff/degreeworks/officialcertifier/</u>)). Students and their academic advisors should identify and clearly document the courses to be taken.

Summary

Code	Title	Credit
		Hours

19

Total Credit Hours Required for the Minor in Energy and Water Sustainability

Minor Requirements

CodeIffeUreat HoursCore RequirementsCeVE 301ENGINEERING ECONOMICS AND PROJECT MANAGEMENT3CEVE 301ENGINEERING ECONOMICS ENST 480CEVE 302 /SUSTAINABLE DESIGN3ENGINEERING ECONOMICS ENST 480CEVE 406 /INTRODUCTION TO ENVIRONMENTAL LAW ENST 406CEVE 406 /INTRODUCTION TO ENVIRONMENT3Besign Practicum 1CEVE 409 SPECIAL PROBLEMS (at least 1 credit hour)Elective Requirements 2Select a total of 3 elective courses (minimum of 9 credit hours) from at least 2 of the following 3 categories: EnergySelect up to 2 courses from the following: ECON 437 /ENERGY ECONOMICS ENST 437EENERGY TRANSITIONELEC 365 / MSNE 365ENST 250UNDERSTANDING ENERGY: ENERGY LITERACY AND CIVICSWaterSelect up to 2 courses from the following: CEVE 314 /CEVE 314UNDERSTANDING ENERGY: ENERGY LITERACY AND CIVICSWaterSelect up to 2 courses from the following: CEVE 314 /CEVE 314 /SUSTAINABLE WATER PURIFICATION FOR BIOS 365 /FINEDESCEVE 412HYDROLOGY AND WATER RESOURCES, TTREATMENT, DISTRIBUTION, RESOURCE RECOVERY AND REUSECEVE 412 <th></th> <th></th> <th>0</th>			0
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CEVE 421 CLIMATE RISK MANAGEMENT		INTRODUCTION TO ENVIRONMENTAL LAW	
	CEVE 421	CLIMATE RISK MANAGEMENT	

CEVE 492	MODELING AND ANALYSIS OF NETWORKED SYSTEMS
ENST 210	SUSTAINABLE FUTURES: AN EXPLORATION OF GLOBAL SUSTAINABILITY CHALLENGES AND SOLUTIONS
ENST 302 / SOCI 304	ENVIRONMENTAL ISSUES: RICE INTO THE FUTURE
POLI 332	URBAN POLITICS
STAT 485	ENVIRONMENTAL STATISTICS AND DECISION MAKING

Total Credit Hours

Footnotes and Additional Information

Students are required to complete 1 special topics course (CEVE 499), typically during the fall semester of their senior year. Students in engineering and architecture will fulfill this requirement by preparing a report that describes the incorporation of sustainability concepts into their design effort in consultation with their senior (capstone) design course instructor. Students not engaged in a suitable design project will either consult with an extant design group or pursue a project related to their own area of study in consultation with the EWSU advisors.

- No more than 2 electives courses can be drawn from any 1 of the 3 electives categories. At least 1 elective course must be taken from a different school than the school hosting the student's major. No more than 2 of the 3 electives can be used to also fulfill a student's major core requirements. Course offerings of interest that are not listed above can be approved via contacting the minor's Official Certifier, Jorge Loyo (jorge.loyo@rice.edu).
- ³ With permission and special registration, only juniors and seniors may register for BIOS 559.

Policies for the Minor in Energy and Water Sustainability

Program Restrictions and Exclusions

Students pursuing the minor in Energy and Water Sustainability should be aware of the following program restriction:

As noted in <u>Majors, Minors, and Certificates (https://ga.rice.edu/undergraduate-students/academic-opportunities/majors-minors-certificates/</u>), i.) students may declare their intent to pursue a minor only after they have first declared a major, and ii.) students may not major and minor in the same subject.

Transfer Credit

For Rice University's policy regarding transfer credit, see <u>Transfer</u> <u>Credit (https://ga.rice.edu/undergraduate-students/academic-policiesprocedures/transfer-credit/)</u>. Some departments and programs have additional restrictions on transfer credit. The Office of Academic Advising maintains the university's official list of <u>transfer credit advisors (https:// oaa.rice.edu/advising-network/transfer-credit-advisors/)</u> on their website: <u>https://oaa.rice.edu</u>. Students are encouraged to meet with their academic program's transfer credit advisor when considering transfer credit possibilities.

Program Transfer Credit Guidelines

Students pursuing the minor in Energy and Water Sustainability should be aware of the following program-specific transfer credit guidelines:

 Requests for transfer credit will be considered by the program director (and/or the program's official transfer credit advisor) on an individual case-by-case basis.

Additional Information

For additional information, please see the Energy and Water Sustainability website: <u>https://cee.rice.edu/</u>

Opportunities for the Minor in Energy and Water Sustainability

Academic Honors

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The university recognizes academic excellence achieved over an undergraduate's academic history at Rice. For information on university honors, please see Latin Honors (https://ga.rice.edu/undergraduate-students/honors-distinctions/university/) (summa cum laude, magna cum laude, and cum laude) and Distinction in Research and Creative Work (https://ga.rice.edu/undergraduate-students/honors-distinctions/university/). Some departments have department-specific Honors awards or designations.

Additional Information

For additional information, please see the Energy and Water Sustainability website: <u>https://cee.rice.edu/</u>