

Environmental and Sustainable Engineering Planning Checklist (B.S.)

127 CREDIT PROGRAM

General Education

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|---|---|
| <input type="checkbox"/> Art | <input type="checkbox"/> Math |
| <input type="checkbox"/> <i>Challenges in the 21st Century</i> | <input type="checkbox"/> Natural Sciences |
| <input type="checkbox"/> Foreign Language | <input type="checkbox"/> Social Science |
| <input type="checkbox"/> Humanities | <input type="checkbox"/> US History |
| <input type="checkbox"/> International Perspectives | <input type="checkbox"/> Writing and Critical Inquiry |

Environmental and Sustainable Engineering Core Courses (44 Credits)

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| <input type="checkbox"/> ESE 110: Intro to Engineering (2)** | Pre/Co-requisite: AMAT 100, 112 or 118 |
| <input type="checkbox"/> ESE 201: Statics (3) | Pre: AMAT 113 Co-requisite AMAT 214 |
| <input type="checkbox"/> ESE 202: Strength of Materials (3) | Pre-requisite: ESE 201 and AMAT 214 |
| <input type="checkbox"/> ESE 221: Intro to Sustainable Engineering (3) | Pre-requisite: AMAT 113 and ACHM 121 |
| <input type="checkbox"/> ESE 301: Introduction to ESE (3) | Pre-requisite: ABIO 130, ACHM 121, AMAT 311 |
| <input type="checkbox"/> ESE 321: Engineering Applications in Sustainable Design (3) | Pre-requisite: ESE 221 |
| <input type="checkbox"/> ESE 351: Fluid Mechanics (3) | Pre-requisite: ESE 201, A PHY 140 or A PHY 142, A MAT 214 |
| <input type="checkbox"/> ESE 381: Energy Engineering (3) | Junior or Senior Standing |
| <input type="checkbox"/> ESE 411: Water and Wastewater Treatment (3) | Pre-requisite: ESE 301, ESE 351 |
| <input type="checkbox"/> ESE 412: Advanced Wastewater Engineering (3) | Pre-requisite: ESE 411 |
| <input type="checkbox"/> ESE 431: Air Pollution Control (3) | Pre-requisite: AATM 210/210Z |
| <input type="checkbox"/> ESE 432: Air Quality Modeling (3) | Pre-requisite: AATM 210/210Z |
| <input type="checkbox"/> ESE 451: Water Resources Engineering (3) | Pre-requisite: ESE 351 |
| <input type="checkbox"/> ESE 471: Hazardous Waste Management (3) | Pre-requisite: ESE 301, ESE 351 |
| <input type="checkbox"/> ESE 497: Senior Capstone Design (3) [Seniors] | Pre-requisite: Senior standing and permission of dept. |

Interdisciplinary Core Courses: Atmospheric & Env, Env Health Sci, Comp Eng (20 Credits)

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| <input type="checkbox"/> AATM 210: Atm Structure, Thermodynamics, and Circulation (3) [Fall] | Pre: AMAT 112 or 118; APHY 140 or 142 |
| <input type="checkbox"/> AENV 250: Sustain. Develop: Energy and Resources (3) [Spring] | Pre: ACHM 120 or 130, AMAT 111 or 112, APHY 140 or 142 |
| <input type="checkbox"/> HSPH 321: Global Env. Issues & Effect on Human Health (3) | Pre: One semester of college level bio or chem |
| <input type="checkbox"/> IEHS 560: Sustainability, Green Design and Public Health (3) [Seniors] | Pre: Permission of instructor |
| <input type="checkbox"/> ICSI/IECE 201: Intro to Computer Science (4) | |
| <input type="checkbox"/> ICSI/IECE 210: Discrete Structures (4) | Pre-requisite: AMAT 112 |

Mathematics and Science Courses (34 Credits)

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| <input type="checkbox"/> ACHM 120: General Chemistry I (3)** | <input type="checkbox"/> AMAT 112 OR 118 OR TMAT 118: Calculus I (4)** |
| <input type="checkbox"/> ACHM 124: General Chemistry Lab I (1) | <input type="checkbox"/> AMAT 113 OR 119 OR TMAT 119: Calculus II (4)** |
| <input type="checkbox"/> ACHM 121: General Chemistry II (3)** | <input type="checkbox"/> AMAT 214: Calculus of Several Variables (4) |
| <input type="checkbox"/> ACHM 125: General Chemistry Lab II (1) | <input type="checkbox"/> AMAT 311: Ordinary Differential Equations (3) |
| <input type="checkbox"/> ABIO 130: Biology I (3) | <input type="checkbox"/> AMAT 370: Prob. & Stat. for Eng. & the Sci (3) [Fall] |
| <input type="checkbox"/> ABIO 201: Introduction to Biological Investigations I (1) [Fall] | |
| <input type="checkbox"/> APHY 140/142: Physics I: Mechanics (3) | |
| <input type="checkbox"/> APHY 145: Physics Lab I (1) [Fall] | |

ESE Electives (9 Credits)

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| <input type="checkbox"/> AATM 200: Natural Disasters (3) | |
| <input type="checkbox"/> AATM 301: Surface Hydrology and Hydrometeorology (3) | Pre: AATM 210 [alternate fall semesters: 2019...] |
| <input type="checkbox"/> AGOG 496: Geographic Information Systems (3) | Pre: familiarity w/ maps and coordinate systems |
| <input type="checkbox"/> AATM 304/304Z: Air Quality and Pollution Policy (3) | Pre: A ATM 210; A MAT 112 or T MAT 118; A PHY 140 or T PHY 141 |
| <input type="checkbox"/> HSPH 323: Environmental Laboratory Perspectives in Public Health (3) | One year of college level bio |
| <input type="checkbox"/> EHS 520: Environmental Chemistry (3) | Pre: 2 years of college chemistry or instructor consent |
| <input type="checkbox"/> A USP 452: CADD in Planning (3) | |
| <input type="checkbox"/> AENV 315: Environmental Statistics and Computation (4) | Pre: A ATM 210, A MAT112 or T MAT 118; A MAT 220 recommended |
| <input type="checkbox"/> IESE 452: Groundwater Hydrology (3) | Pre: IESE 451 |

** Grade of C or better required to progress in major