

# BIORENEWABLE SYSTEMS, B.S.

**Begin Campus:** Any Penn State Campus

**End Campus:** University Park

## Suggested Academic Plan

The suggested academic plan(s) listed on this page are the plan(s) that are in effect during the 2021-22 academic year. To access previous years' suggested academic plans, please visit the archive (<https://bulletins.psu.edu/undergraduate/archive/>) to view the appropriate Undergraduate Bulletin edition (*Note: the archive only contain suggested academic plans beginning with the 2018-19 edition of the Undergraduate Bulletin*).

### Agricultural Systems Management Option: BioRenewable Systems, B.S. at University Park Campus

The course series listed below provides **only one** of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an **Academic Requirements** or **What If** report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

#### First Year

Fall	Credits Spring	Credits
BE 1	1 CHEM 111 <sup>†</sup>	1
CHEM 110 <sup>†</sup>	3 ACCTG 211	4
EDSGN 100 <sup>*</sup>	3 ENGL 15, 30H, or ESL 15 <sup>††</sup>	3
MATH 110 or 140 <sup>††</sup>	4 PHYS 250 or 211 <sup>†</sup>	4
General Education Course (GHW)	1.5 General Education Course	3
ECON 104 or EBF 200 <sup>†</sup>	3 General Education Course (GHW)	1.5
	<b>15.5</b>	<b>16.5</b>

#### Second Year

Fall	Credits Spring	Credits
AGBM 101 or ECON 102 <sup>†</sup>	3 BLAW 243, BA 243, or BA 241 <b>and</b> BA 242	3-4
BIOL 110 or 11 <b>and</b> 12 <sup>†</sup>	4 SOILS 101	3
CAS 100A or 100B <sup>††</sup>	3 AGRO 28 or HORT 101	3
STAT 200, 240, or 250 <sup>††</sup>	3-4 General Education Course	3
General Education Course	3 General Education Course	3
	<b>16-17</b>	<b>15-16</b>

#### Third Year

Fall	Credits Spring	Credits
AGBM 106 <sup>*</sup>	3 BRS 392 <sup>††</sup>	2
BRS 221 <sup>*</sup>	3 BA 303 or AGBM 302	3
BRS 350	3 ANSC 201 or 100	3-4
ASM 310 <sup>*</sup>	3 BRS 490	1
ASM 327 <sup>*</sup>	3 Selection	3
BRS 391 <sup>††</sup>	2 Selection	3
	<b>17</b>	<b>15-16</b>

#### Fourth Year

Fall	Credits Spring	Credits
BRS 428	3 BRS 426	3
BRS 430W (capstone)	1 BRS 431W (capstone)	2
BRS 422	3 Selection	3
BRS 429W	3 Selection	3
Selection	3 Selection	3
	<b>13</b>	<b>14</b>

#### Total Credits 122-125

- \* Course requires a grade of C or better for the major
- ‡ Course requires a grade of C or better for General Education
- # Course is an Entrance to Major requirement
- † Course satisfies General Education and degree requirement

#### University Requirements and General Education Notes:

US and IL are abbreviations used to designate courses that satisfy University Requirements (United States and International Cultures).

W, M, X, and Y are the suffixes at the end of a course number used to designate courses that satisfy University Writing Across the Curriculum requirement.

GWS, GQ, GHW, GN, GA, GH, and GS are abbreviations used to identify General Education program courses. General Education includes Foundations (GWS and GQ) and Knowledge Domains (GHW, GN, GA, GH, GS, and Integrative Studies). Foundations courses (GWS and GQ) require a grade of 'C' or better.

Integrative Studies courses are required for the General Education program. N is the suffix at the end of a course number used to designate an Inter-Domain course and Z is the suffix at the end of a course number used to designate a Linked course.

All incoming Schreyer Honors College first-year students at University Park will take ENGL 137H/CAS 137H in the fall semester and ENGL 138T/CAS 138T in the spring semester. These courses carry the GWS designation and replace both ENGL 30H and CAS 100. Each course is 3 credits.

#### Advising Note:

A list of 'selection' courses can be found in the BRS Advising Manual: [abe.psu.edu/documents/brs-advising-manual.pdf](https://abe.psu.edu/documents/brs-advising-manual.pdf) (<https://abe.psu.edu/documents/brs-advising-manual.pdf>). Students should consult with an academic adviser to discuss appropriate course selection.

## BioProducts Option: BioRenewable Systems, B.S. at University Park Campus

The course series listed below provides **only one** of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an **Academic Requirements** or **What If** report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

### First Year

Fall	Credits Spring	Credits
BE 1	1 CHEM 111 <sup>†</sup>	1
CHEM 110 <sup>†</sup>	3 ACCTG 211	4
EDSGN 100 <sup>*</sup>	3 ENGL 15, 30H, or ESL 15 <sup>††</sup>	3
MATH 110 or 140 <sup>††</sup>	4 PHYS 250 or 211 <sup>†</sup>	4
General Education Course (GHW)	1.5 General Education Course	3
ECON 104 or EBF 200 <sup>†</sup>	3 General Education Course (GHW)	1.5
	<b>15.5</b>	<b>16.5</b>

### Second Year

Fall	Credits Spring	Credits
AGBM 101 or ECON 102 <sup>†</sup>	3 BLAW 243, BA 243, or BA 241 <b>and</b> BA 242	3-4
BIOL 110 or 11 <b>and</b> 12 <sup>†</sup>	4 Selection	3
CAS 100A or 100B <sup>††</sup>	3 Selection	3
STAT 200 or 240 <sup>††</sup>	3-4 General Education Course	3
General Education Course	3 General Education Course	3
	<b>16-17</b>	<b>15-16</b>

### Third Year

Fall	Credits Spring	Credits
AGBM 106 <sup>*</sup>	3 BRS 392 <sup>††</sup>	2
BRS 221 <sup>*</sup>	3 BA 303 or AGBM 302	3
BRS 300 <sup>*</sup>	3 BRS 411 (even years) <sup>1</sup>	0-3
Selection - BRS Leadership/Entrepreneurship (ENGR 310, AEE 360, MGMT 215, or SUST 200)	3 BRS 417 (odd years) <sup>1</sup>	0-3
BRS 350	3 BRS 423 (even years) <sup>1</sup>	0-3
BRS 391 <sup>††</sup>	2 BRS 490	1
	Selection	3
	Selection (odd years) <sup>1</sup>	0-3
	<b>17</b>	<b>15</b>

### Fourth Year

Fall	Credits Spring	Credits
BRS 402 <sup>*</sup>	3 BRS 426	3
BRS 428	3 BRS 431W (capstone)	2
BRS 430W (capstone)	1 BRS 411 (even years) <sup>1</sup>	0-3
BRS 422	3 BRS 417 (odd years) <sup>1</sup>	0-3
BRS 429W	3 BRS 423 (even years) <sup>1</sup>	0-3
	Selection	3

Selection (odd years)<sup>1</sup>

0-3

**13****14**

### Total Credits 122-124

\* Course requires a grade of C or better for the major

‡ Course requires a grade of C or better for General Education

# Course is an Entrance to Major requirement

† Course satisfies General Education and degree requirement

<sup>1</sup> BRS 411 and BRS 423 only are available to schedule during even years. BRS 417 and one Selection only are available to schedule during odd years.

### University Requirements and General Education Notes:

US and IL are abbreviations used to designate courses that satisfy University Requirements (United States and International Cultures).

W, M, X, and Y are the suffixes at the end of a course number used to designate courses that satisfy University Writing Across the Curriculum requirement.

GWS, GQ, GHW, GN, GA, GH, and GS are abbreviations used to identify General Education program courses. General Education includes Foundations (GWS and GQ) and Knowledge Domains (GHW, GN, GA, GH, GS, and Integrative Studies). Foundations courses (GWS and GQ) require a grade of 'C' or better.

Integrative Studies courses are required for the General Education program. N is the suffix at the end of a course number used to designate an Inter-Domain course and Z is the suffix at the end of a course number used to designate a Linked course.

All incoming Schreyer Honors College first-year students at University Park will take ENGL 137H/CAS 137H in the fall semester and ENGL 138T/CAS 138T in the spring semester. These courses carry the GWS designation and replace both ENGL 30H and CAS 100. Each course is 3 credits.

### Advising Note:

A list of 'selection' courses can be found in the BRS Advising Manual: [abe.psu.edu/documents/brs-advising-manual.pdf](https://abe.psu.edu/documents/brs-advising-manual.pdf) (<https://abe.psu.edu/documents/brs-advising-manual.pdf>). Students should consult with an academic adviser to discuss appropriate course selection.

## Agricultural Systems Management Option: BioRenewable Systems, B.S. at Commonwealth Campuses

The course series listed below provides **only one** of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an **Academic Requirements** or **What If** report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

### First Year

Fall	Credits Spring	Credits
First Year Seminar	1-3 CHEM 111 <sup>†</sup>	1
CHEM 110 <sup>†</sup>	3 ACCTG 211	4
EDSGN 100 <sup>*</sup>	3 ENGL 15, 30H, or ESL 15 <sup>††</sup>	3
MATH 110 or 140 <sup>††</sup>	4 PHYS 250 or 211 <sup>†</sup>	4
General Education Course (GHW)	1.5 General Education Course	3
ECON 104 or EBF 200 <sup>†</sup>	3 General Education Course (GHW)	1.5
<b>15.5-17.5</b>		<b>16.5</b>

### Second Year

Fall	Credits Spring	Credits
AGBM 101 or ECON 102 <sup>†</sup>	3 BLAW 243, BA 243, or BA 241 <i>and</i> BA 242	3-4
BIOL 110 or 11 <i>and</i> 12 <sup>†</sup>	4 SOILS 101	3
CAS 100A or 100B <sup>††</sup>	3 AGRO 28 or HORT 101	3
STAT 200 or 240 <sup>††</sup>	3-4 General Education Course	3
General Education Course	3 General Education Course	3
<b>16-17</b>		<b>15-16</b>

### Third Year

Fall	Credits Spring	Credits
AGBM 106 <sup>*</sup>	3 BRS 392 <sup>††</sup>	2
BRS 221 <sup>*</sup>	3 BA 303 or AGBM 302	3
BRS 350	3 ANSC 201 or 100	3-4
ASM 310 <sup>*</sup>	3 BRS 490	1
ASM 327 <sup>*</sup>	3 Selection	3
BRS 391 <sup>††</sup>	2 Selection	3
<b>17</b>		<b>15-16</b>

### Fourth Year

Fall	Credits Spring	Credits
BRS 428	3 BRS 426	3
BRS 430W (capstone)	1 BRS 431W (capstone)	2
BRS 422	3 Selection	3
BRS 429W	3 Selection	3
Selection	3 Selection	3
<b>13</b>		<b>14</b>

### Total Credits 122-127

\* Course requires a grade of C or better for the major

† Course requires a grade of C or better for General Education

# Course is an Entrance to Major requirement

† Course satisfies General Education and degree requirement

### University Requirements and General Education Notes:

US and IL are abbreviations used to designate courses that satisfy University Requirements (United States and International Cultures).

W, M, X, and Y are the suffixes at the end of a course number used to designate courses that satisfy University Writing Across the Curriculum requirement.

GWS, GQ, GHW, GN, GA, GH, and GS are abbreviations used to identify General Education program courses. General Education includes Foundations (GWS and GQ) and Knowledge Domains (GHW, GN, GA, GH, GS, and Integrative Studies). Foundations courses (GWS and GQ) require a grade of 'C' or better.

Integrative Studies courses are required for the General Education program. N is the suffix at the end of a course number used to designate an Inter-Domain course and Z is the suffix at the end of a course number used to designate a Linked course.

### Advising Note:

A list of 'selection' courses can be found in the BRS Advising Manual: [abe.psu.edu/documents/brs-advising-manual.pdf](https://abe.psu.edu/documents/brs-advising-manual.pdf) (<https://abe.psu.edu/documents/brs-advising-manual.pdf>). Students should consult with an academic adviser to discuss appropriate course selection.

## BioProducts Option: BioRenewable Systems, B.S. at Commonwealth Campuses

The course series listed below provides **only one** of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an **Academic Requirements** or **What If** report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

### First Year

Fall	Credits Spring	Credits
First Year Seminar	1-3 CHEM 111 <sup>†</sup>	1
CHEM 110 <sup>†</sup>	3 ACCTG 211	4
EDSGN 100 <sup>*</sup>	3 ENGL 15, 30H, or ESL 15 <sup>††</sup>	3
MATH 110 or 140 <sup>††</sup>	4 PHYS 250 or 211 <sup>†</sup>	4
General Education Course (GHW)	1.5 General Education Course	3
ECON 104 or EBF 200 <sup>†</sup>	3 General Education Course (GHW)	1.5
<b>15.5-17.5</b>		<b>16.5</b>

### Second Year

Fall	Credits Spring	Credits
AGBM 101 or ECON 102 <sup>†</sup>	3 BLAW 243, BA 243, or BA 241 <b>and</b> BA 242	3-4
BIOL 110 or 11 <b>and</b> 12 <sup>†</sup>	4 Selection	3
CAS 100A or 100B <sup>††</sup>	3 Selection	3
STAT 200 or 240 <sup>††</sup>	3-4 General Education Course	3
General Education Course	3 General Education Course	3
<b>16-17</b>		<b>15-16</b>

### Third Year

Fall	Credits Spring	Credits
AGBM 106 <sup>*</sup>	3 BRS 392 <sup>††</sup>	2
BRS 221 <sup>*</sup>	3 BA 303 or AGBM 302	3
BRS 300 <sup>*</sup>	3 BRS 411 (even years) <sup>1</sup>	0-3
Selection - BRS Leadership/Entrepreneurship (ENGR 310, AEE 360, MGMT 215, or SUST 200)	3 BRS 417 (odd years) <sup>1</sup>	0-3
BRS 350	3 BRS 423 (even years) <sup>1</sup>	0-3
BRS 391 <sup>††</sup>	2 BRS 490	1
	Selection	3
	Selection (odd years) <sup>1</sup>	0-3
<b>17</b>		<b>15</b>

### Fourth Year

Fall	Credits Spring	Credits
BRS 402 <sup>*</sup>	3 BRS 426	3
BRS 428	3 BRS 431W (capstone)	2
BRS 430W (capstone)	1 BRS 411 (even years) <sup>1</sup>	0-3
BRS 422	3 BRS 417 (odd years) <sup>1</sup>	0-3
BRS 429W	3 BRS 423 (even years) <sup>1</sup>	0-3
	Selection	3

Selection (odd years)<sup>1</sup>

0-3

**13****14**

### Total Credits 122-126

- \* Course requires a grade of C or better for the major
- ‡ Course requires a grade of C or better for General Education
- # Course is an Entrance to Major requirement
- † Course satisfies General Education and degree requirement

<sup>1</sup> BRS 411 and BRS 423 only are available to schedule during even years. BRS 417 and one Selection only are available to schedule during odd years.

### University Requirements and General Education Notes:

US and IL are abbreviations used to designate courses that satisfy University Requirements (United States and International Cultures).

W, M, X, and Y are the suffixes at the end of a course number used to designate courses that satisfy University Writing Across the Curriculum requirement.

GWS, GQ, GHW, GN, GA, GH, and GS are abbreviations used to identify General Education program courses. General Education includes Foundations (GWS and GQ) and Knowledge Domains (GHW, GN, GA, GH, GS, and Integrative Studies). Foundations courses (GWS and GQ) require a grade of 'C' or better.

Integrative Studies courses are required for the General Education program. N is the suffix at the end of a course number used to designate an Inter-Domain course and Z is the suffix at the end of a course number used to designate a Linked course.

### Advising Note:

A list of 'selection' courses can be found in the BRS Advising Manual: [abe.psu.edu/documents/brs-advising-manual.pdf](https://abe.psu.edu/documents/brs-advising-manual.pdf) (<https://abe.psu.edu/documents/brs-advising-manual.pdf>). Students should consult with an academic adviser to discuss appropriate course selection.