

SUSTAINABILITY IN THE BUILT ENVIRONMENT, MINOR

College of Engineering

The built environment plays an integral role in meeting society's most basic needs of shelter, security, mobility, community, and water & waste treatment, but it also contributes significantly to the sustainability challenges of climate change, pollution, resource consumption, and land use. As society and government policy increase pressure to reduce the environmental impacts of our everyday activities, individuals must increasingly understand how the built environment they design and maintain fits into the complex environmental and human system in which we live. The minor provides a guiding framework for educating individuals who will design and maintain our future built environment in the challenges and potential solutions for improved sustainability.

The minor is designed to develop students' awareness in the three core themes of sustainability: Engineering & Science, Social Context, and Policy & Economics. The aim is both to foster the social context of engineering and to attract students from a range of departments and programs across campus to grow trans-disciplinary interactions. Students are required to take ECI 123, as well as electives as specified in the three core themes.

The minor is designed to attract students from a range of departments and programs across campus, including, Environmental Science & Policy, Plant Sciences, Landscape Architecture, Design, Engineering, Community & Regional Development, Anthropology, Agriculture & Resource Economics, Atmospheric Science, Environmental Toxicology, Applied Biological Systems Technology, Geology, Hydrology and all disciplines of Engineering. Students enrolled in the minor will acquire fundamental skills and knowledge of the elements and integrated processes necessary for a sustainable built environment.

To complete this minor a student is required to:

1. Take ECI 123 (4 units); and
2. Take one additional course, of at least 3 units each, in each of three core thematic areas of the minor: Engineering & Science, Social Context, and Policy & Economics; and
3. Take at least one additional course in any of the three core thematic areas of the minor (can be any number of units); and
4. Complete at least 14 units of coursework from the core thematic areas of the minor. May include 1-3 units of ECI 198 sustainable design project, by approval of advisor.

Successful completion of the minor requires both a minimum overall UC GPA of 2.000 and a minimum 2.000 GPA for the coursework completed for the minor, with no grade lower than a C- for any course used for the minor. All courses must be taken for a letter grade. Up to 4 units can be lower division, all other units must be upper division. Substitute courses in the thematic areas may be proposed by students for the minor and are considered on a case-by-case basis.

Please refer to your college's policies regarding course overlap rules.

The Minor Declaration form is available via the Online Advising Student Information System (OASIS) (<https://students.ucdavis.edu/>). For more information, please email the undergraduate advisors

(civiladvising@ucdavis.edu) in the Department of Civil & Environmental Engineering.

Transcript notation must be requested no later than the quarter preceding graduation and will appear as a minor in Sustainability in the Built Environment.

Minor Advisors

H.N. Bischel, C.E. Bronner, A.L. Forrest, F.J. Loge, A. Kendall, S.A. Miller

| Code | Title | Units |
|--|---|-------|
| ECI 123 | Urban Systems & Sustainability | 4 |
| Complete at least 14 units of coursework from the three core thematic areas, below. ¹ | | 14 |
| <i>Engineering & Science</i> | | |
| Choose at least one, 3 or 4 unit course: | | |
| ATM 116 | Modern Climate Change | |
| DES 127A | Sustainable Design | |
| DES 127B | Studio Practice in Sustainable Design | |
| DES 156 | Graphitecture: Architecture in the Age of New Media | |
| ECI 040 | Introduction to Environmental Engineering | |
| ECI 140A | Environmental Analysis of Aqueous Systems | |
| ECI/ATM 149 | Air Pollution | |
| ECI 155 | Water Resources Engineering Planning | |
| ECI/ESP 163 | Energy & Environmental Aspects of Transportation | |
| ECI 165 | Transportation Policy | |
| ENG 188 | Science & Technology of Sustainable Power Generation | |
| ETX 101 | Principles of Environmental Toxicology | |
| GEL 130 | Non-Renewable Natural Resources | |
| LDA 140 | Green Building, Design, & Materials | |
| <i>Social Context</i> | | |
| Choose at least one, 3 or 4 unit course: | | |
| ANT/ESP 101 or ESP/ANT 101 | Ecology, Nature, & Society | |
| ANT 104N | Cultural Politics of the Environment | |
| CRD 142 | Rural Change in the Industrialized World | |
| CRD 149 | Community Development Perspectives on Environmental Justice | |
| CRD 154 | Social Theory & Community Change | |
| CRD 158 | Community Governance | |
| CRD 172 | Social Inequality: Issues & Innovations | |
| LDA 003 | Sustainable Development: Theory & Practice | |
| PLS 162 | Urban Ecology | |
| <i>Policy & Economics</i> | | |
| Choose at least one, 4 unit course: | | |
| ARE/ESP 175 | Natural Resource Economics | |
| ARE 176 | Environmental Economics | |
| ESP 161 | Environmental Law | |
| ESP 162 | Environmental Policy | |

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| ESP 171 | Urban & Regional Planning |
| PLS 150 | Sustainability & Agroecosystem Management |
| ESP 173 | Land Use & Growth Controls |
| Total Units | 18 |

¹ May include 1-3 units of ECI 198, by approval of advisor.