**COMPUTER SCIENCE, B.S. (ABINGTON)**

**Begin Campus:** Any Penn State Campus

**End Campus:** Abington

**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).

**GENERAL OPTION: Computer Science, B.S. at Abington 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 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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Fall</th>
<th>Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 15 or 30H (GWS)</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMPSC 121 or 131 (GQ)</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 140 (GQ)†§</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Education Course (GH)</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Education Course (GHW)</td>
<td>3</td>
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</table>

**Total Credits:** 16/17

### Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Fall</th>
<th>Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Course (GS)</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Education Course (GN)†</td>
<td>2-3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMPSC 3602</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMPSC 3122</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMPSC 3302</td>
<td>3</td>
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**Total Credits:** 14-15/17

### Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Fall</th>
<th>Spring</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>CMPSC 4632</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGL 202C (GWS)†</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMPSC 2212</td>
<td>3</td>
<td></td>
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</table>

**Total Credits:** 15/15

### Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Fall</th>
<th>Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMPSC 487W2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supporting Courses: Select 2 credits of 100-400 level courses in consultation with an academic adviser³</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Additional Computer Science (Select 3 Credits)</td>
<td>3 Additional Computer Science (Select 3 Credits)</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supporting Courses: Select 3 credits of 300-400 level courses in consultation with an academic adviser³</td>
<td>3</td>
<td>Additional Computer Science/Math Courses (Select 3 Credits)</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Total Credits:** 14/12

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**University Requirements and General Education Notes:**

* 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

1. Natural Sciences (GN), recommended courses
   - PHYS 212 General Physics: Electricity and Magnetism

2. Students must earn a 2.5 or higher grade point average in the following courses: CMPSC 221, CMPSC 312, CMPSC 330, CMPSC 360, CMPSC 430, CMPSC 460, CMPSC 462, CMPSC 463, CMPSC 469, CMPSC 470, CMPSC 472, CMPSC 487W, and CMPSC 488.

3. 3 credits from courses at 300-400 level and 5 credits from courses at 100-400 level are to be chosen in consultation with the adviser and with program approval.

**Program 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. General Education & Entrance to Major Requirements (55 credits)
   a. English (9 credits)
      i. ENGL 15S (GWS) or ENGL 30T (GWS)
      ii. ENGL 202C (GWS)
      iii. CAS 100 (GWS)
   b. Mathematics (10 credits)
      i. MATH 140 (GQ)
      ii. MATH 141 (GQ)
      iii. MATH 220 (GQ)
   c. Computer Science (6 credits)
      i. CMPSC 121/CMPSC 131 (GQ)
      ii. CMPSC 122/CMPSC 132
   d. Natural Sciences (6 credits)
      i. PHYS 211 (GN)
      ii. Additional 2 credits of any courses with a GN suffix
   e. Arts† (3 credits)
      i. 3 credits of any courses with a GA suffix
   f. Humanities† (3 credits)
      i. 3 credits of any courses with a GH suffix
   g. Social & Behavioral Sciences† (3 credits)
      i. 3 credits of any courses with a GS suffix
   h. Health & Physical Activities (3 credits)
      i. 3 credits of any courses with a GHW suffix
   i. Integrated/inter-domain courses (6 credits)
   j. 6 additional credits of exploration (GA, GH, GN, GS or inter-domain)

2. Core Requirements (65 credits)
   a. Required Computer Science Courses - Students must earn a 2.5 or higher-grade point average in the Required Computer Science Courses (39 credits):
      i. CMPSC 221
      ii. CMPSC 312
      iii. CMPSC 330
      iv. CMPSC 360
      v. CMPSC 430
      vi. CMPSC 460
      vii. CMPSC 462
      viii. CMPSC 463
      ix. CMPSC 469
      x. CMPSC 470
      xi. CMPSC 472
      xii. CMPSC 487W
      xiii. CMPSC 488
   b. Required Mathematics Courses - Select one course from the following (3 credits):
      i. STAT 318/MATH 318
      ii. STAT 414/MATH 414

3. Additional Courses: Technical Electives (15 credits)
   a. Select at least 15 credits from the following. At least 9 of these additional course credits must be from courses with a CMPSC prefix. Other courses are to be chosen in consultation with the adviser and with program approval.
      i. CMPSC 313
      ii. CMPSC 412
      iii. CMPSC 413
   iv. CMPSC 414
   v. CMPSC 421
   vi. CMPSC 426
   vii. CMPSC 438
   viii. CMPSC 441
   ix. CMPSC 444
   x. CMPSC 445
   xi. CMPSC 446
   xii. CMPSC 455/MATH 455
   xiii. CMPSC 457
   xiv. CMPSC 475
   xv. CMPSC 496
   xvi. CMPSC 497
   xvii. MATH 401
   xviii. MATH 410
   xix. MATH 411
   xx. MATH 412
   xxi. MATH 425
   xxii. MATH 430
   xxiii. MATH 435
   xxiv. MATH 448
   xxv. MATH 465
   xxvi. MATH 468
   xxvii. MATH 485
   xxviii. MATH 496
   xxix. MATH 497
   xxx. STAT 401
   xxxi. STAT 415/MATH 415
   xxxii. STAT 462
   xxxiii. STAT 463

4. Supporting Courses (8 credits)
   a. 3 credits from courses at 300-400 level and 5 credits of unrestricted electives at 100-400 level are to be chosen in consultation with the adviser and with program approval.
DATA SCIENCE OPTION: Computer Science, B.S. at Abington 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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 15 or 30H (GWS)‡</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>CMPSC 131 (GQ)†</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MATH 140 (GQ)†¹</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>General Education Course (GH)</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>General Education Course (GHW)</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>16</strong></td>
<td><strong>17</strong></td>
</tr>
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</table>

Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Course (GS)</td>
<td>3 Integrated/Inter-domain</td>
<td>3</td>
</tr>
<tr>
<td>General Education Course (GN)¹</td>
<td>2-3 General Education Course (Exploration)</td>
<td>3</td>
</tr>
<tr>
<td>CMPSC 360²</td>
<td>3 MATH 220</td>
<td>2</td>
</tr>
<tr>
<td>CMPSC 312²</td>
<td>3 MATH 318, STAT 318, or STAT 414</td>
<td>3</td>
</tr>
<tr>
<td>CMPSC 330²</td>
<td>3 CMPSC 462²</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>14-15</strong></td>
<td><strong>17</strong></td>
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Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMPSC 463²</td>
<td>3 General Education Course (Exploration)</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 202C (GWS)‡</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>STAT 401</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>CMPSC 430²</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>CMPSC 441²</td>
<td>3 Supporting Courses: Select 3 credits of 100-400 level courses in consultation with an academic adviser²</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>14-15</strong></td>
<td><strong>17</strong></td>
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</table>

Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMPSC 487W²</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Supporting Courses: Select 2 credits of 100-400 level courses in consultation with an academic adviser³</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>CMPSC 446²</td>
<td>3 Additional Course (Select 3 Credits)</td>
<td>3</td>
</tr>
<tr>
<td>STAT 462</td>
<td>3 Additional Course (Select 3 Credits)</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>15</strong></td>
<td><strong>15</strong></td>
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</table>

Integrated/Inter-domain  

<table>
<thead>
<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits 120-121

* 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

1. Natural Sciences (GN)
2. Students must earn a 2.5 or higher grade point average in the following courses: DS 220, CMPSC 312, CMPSC 360, CMPSC 430, CMPSC 445, CMPSC 446, CMPSC 460, CMPSC 462, CMPSC 463, CMPSC 469, CMPSC 470, CMPSC 472, CMPSC 487W, and CMPSC 488.
3. 5 credits of unrestricted electives at 100-400 level are to be chosen in consultation with the adviser and with program approval.

University Requirements and General Education Notes:

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Program Notes:

1. General Education & Entrance to Major Requirements (55 credits)

   a. English (9 credits)
      i. ENGL 15S (GWS) or ENGL 30T (GWS)
      ii. ENGL 202C (GWS)
      iii. CAS 100 (GWS)

   b. Mathematics (10 credits)
      i. MATH 140 (GQ)
      ii. MATH 141 (GQ)
      iii. MATH 220 (GQ)

   c. Computer Science (6 credits)
      i. CMPSC 121/CMPSC 131 (GQ)
      ii. CMPSC 122/CMPSC 132

   d. Natural Sciences (6 credits)
      i. PHYS 211 (GN)
      ii. Additional 2 credits of any courses with a GN suffix

   e. Arts †: (3 credits)
      i. 3 credits of any courses with a GA suffix

   f. Humanities †: (3 credits)
      i. 3 credits of any courses with a GH suffix

   g. Social & Behavioral Sciences †: (3 credits)
      i. 3 credits of any courses with a GS suffix

   h. Health & Physical Activities (3 credits)
      i. 3 credits of any courses with a GH suffix
i. Integrated/inter-domain courses (6 credits)

j. 6 additional credits of exploration (GA, GH, GN, GS or inter-domain)

2. Core Requirements (65 credits)
   a. Computer Science/Data Science/Statistics Courses - Students must earn a 2.5 or higher grade-point average in the Required Computer Science Courses (45 credits):
      i. DS 220
      ii. CMPSC 312
      iii. CMPSC 330
      iv. CMPSC 360
      v. CMPSC 430
      vi. CMPSC 441
      vii. CMPSC 445
      viii. CMPSC 446
      ix. CMPSC 460
      x. CMPSC 462
      xi. CMPSC 463
      xii. CMPSC 469
      xiii. CMPSC 472
      xiv. CMPSC 487W
      xv. CMPSC 488
   b. Required Mathematics/Statistics Courses (9 credits):
      i. STAT 401
      ii. STAT 462
      iii. Select one course from the following:
           1. STAT 318/MATH 318
           2. STAT 414/ MATH 414

3. Additional Courses: Technical Electives (6 credits)
   a. Select at least 6 credits from the following. Other courses are to be chosen in consultation with the adviser and with program approval.
      i. CMPSC 313
      ii. CMPSC 412
      iii. CMPSC 413
      iv. CMPSC 414
      v. CMPSC 421
      vi. CMPSC 426
      vii. CMPSC 438
      viii. CMPSC 444
      ix. CMPSC 455/ MATH 455
      x. CMPSC 457
      xi. CMPSC 470
      xii. CMPSC 475
      xiii. CMPSC 496
      xiv. CMPSC 497
      xv. MATH 401
      xvi. MATH 410
      xvii. MATH 411
      xviii. MATH 412
      xix. MATH 425
      xx. MATH 430
      xi. MATH 435
      xii. MATH 448
      xxiii. MATH 465
      xxiv. MATH 468
      xxv. MATH 485
      xxvi. MATH 496
      xxvii. MATH 497
      xxviii. STAT 415/MATH 415
      xxix. STAT 463

4. Supporting Courses (5 credits)
   a. 5 credits of unrestricted electives at 100-400 level are to be chosen in consultation with the adviser and with program approval.