

SECONDARY EDUCATION, B.S. (BEHREND)

Begin Campus: Any Penn State Campus

End Campus: Erie

Suggested Academic Plan

The suggested academic plan(s) listed on this page are the plan(s) that are in effect during the 2023-24 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 contains suggested academic plans beginning with the 2018-19 edition of the Undergraduate Bulletin*).

Mathematics Teaching Option: Secondary Education, B.S. at Erie Campus

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First Year

| Fall | Credits Spring | Credits |
|-------------------------------------|---|-------------|
| MATH 140 ^{**†} | 4 MATH 141 ^{**†} | 4 |
| ENGL 15 or 30H ^{**} | 3 MATH 220 ^{**} | 2 |
| CMPSC 121 or 101 ^{**} | 3 General Education (GN) [†] | 3 |
| PSU 7 | 1 General Education (GA) [†] | 3 |
| PSYCH 100 ^{**†} | 3 General Education (GH) (See approved list below) ^{**†} | 3 |
| General Education (GN) [†] | 3 General Education (GHW) [†] | 1.5 |
| | 17 | 16.5 |

Second Year

| Fall | Credits Spring | Credits |
|---|--|-----------|
| CAS 100, CAS 100A, or CAS 100B [*] | 3 STAT 401 [*] | 3 |
| MATH 230 ^{**} | 4 MATH 310 or 436 [*] | 3 |
| MATH 311W [*] | 4 EDTHP 115A (Satisfies US Culture Requirement) ^{**†} | 3 |
| STAT 301 or STAT 318 [*] | 3 CI 295 ^{**} | 3 |
| EDPSY 14 ^{**} | 3 ENGL 202A or 202B [*] | 3 |
| | CI 280 ^{**†} | 3 |
| | 17 | 18 |

Third Year

| Fall | Credits Spring | Credits |
|--|--------------------------------------|---------|
| MATH 312 [*] | 3 MTHED 411 [*] | 3 |
| MATH 435 or 427 and 428 | 3-4 MTHED 427 [*] | 3 |
| SPLED 400 [*] | 4 MATH 310 or 436 [*] | 3 |
| STAT 414 (or General Education Course (GA)) ^{**†} | 3 SPLED 403B [*] | 3 |
| 400-level MATH Selection [*] | 3 PSYCH 412 or HDFS 239 [*] | 3 |

| | | |
|--------------------------------------|---|-----------|
| General Education (GHW) [†] | 1.5 General Education (GN) [†] | 3 |
| 17.5-18.5 | | 18 |

Fourth Year

| Fall | Credits Spring | Credits |
|--|--|-----------|
| MTHED 412W [*] | 3 CI 495E [*] | 15 |
| STAT 414 (or General Education Course (GA)) ^{**†} | 3 No additional coursework permitted during Student Teaching | |
| 400-level MATH Selection [*] | 3 | |
| CI 495C | 3 | |
| MATH 435 or 427 and 428 | 3-4 | |
| 15-16 | | 15 |

Total Credits 134-136

* 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 Cultural Diversity 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.

General Education includes Foundations (GWS and GQ), Knowledge Domains (GHW, GN, GA, GH, GS) and Integrative Studies (Inter-domain) requirements. N or Q (Honors) is the suffix at the end of a course number used to help identify an Inter-domain course, but the inter-domain attribute is used to fill audit requirements. Foundations courses (GWS and GQ) require a grade of 'C' or better.

¹ Prerequisite: satisfactory performance on the Math placement tests - i.e. placement beyond the level of MATH 22; or CHEM 101 and MATH 22 or MATH 41

Program Notes

- 1.) There are additional entrance to major requirements of PRAXIS Core Exam, 40-hour Work Experience, 3.0 GPA.
- 2.) Additional requirements must be met to be certified - please meet with adviser regularly.

Academic Advising Notes

- 1.) Students interested in dual majoring in MTHBC B.S. alongside SECBC B.S. should carefully select their General Education (GN) courses to fulfill math major requirements. Please meet with adviser to schedule.
- 2.) Several courses above are taught every other year:
 - the following are taught in fall of odd years: MATH 435, STAT 414, MATH 455, MATH 412
 - the following are taught in fall of even years: MATH 427, MATH 428, MATH 465, MATH 455
 - the following is taught in spring of odd years: MATH 436, MATH 421, MATH 449
 - the following is taught in spring of even years: MATH 310, MATH 456, MATH 429, MATH 482

3.) Must complete at least 3 credits of IL and 3 credit of US Cultures selections. EDTHP 115A satisfies US Cultures. Either the GA or Literature GH class can be chosen to satisfy the IL requirement.

Approved Literature (GH) Selection:

CMLIT 1, CMLIT 2, CMLIT 3, CMLIT 4, CMLIT 5, CMLIT 6, CMLIT 10,
CMLIT 11, CMLIT 83S, CMLIT 100, CMLIT 101, CMLIT 105, CMLIT 106,
CMLIT 107, CMLIT 108, CMLIT 110, CMLIT 111, CMLIT 120, CMLIT 141,
CMLIT 153, ENGL 1, ENGL 2, ENGL 103, ENGL 104, ENGL 129, ENGL 132,
ENGL 133, ENGL 134, ENGL 135, ENGL 139, ENGL 140, ENGL 145,
ENGL 180, ENGL 182, ENGL 184, ENGL 185, ENGL 189, ENGL 191,
ENGL 192, ENGL 194, ENGL 200, ENGL 201, ENGL 221, ENGL 222,
ENGL 226, ENGL 231, ENGL 232, ENGL 233N, ENGL 240, ENGL 261,
ENGL 262, ENGL 263, ENGL 265, ENGL 268, CAMS 1, CAMS 45

Chemistry Pre-Education Option: Secondary Education, B.S. at Erie Campus

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First Year

| Fall | Credits Spring | Credits |
|--------------------------------|------------------------------------|-------------|
| CHEM 110 ^{††} | 3 CHEM 112 ^{††} | 3 |
| CHEM 111 ^{††} | 1 CHEM 113 ^{††} | 1 |
| MATH 140 ^{††} | 4 MATH 141 ^{††} | 4 |
| ENGL 15 or 30H [‡] | 3 PHYS 211 ^{††} | 4 |
| PSU 7 | 1 General Education Course | 3 |
| General Education Course (GHW) | 1.5 General Education Course (GHW) | 1.5 |
| General Education Course | 3 | |
| | 16.5 | 16.5 |

Second Year

| Fall | Credits Spring | Credits |
|------------------------|-------------------------------------|-----------|
| CHEM 210 [*] | 3 CHEM 212 [*] | 3 |
| CHEM 227 [*] | 4 CHEM 213 [*] | 2 |
| PHYS 212 ^{††} | 4 ENGL 202C [‡] | 3 |
| MATH 230 [*] | 4 MATH 250 or STAT 401 [*] | 3 |
| | PSYCH 100 ^{††} | 3 |
| | General Education Course | 3 |
| | 15 | 17 |

Third Year

| Fall | Credits Spring | Credits |
|------------------------------------|---|-----------|
| CHEM 450 [*] | 3 CHEM 452 [*] | 3 |
| CHEM 457 [*] | 1 CHEM 457 [*] | 1 |
| CHEM 400 [*] | 1 CHEM 440 [*] | 3 |
| CHEM 472 [*] | 3 CHEM 441 [*] | 1 |
| CHEM 316 [*] | 1 CHEM 494 or 496 [*] | 1 |
| CAS 100A [‡] | 3 EDPSY 14 | 3 |
| PSYCH 212 or HDFS 129 [†] | 3 CI 295 | 1 |
| | Supporting Courses and Related Areas ³ | |
| | 15 | 13 |

Fourth Year

| Fall | Credits Spring | Credits |
|---------------------------------------|--|--------------|
| CHEM 413 [*] | 4 CHEM 431W [*] | 4 |
| CHEM 443 [*] | 1 CHEM 494 or 496 [*] | 1 |
| CHEM 494 or 496 [*] | 1 CHEM 395 [†] | 1-2 |
| EDTHP 115 | 3 CHEM 400-Level Course [*] | 3 |
| CI 295 | 1 General Education Course | 3 |
| CHEM 400-Level Selection [*] | 3 Supporting Courses and Related Areas | 3 |
| | 13 | 15-16 |

Total Credits 121-122

- * 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 Cultural Diversity 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.

General Education includes Foundations (GWS and GQ), Knowledge Domains (GHW, GN, GA, GH, GS) and Integrative Studies (Inter-domain) requirements. N or Q (Honors) is the suffix at the end of a course number used to help identify an Inter-domain course, but the inter-domain attribute is used to fill audit requirements. Foundations courses (GWS and GQ) require a grade of 'C' or better.

Program Notes

1.) Students who have not met the admission requirement of two units of a foreign language must complete a college level-one foreign language within their first 60 credits.

2.) Scheduling patterns for courses not taught each semester. Some major requirement will be offered only once a year or every other year depending on demand:

Fall only courses include: CHEM 210, CHEM 227, CHEM 316, CHEM 400, CHEM 413, CHEM 450, CHEM 472

Spring only courses include: CHEM 212, CHEM 213, CHEM 431W, CHEM 440, CHEM 452

3.) All first-year baccalaureate degree candidates are required to complete, during the first academic year, a seminar course.

4.) 18 credits of supporting courses are required for the general option. There are a variety of courses you may choose from. The list given below is not completely inclusive. If there is a new course or a technical course you feel you would like to include under this selection, please speak with your Academic Adviser or the Academic Coordinator.

Supporting Courses List

EDSGN 100S
BIOL 110 or higher
CHNS 1, CHNS 2, CHNS 3
CMPSC any course
CMPEN any course
FR 1, FR 2, FR 3
GER 1, GER 2, GER 3
MATH 200-level or higher
MICRB 201 or MICRB 202
PHYS 213, PHYS 214, PHYS 237, or any 400-level course
PLET 206W or higher
SPAN 1, SPAN 2, SPAN 3
STAT 250 or higher
The following select courses can also be used as a supporting course under the designated CHMBC option.

Pre-Education Supporting Course List

PSYCH 301W
PSYCH 253

PSYCH 256
PSYCH 445
PSYCH 412
PSYCH 416
PHIL 10

5.) **Non-approved courses** - Some courses are not appropriate for a chemistry major and will not count toward degree requirements. These courses include, but are not limited to, those listed below:

Non-approved Courses List

BISC 1, BISC 2, BISC 3

BMB 1

CAS 126

CHEM 1, CHEM 3, CHEM 20, CHEM 21, CHEM 101, CHEM 202, CHEM 203

CMPSC 100

ENGL 4, ENGL 5

MATH 1, MATH 2, MATH 4, MATH 37, MATH 38

PHYS 1, PHYS 150, PHYS 151, PHYS 250, PHYS 251

STAT 100

General Science Pre-Certification Teaching Option: Secondary Education, B.S. at Erie Campus

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First Year

| Fall | Credits Spring | Credits |
|-----------------------------|----------------------------|-----------|
| CHEM 110 ^{*#†} | 3 CHEM 112 ^{*#†} | 3 |
| CHEM 111 ^{#†} | 1 CHEM 113 ^{*†} | 1 |
| MATH 140 ^{*#†} | 4 MATH 141 ^{*†} | 4 |
| ENGL 15 or 30H [†] | 3 BIOL 110S ^{*#†} | 4 |
| PSU 7 | 1 General Education Course | 3 |
| General Education Course | 3 | |
| | 15 | 15 |

Second Year

| Fall | Credits Spring | Credits |
|----------------------------------|----------------------------------|-----------|
| CAS 100 [‡] | 3 GEOSC 2 | 3 |
| BIOL 220W or 230W (or BIOL 240W) | 4 CMPSC 121 [*] | 3 |
| PHYS 250 or 211 [*] | 4 ASTRO 10 | 2 |
| GEOSC 20 | 3 ASTRO 11 | 1 |
| General Education Course (GHW) | 1.5 PHYS 251 or 212 [*] | 4 |
| | General Education Course | 3 |
| | 15.5 | 16 |

Third Year

| Fall | Credits Spring | Credits |
|---|---|-------------|
| PHYS 213 or PHYS 214 or Elective (if following PHYS 250/251 track) [†] | 2-3 World Language Level 2 | 4 |
| General Education Course | 3 General Education Course (GHW) | 1.5 |
| ENGL 202A or 202B (or ENGL 202C or ENGL 202D) ^{††} | 3 GEOSC 40 | 3 |
| ASTRO 291 or GEOG 10 | 3 ASTRO 292 | 3 |
| World Language Level 1 | 4 GEOSC 10 | 3 |
| | 400-Level Course Science Supporting List [*] | 3 |
| | 15-16 | 17.5 |

Fourth Year

| Fall | Credits Spring | Credits |
|---|--|---------|
| STAT 250 or 200 (or MATH 230 or CMPSC 122) | 3-4 400-Level Course Program List [*] | 3 |
| 400-Level Course Program List [*] | 3 400-Level Course Program List [*] | 3 |
| METEO 3 [†] | 3 GEOSC Course [*] | 3 |
| 400-Level Course Science Supporting List [*] | 3 General Education Course [†] | 3 |

| | | |
|--------------------------|--|-----------|
| General Education Course | 3 GEOG, GEOSC, MATSC, MATSE Course (any level) | 3 |
| | 15-16 | 15 |

Total Credits 124-126

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

University Requirements and General Education Notes:

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General Education includes Foundations (GWS and GQ), Knowledge Domains (GHW, GN, GA, GH, GS) and Integrative Studies (Inter-domain) requirements. N or Q (Honors) is the suffix at the end of a course number used to help identify an Inter-domain course, but the inter-domain attribute is used to fill audit requirements. Foundations courses (GWS and GQ) require a grade of 'C' or better.

Program Notes

- 1.) Students who have not met the admission requirement of two units of a high school world language must complete a college level-one world language within their first 60 credits.
- 2.) Scheduling patterns for courses not taught each semester - some major requirements will be offered only once every other year.
 - **Fall only courses include:** CMPSC 455, MATH 455, PHYS 402, PHYS 414
 - **Spring only courses include:** CMPSC 456, ME 428, MATH 456, PHYS 410, PHYS 420, PHYS 421W, PHYS 458
- 3.) All first-year baccalaureate degree candidates are required to complete, during the first academic year, a seminar course
- 4.) Students must earn at least a grade of C in each 300- and 400-level prescribed, additional, and supporting course.
- 5.) For Science Supporting Courses, students must select 18 credits, with at least 9 credits at the 400-level, in one of the areas: computer sciences, life sciences, mathematical sciences, or physical sciences.
- 6.) Students must select 18-22 credits, with at least 6 credits at the 400-level, from the program list.
- 7.) Students must complete at least 3 credits of a writing across the curriculum credits. Note that only one credit of each of the BIOL 220W, BIOL 230W, and BIOL 240W courses can be used to meet this requirement.

Advising Notes

Program List Courses

Students may select courses from nearly the entire range of the University's course offerings, **excluding the following:**

BIOL 11, BIOL 12
BISC 1, BISC 2, BISC 3, BISC 4
BMB 1
CAS 126
CHEM 1, CHEM 3, CHEM 101, CHEM 108
CMPSC 1, CMPSC 100, CMPSC 110
ENGL 4, ENGL 5, ESL 4
LLED 5, LLED 10

MATH 1, MATH 2, MATH 3, MATH 4, MATH 21, MATH 26, MATH 30,
MATH 35, MATH 36, MATH 37, MATH 38, MATH 40, MATH 81, MATH 82,
MATH 83, MATH 110, MATH 111, MATH 200
MICRB 106, MICRB 107, MICRB 120, MICRB 121A, MICRB 121B,
MICRB 150, and MICRB 151x
PHYS 1, PHYS 150, PHYS 151, PHYS 126
STAT 100

Science Supporting Courses List

Computer Science include CENBD and CMPSC courses

Geosciences include GEOG, GEOSC, MATSC, and MATSE courses

Life Sciences include BIOL, BMB, and MICRB courses

Mathematical Sciences include MATH and STAT courses

Physical Sciences include ASTRO, CHEM, and PHYS courses

Earth and Space Pre-Certification Teaching Option: Secondary Education, B.S. at Erie Campus

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First Year

| Fall | Credits | Spring | Credits |
|-----------------------------|-----------|--------------------------|-----------|
| CHEM 110 ^{*#†} | 3 | CHEM 112 ^{*#†} | 3 |
| CHEM 111 ^{#†} | 1 | CHEM 113 ^{*†} | 1 |
| MATH 140 ^{*#†} | 4 | MATH 141 ^{*†} | 4 |
| ENGL 15 or 30H [†] | 3 | BIOL 110S ^{*#†} | 4 |
| PSU 7 | 1 | General Education Course | 3 |
| General Education Course | 3 | | |
| | 15 | | 15 |

Second Year

| Fall | Credits | Spring | Credits |
|----------------------------------|-------------|------------------------------|-----------|
| CAS 100 [†] | 3 | GEOSC 2 | 3 |
| BIOL 220W or 230W (or BIOL 240W) | 4 | CMPSC 121 [*] | 3 |
| PHYS 250 or 211 [*] | 4 | ASTRO 10 | 2 |
| GEOSC 20 | 3 | ASTRO 11 | 1 |
| General Education Course (GHW) | 1.5 | PHYS 251 or 212 [*] | 4 |
| | | General Education Course | 3 |
| | 15.5 | | 16 |

Third Year

| Fall | Credits | Spring | Credits |
|---|--------------|---|-------------|
| PHYS 213 or PHYS 214 or Elective (if following PHYS 250/251 track) [†] | 2-3 | World Language Level 2 | 4 |
| General Education Course | 3 | General Education Course (GHW) | 1.5 |
| ENGL 202A or 202B (or ENGL 202C or ENGL 202D) ^{††} | 3 | GEOSC 40 | 3 |
| ASTRO 291 or GEOG 10 | 3 | ASTRO 292 | 3 |
| World Language Level 1 | 4 | GEOSC 10 | 3 |
| | | 400-Level Course Science Supporting List [*] | 3 |
| | 15-16 | | 17.5 |

Fourth Year

| Fall | Credits | Spring | Credits |
|---|---------|--|---------|
| STAT 250 or 200 (or MATH 230 or CMPSC 122) | 3-4 | 400-Level Course Program List [*] | 3 |
| 400-Level Course Program List [*] | 3 | 400-Level Course Program List [*] | 3 |
| METEO 3 [†] | 3 | GEOSC Course [*] | 3 |
| 400-Level Course Science Supporting List [*] | 3 | General Education Course | 3 |

| | | | |
|--------------------------|--------------|--|-----------|
| General Education Course | 3 | GEOG, GEOSC, MATSC, MATSE Course (any level) | 3 |
| | 15-16 | | 15 |

Total Credits 124-126

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Program Notes

- 1.) Students who have not met the admission requirement of two units of a high school world language must complete a college level-one world language within their first 60 credits.
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- 3.) All first-year baccalaureate degree candidates are required to complete, during the first academic year, a seminar course
- 4.) Students must earn at least a grade of C in each 300- and 400-level prescribed, additional, and supporting course.
- 5.) For Science Supporting Courses, students must select 18 credits, with at least 9 credits at the 400-level, in one of the areas: computer sciences, life sciences, mathematical sciences, or physical sciences.
- 6.) Students must select 18-22 credits, with at least 6 credits at the 400-level, from the program list.
- 7.) Students must complete at least 3 credits of a writing across the curriculum credits. Note that only one credit of each of the BIOL 220W, BIOL 230W, and BIOL 240W courses can be used to meet this requirement.

Advising Notes

Program List Courses

Students may select courses from nearly the entire range of the University's course offerings, **excluding the following:**

BIOL 11, BIOL 12
BISC 1, BISC 2, BISC 3, BISC 4
BMB 1
CAS 126
CHEM 1, CHEM 3, CHEM 101, CHEM 108
CMPSC 1, CMPSC 100, CMPSC 110
ENGL 4, ENGL 5, ESL 4
LLED 5, LLED 10

MATH 1, MATH 2, MATH 3, MATH 4, MATH 21, MATH 26, MATH 30,
MATH 35, MATH 36, MATH 37, MATH 38, MATH 40, MATH 81, MATH 82,
MATH 83, MATH 110, MATH 111, MATH 200
MICRB 106, MICRB 107, MICRB 120, MICRB 121A, MICRB 121B,
MICRB 150, and MICRB 151x
PHYS 1, PHYS 150, PHYS 151, PHYS 126
STAT 100

Science Supporting Courses List

Computer Science include CENBD and CMPSC courses
Geosciences include GEOG, GEOSC, MATSC, and MATSE courses
Life Sciences include BIOL, BMB, and MICRB courses
Mathematical Sciences include MATH and STAT courses
Physical Sciences include ASTRO, CHEM, and PHYS courses