### 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 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>Fall</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 15 or 30H (GWS)‡</td>
<td>3</td>
<td>CAS 100 (GWS)‡</td>
<td>3</td>
</tr>
<tr>
<td>CMPSC 121 or 131 (GQ)‡</td>
<td>3</td>
<td>CMPSC 122/132 (GQ)‡</td>
<td>3</td>
</tr>
<tr>
<td>MATH 140 (GQ)‡</td>
<td>4</td>
<td>MATH 141 (GQ)‡</td>
<td>4</td>
</tr>
<tr>
<td>General Education Course (GH)</td>
<td>3</td>
<td>General Education Course (GA)</td>
<td>3</td>
</tr>
<tr>
<td>General Education Course (GHW)</td>
<td>3</td>
<td>PHYS 211 (GN)§</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>16</td>
<td></td>
<td>17</td>
</tr>
</tbody>
</table>

### Second Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Course (GS)</td>
<td>3</td>
<td>Integrated/Inter-domain</td>
<td>3</td>
</tr>
<tr>
<td>General Education Course (GN)</td>
<td>2-3</td>
<td>General Education Course (Exploration)</td>
<td>3</td>
</tr>
<tr>
<td>CMPSC 360 (GQ)</td>
<td>3</td>
<td>MATH 220</td>
<td>2</td>
</tr>
<tr>
<td>CMPSC 312 (GQ)</td>
<td>3</td>
<td>MATH 318, STAT 318, or STAT 414</td>
<td>3</td>
</tr>
<tr>
<td>CMPSC 330 (GQ)</td>
<td>3</td>
<td>CMPSC 462 (GQ)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>14-15</td>
<td></td>
<td>17</td>
</tr>
</tbody>
</table>

### Third Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMPSC 463 (GQ)</td>
<td>3</td>
<td>General Education Course (Exploration)</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 202C (GWS)‡</td>
<td>3</td>
<td>CMPSC 470 (GQ)</td>
<td>3</td>
</tr>
<tr>
<td>CMPSC 221 (GQ)</td>
<td>3</td>
<td>Additional Computer Science (Select 3 Credits)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Fourth Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supporting Courses: Select 2 credits of 100-400 level courses in consultation with an academic adviser</td>
<td>2</td>
<td>CMPSC 488 (GQ)</td>
<td>3</td>
</tr>
<tr>
<td>Additional Computer Science (Select 3 Credits)</td>
<td>3</td>
<td>Supporting Courses: Select 3 credits of 300-400 level courses in consultation with an academic adviser</td>
<td>3</td>
</tr>
<tr>
<td>Integrated/Inter-domain</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>14</td>
<td></td>
<td>12</td>
</tr>
</tbody>
</table>

**Total Credits 120-121**

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.

### 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. 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

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 time. This plan should be used in conjunction with your degree audit.

First Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 15 or 30H (GWS)‡</td>
<td>3 CAS 100 (GWS)‡</td>
<td>3</td>
</tr>
<tr>
<td>CMPSC 131 (GQ)*</td>
<td>3 CMPSC 132*</td>
<td>3</td>
</tr>
<tr>
<td>MATH 140 (GQ)†#</td>
<td>4 MATH 141 (GQ)†#</td>
<td>4</td>
</tr>
<tr>
<td>General Education Course (GH)</td>
<td>3 General Education Course (GA)</td>
<td>3</td>
</tr>
<tr>
<td>General Education Course (GHW)</td>
<td>3 PHYS 211 (GN)†</td>
<td>4</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Fall</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)†</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></td>
<td>DS 220²</td>
<td>3</td>
</tr>
</tbody>
</table>

Third Year

<table>
<thead>
<tr>
<th>Fall</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 CMPSC 445²</td>
<td>3</td>
</tr>
<tr>
<td>STAT 401</td>
<td>3 CMPSC 469²</td>
<td>3</td>
</tr>
<tr>
<td>CMPSC 430²</td>
<td>3 CMPSC 460²</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>
</tbody>
</table>

Fourth Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMPSC 487W²</td>
<td>3 CMPSC 472²</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 CMPSC 488²</td>
<td>3</td>
</tr>
<tr>
<td>CMPSC 445²</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>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Integrated/Inter-domain</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Credits 120-121</td>
<td>---</td>
</tr>
</tbody>
</table>

* 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:

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 (GHN, 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. 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. 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
   xiii. MATH 465
   xiv. MATH 468
   xv. MATH 485
   xvi. MATH 496
   xvii. MATH 497
   xviii. STAT 415/MATH 415
   xix. 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.