

SCIENCE AND ENGINEERING OPTION

This option is offered within the following major(s):

- Renewable Materials - College of Forestry (<http://catalog.oregonstate.edu/college-departments/forestry/wood-science-engineering/renewable-materials-bs-hbs>)

This is a flexible, math- and science-intensive program that allows students to design a personalized curriculum that opens doors to jobs that solve complex problems, create efficiencies, foster intelligent use of renewable materials, or to graduate school. Students select a group of courses (often minors) that complement their interests.

| Code | Title | Hours |
|--|--|-----------|
| Science and Engineering Core | | |
| BA 215 | FUNDAMENTALS OF ACCOUNTING | 4 |
| BA 230 | BUSINESS LAW I | 4 |
| CH 123 | *GENERAL CHEMISTRY | 5 |
| ECON 201 | *INTRODUCTION TO MICROECONOMICS | 4 |
| ECON 202 | *INTRODUCTION TO MACROECONOMICS | 4 |
| IE 285 | INTRODUCTION TO INDUSTRIAL AND MANUFACTURING ENGINEERING | 3 |
| or MFGE 285 | INTRODUCTION TO INDUSTRIAL AND MANUFACTURING ENGINEERING | |
| MTH 251 | *DIFFERENTIAL CALCULUS | 4 |
| MTH 252 | INTEGRAL CALCULUS | 4 |
| MTH 254 | VECTOR CALCULUS I | 4 |
| PH 201 | *GENERAL PHYSICS | 5 |
| or PH 211 | *GENERAL PHYSICS WITH CALCULUS | |
| PH 202 | *GENERAL PHYSICS | 5 |
| or PH 212 | *GENERAL PHYSICS WITH CALCULUS | |
| PH 203 | *GENERAL PHYSICS | 5 |
| or PH 213 | *GENERAL PHYSICS WITH CALCULUS | |
| ST 314 | INTRODUCTION TO STATISTICS FOR ENGINEERS | 3 |
| WSE 430 | FUNDAMENTALS OF ENGINEERING MECHANICS | 4 |
| WSE 461 | BIO-BASED PRODUCTS MANUFACTURING | 4 |
| WSE 462 | ADVANCED MANUFACTURING 1 | 4 |
| WSE 471 | RENEWABLE MATERIALS IN BUILDING CONSTRUCTION | 3 |
| WSE 473 | BIOENERGY AND ENVIRONMENTAL IMPACT | 3 |
| Approved Area of Concentration | | |
| Approved "Area of Concentration" – A 24-credit program of study proposed by the student and approved by the WSE Department Head (minimum of 12 upper-division credits) | | 24 |
| Total Hours | | 96 |

* Baccalaureate Core Course (BCC)

^ Writing Intensive Course (WIC)

Baccalaureate Core Courses

Not satisfied by the Renewable Materials core or the option.

Courses meeting other baccalaureate core requirements for the following categories not specified by the Renewable Materials Core or the option can be found in the OSU Catalog online at <https://catalog.oregonstate.edu/>

| Code | Title | Hours |
|--------------------|--|-----------|
| | Cultural Diversity | 3 |
| | Difference, Power, and Discrimination | 3 |
| | Literature and Arts | 3 |
| | Western Culture | 3 |
| | Science, Technology, and Society Synthesis | 3 |
| | Contemporary Global Issues | 3 |
| Total Hours | | 18 |

Plus additional Free Electives sufficient to ensure 180 total credits (60 must be upper division).

Option Code: 289

| Course | Title | Hours |
|------------------------------|---|-----------------|
| First Year | | |
| Fall | | |
| CH 121 | GENERAL CHEMISTRY | 5 |
| COMM 111 or COMM 114 | *PUBLIC SPEAKING or *ARGUM AND CRITICAL DISCOUF | 3 |
| FOR 111 | INTRODUCTION TO FORESTRY | 3 |
| MTH 251 | *DIFFERENT CALCULUS | 4 |
| | | Hours 15 |
| Winter | | |
| CH 122 | *GENERAL CHEMISTRY | 5 |
| FOR 112 | COMPUTING APPLICATIONS IN FORESTRY | 3 |
| HHS 231 | *LIFETIME FITNESS FOR HEALTH | 2 |
| MTH 252 | INTEGRAL CALCULUS | 4 |
| WSE 111 | RENEWABLE MATERIALS FOR A GREEN PLANET | 2 |
| | | Hours 16 |
| Spring | | |
| CH 123 | *GENERAL CHEMISTRY | 5 |
| MTH 254 | VECTOR CALCULUS I | 4 |
| WR 121 | *ENGLISH COMPOSITIK | 3 |
| Physical Activity Course (1) | | 1 |
| | | Hours 13 |

Second Year

| | | | |
|--------------------|--|-------|----|
| Fall | | | |
| ECON 201 | *INTRODUCTION TO MICROECONOMICS | 4 | |
| IE 285 or MFGE 285 | INTRODUCTION TO INDUSTRIAL AND MANUFACTURING ENGINEERING or INTRODUCTION TO INDUSTRIAL AND MANUFACTURING ENGINEERING | 3 | |
| PH 201 or PH 211 | *GENERAL PHYSICS or *GENERAL PHYSICS WITH CALCULUS | 5 | |
| WSE 250 | CAD: COMPUTER AIDED DESIGN | 3 | |
| | | Hours | 15 |
| Winter | | | |
| ECON 202 | *INTRODUCTION TO MACROECONOMICS | 4 | |
| PH 202 or PH 212 | *GENERAL PHYSICS or *GENERAL PHYSICS WITH CALCULUS | 5 | |
| WR 214 or WR 327 | *WRITING IN BUSINESS or *TECHNICAL WRITING | 3 | |
| WSE 210 | *RENEWABLE MATERIALS TECHNOLOGY AND UTILIZATION | 4 | |
| | | Hours | 16 |
| Spring | | | |
| FES 240 | *FOREST BIOLOGY | 4 | |
| PH 203 or PH 213 | *GENERAL PHYSICS or *GENERAL PHYSICS WITH CALCULUS | 5 | |
| ST 314 | INTRODUCTION TO STATISTICS FOR ENGINEERS | 3 | |
| WSE 225 | PRINCIPLES OF ARCHITECTURAL DESIGN | 3 | |

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|---|--|---|-------|
| | | WITH RENEWABLE MATERIALS | |
| | | Hours | 15 |
| Third Year | | | |
| Fall | | | |
| WSE 320 | | ANATOMY OF RENEWABLE MATERIALS | 3 |
| WSE 321 | | CHEMISTRY OF RENEWABLE MATERIALS | 3 |
| Area of Concentration course (4) | | | 4 |
| Western Culture Baccalaureate Core (3-4) | | | |
| | | Hours | 10 |
| Winter | | | |
| BA 215 | | FUNDAMENTALS OF ACCOUNTING | 4 |
| WSE 322 | | PHYSICAL AND MECHANICAL PROPERTIES OF RENEWABLE MATERIALS | 4 |
| Area of Concentration course (4) | | | 4 |
| Literature and the Arts Baccalaureate Core course (3-4) | | | 3-4 |
| | | Hours | 15-16 |
| Spring | | | |
| BA 230 | | BUSINESS LAW I | 4 |
| WSE 324 | | RENEWABLE MATERIALS LABORATORY | 3 |
| Area of Concentration course (4) | | | 4 |
| Contemporary Global Issues Baccalaureate Core course (3-4) | | | 3-4 |
| | | Hours | 14-15 |
| Fourth Year | | | |
| Fall | | | |
| WSE 461 | | BIO-BASED PRODUCTS MANUFACTURING | 4 |
| WSE 465 | | RENEWABLE MATERIALS MANUFACTURING EXPERIENCE | 2 |
| Area of Concentration course (4) | | | 4 |
| Difference, Power, and Discrimination Baccalaureate Core course (3-4) | | | 4 |
| | | Hours | 14 |
| Winter | | | |
| WSE 430 | | FUNDAMENTALS OF ENGINEERING MECHANICS | 4 |
| WSE 453 | | *FOREST PRODUCTS BUSINESS | 3 |
| WSE 462 | | ADVANCED MANUFACTURING 1 | 4 |
| Area of Concentration course (3-4) | | | 3-4 |
| | | Hours | 14-15 |

Spring

| | | |
|--|--|---------|
| WSE 471 | RENEWABLE MATERIALS IN BUILDING CONSTRUCTION | 3 |
| WSE 473 | BIOENERGY AND ENVIRONME IMPACT | 3 |
| Area of Concentration Course (4) | | 4 |
| Cultural Diversity Baccalaureate Core course (3-4) | | 3-4 |
| Science, Technology, and Society Baccalaureate Core course (3-4) | | 3-4 |
| | Hours | 16-18 |
| | Total Hours | 173-178 |