AGRICULTURAL AND BIORENEWABLE SYSTEMS MANAGEMENT, B.S.

Begin Campus: Any Penn State Campus

End Campus: University Park

Degree Requirements

For the Bachelor of Science degree in Agricultural and Biorenewable Systems Management, a minimum of 121 credits is required:

Requirements for the Major

To graduate, a student enrolled in the major must earn a grade of C or better in each course designated by the major as a C-required course, as specified by Senate Policy 82-44 (https://senate.psu.edu/students/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/).

Requirements for the Major

To graduate, a student enrolled in the major must earn a grade of C or better in each course designated by the major as a C-required course, as specified by Senate Policy 82-44 (https://senate.psu.edu/students/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/).

### Requirements for the Major

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education</td>
<td>45</td>
</tr>
<tr>
<td>Requirements for the Major</td>
<td>106-108</td>
</tr>
</tbody>
</table>

30 of the 45 credits for General Education are included in the Requirements for the Major. This includes: 9 credits of GN courses; 6 credits of GQ courses; 6 credits of GS courses; 9 credits of GWS courses.

### Prescribed Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSM 300</td>
<td>Introduction to Agricultural and Biorenewable Products</td>
<td>3</td>
</tr>
<tr>
<td>ABSM 350</td>
<td>Introduction to Life Cycle Assessment</td>
<td>3</td>
</tr>
<tr>
<td>ABSM 422</td>
<td>Energy Analysis in Agricultural and Biorenewable Systems</td>
<td>3</td>
</tr>
<tr>
<td>ABSM 426</td>
<td>Safety and Health in Agriculture and Biorenewable Industries</td>
<td>3</td>
</tr>
<tr>
<td>ABSM 428</td>
<td>Electric Power and Instrumentation</td>
<td>3</td>
</tr>
<tr>
<td>ABSM 429</td>
<td>Agricultural and Biorenewable Systems Analysis and Management</td>
<td>3</td>
</tr>
<tr>
<td>ABSM 430W</td>
<td>Agricultural and Biorenewable Systems Management Capstone 1</td>
<td>1</td>
</tr>
<tr>
<td>ABSM 431W</td>
<td>Agricultural and Biorenewable Systems Management Capstone 2</td>
<td>2</td>
</tr>
<tr>
<td>ABSM 490</td>
<td>Agricultural and Biorenewable Systems Management Colloquium</td>
<td>1</td>
</tr>
<tr>
<td>ACCTG 211</td>
<td>Financial and Managerial Accounting for Decision Making</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 110</td>
<td>Chemical Principles I</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 111</td>
<td>Experimental Chemistry I</td>
<td>1</td>
</tr>
</tbody>
</table>

### Prescribed Courses: Require a grade of C or better

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<th>Code</th>
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</tr>
</thead>
<tbody>
<tr>
<td>ABSM 301</td>
<td>Engineering Principles of Agricultural and Biorenewable Systems</td>
<td>3</td>
</tr>
<tr>
<td>ABSM 391</td>
<td>Communication Skills for BE and ABSM Students</td>
<td>2</td>
</tr>
<tr>
<td>ABSM 392</td>
<td>Leadership and Ethics for BE and ABSM Students</td>
<td>2</td>
</tr>
<tr>
<td>AGBM 106</td>
<td>Agribusiness Problem Solving</td>
<td>3</td>
</tr>
</tbody>
</table>

### Supporting Courses and Related Areas

Select 12 credits of ABSM courses from the following:

- ABSM 310 Power Transmission in Agriculture
- ABSM 320 Combustion Engines for Mobile Equipment
- ABSM 327 Soil and Water Resource Management
- ABSM 402 Foundations of Sustainable Business
- ABSM 411 Bioproducts Science and Technology
- ABSM 417 Processing and Manufacturing Systems for Bioproducts
- ABSM 420 Principles of Off-Road Machines
- ABSM 423 Deterioration and Protection of Bioproducts
- ABSM 424 Precision Agriculture Technology
- ABSM 496 Independent Studies

Select 18 credits of supporting courses from department list

General Education

Connecting career and curiosity, the General Education curriculum provides the opportunity for students to acquire transferable skills necessary to be successful in the future and to thrive while living in interconnected contexts. General Education aids students in developing intellectual curiosity, a strengthened ability to think, and a deeper sense of aesthetic appreciation. These are requirements for all baccalaureate students and are often partially incorporated into the requirements of a program. For additional information, see the General Education Requirements (https://bulletins.psu.edu/undergraduate/general-
education/baccalaureate-degree-general-education-program/ section of
the Bulletin and consult your academic adviser.

The keystone symbol appears next to the title of any course that is
designated as a General Education course. Program requirements may
also satisfy General Education requirements and vary for each program.

Foundations (grade of C or better is required and Inter-Domain
courses do not meet this requirement.)
• Quantification (GQ): 6 credits
• Writing and Speaking (GWS): 9 credits

Breadth in the Knowledge Domains (Inter-Domain courses do not
meet this requirement.)
• Arts (GA): 3 credits
• Health and Wellness (GHW): 3 credits
• Humanities (GH): 3 credits
• Social and Behavioral Sciences (GS): 3 credits
• Natural Sciences (GN): 3 credits

Integrative Studies
• Inter-Domain Courses (Inter-Domain): 6 credits

Exploration
• GN, may be completed with Inter-Domain courses: 3 credits
• GA, GH, GN, GS, Inter-Domain courses. This may include 3 credits
  of World Language course work beyond the 12th credit level or the
  requirements for the student's degree program, whichever is higher: 6
  credits

University Degree Requirements

First Year Engagement
All students enrolled in a college or the Division of Undergraduate Studies
at University Park, and the World Campus are required to take 1 to 3
credits of the First-Year Seminar, as specified by their college First-Year
Engagement Plan.

Other Penn State colleges and campuses may require the First-Year
Seminar; colleges and campuses that do not require a First-Year Seminar
provide students with a first-year engagement experience.

First-year baccalaureate students entering Penn State should consult
their academic adviser for these requirements.

Cultures Requirement
6 credits are required and may satisfy other requirements
• United States Cultures: 3 credits
• International Cultures: 3 credits

Writing Across the Curriculum
3 credits required from the college of graduation and likely prescribed as
part of major requirements.

Total Minimum Credits
A minimum of 120 degree credits must be earned for a baccalaureate
degree. The requirements for some programs may exceed 120 credits.
Students should consult with their college or department adviser for
information on specific credit requirements.

Quality of Work
Candidates must complete the degree requirements for their major and
earn at least a 2.00 grade-point average for all courses completed within
their degree program.

Limitations on Source and Time for Credit Acquisition
The college dean or campus chancellor and program faculty may require
up to 24 credits of course work in the major to be taken at the location or
in the college or program where the degree is earned. Credit used toward
degree programs may need to be earned from a particular source or
within time constraints (see Senate Policy 83-80 (https://senate.psu.edu/
policies-and-rules-for-undergraduate-students/82-00 and-83-00-degree-
requirements/#83-80)). For more information, check the Suggested
Academic Plan for your intended program.