

BIOLOGICAL ENGINEERING, MINOR

Requirements for a minor may be completed at any campus location offering the specified courses for the minor. Students may not change from a campus that offers their major to a campus that does not offer their major for the purpose of completing a minor.

Program Requirements

| Requirement | Credits |
|----------------------------|---------|
| Requirements for the Minor | 18-20 |

Requirements for the Minor

The minor requires a minimum of 18 credits, at least 6 of which must be at the 400 level.

A grade of C or better is required for all courses in the minor, as specified by Senate Policy 59-10 (<https://senate.psu.edu/policies-and-rules-for-undergraduate-students/59-00-minors-and-certificates/#59-10>). In addition, at least six credits of the minor must be unique from the prescribed courses required by a student's major(s).

| Code | Title | Credits |
|--|--|---------|
| Additional Courses | | |
| <i>Additional Courses: Require a grade of C or better</i> | | |
| Select 3-4 credits from the following related science electives: | | 3-4 |
| AGRO 28 | Principles of Crop Management | |
| ANSC 201 | Animal Science | |
| ASM/ERM 309 | Measurement & Monitoring of Hydrologic Systems | |
| BIOL 110 | Biology: Basic Concepts and Biodiversity | |
| BIOL 127 | Introduction to Plant Biology | |
| BMB 211 | Elementary Biochemistry | |
| BMB/MICRB 251 | Molecular and Cell Biology I | |
| CHEM 202 | Fundamentals of Organic Chemistry I | |
| CHEM 210 | Organic Chemistry I | |
| FDSC 200 | Introductory Food Science | |
| HORT 101 | Horticultural Science | |
| MICRB 201 | Introductory Microbiology | |
| SOILS 101 | Introductory Soil Science | |
| Select 6-7 credits from the following 300-level BE courses: | | 6-7 |
| BE 301 | Mathematical Modeling of Biological and Physical Systems | |
| BE 302 | Heat and Mass Transfer in Biological Systems | |
| BE 303 | Structural Systems in Agriculture | |
| BE 304 | | |
| BE 305 | Agricultural Measurements and Control Systems | |
| BE 306 | Machines for Agricultural and Biological Processing | |
| BE 307 | Principles of Soil and Water Engineering | |
| BE 308 | Engineering Elements of Biochemistry and Microbiology | |
| Select 6 credits from the following 400-level BE courses: | | 6 |
| BE 461 | Design of Fluid Power Systems | |

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| BE 462 | Design of Wood Structures |
| BE 464 | Bioenergy Systems Engineering |
| BE 465 | Food and Biological Process Engineering |
| BE 467 | Design of Stormwater and Erosion Control Facilities |
| BE 468 | Microbiological Engineering |
| BE 477 | Land-Based Waste Disposal |
| BE 487 | Simulation Modeling for Water Resources Management |

Supporting Courses and Related Areas

Supporting Courses and Related Areas: Require a grade of C or better
Select 3 credits of 400-level coursework or independent study in a related science or engineering field in consultation with the minor adviser 3