

# Computer Science, BS

## Academic Plans

### Four-Year Graduation Plan

The Four-Year Graduation Plan is not available to BS students majoring in computer science. Students work with their advisors on individual graduation plans.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Computer Science, BS

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Students who major in computer science may not also major or minor in computer science and engineering, data science, or informatics.		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CS:1210	Computer Science I: Fundamentals <sub>b</sub>	4
MATH:1850	Calculus I <sup>c</sup>	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric: Writing and Communication	3 - 4
CSI:1600	Success at Iowa	1
Elective course <sup>d</sup>		1
<b>Hours</b>		<b>13-14</b>
<b>Spring</b>		
CS:2210	Discrete Structures	3
CS:2230	Computer Science II: Data Structures	4
MATH:1860	Calculus II	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric: Writing and Communication	3 - 4
GE CLAS Core: Understanding Cultural Perspectives <sup>e</sup>		3
<b>Hours</b>		<b>17-18</b>
<b>Second Year</b>		
<b>Fall</b>		
CS:2630	Computer Organization <sup>f</sup>	4
CS:3330	Algorithms <sup>f</sup>	3
Major: mathematics elective <sup>g</sup>		3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>h</sup>		4 - 5
Elective course <sup>d</sup>		1
<b>Hours</b>		<b>15-17</b>

<b>Spring</b>		
CS:2820	Introduction to Software Development <sup>f</sup>	4
CS:3820	Programming Language Concepts	3
Major: mathematics elective <sup>g</sup>		3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts <sup>e</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>h</sup>		4 - 5
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>19-21</b>

<b>Third Year</b>		
<b>Fall</b>		
CS:3620 or CS:3640	Operating Systems or Introduction to Networks and Their Applications	3
Major: advanced computer science elective <sup>i</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>e, j</sup>		3
GE CLAS Core: World Languages Third Level Proficiency or elective course <sup>h</sup>		4 - 5
<b>Hours</b>		<b>13-14</b>

<b>Spring</b>		
CS:4330 or CS:4350	Theory of Computation or Logic in Computer Science	3
Major: advanced computer science elective <sup>i</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>e, j</sup>		4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>h</sup>		4 - 5
Elective course <sup>d</sup>		1
<b>Hours</b>		<b>15-16</b>

<b>Fourth Year</b>		
<b>Fall</b>		
Major: advanced computer science or technical elective <sup>k</sup>		3
GE CLAS Core: Historical Perspectives <sup>e</sup>		3
GE CLAS Core: International and Global Issues <sup>e</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>15</b>

<b>Spring</b>		
Major: advanced computer science or technical elective <sup>k</sup>		3
GE CLAS Core: Social Sciences <sup>e</sup>		3
GE CLAS Core: Values and Society <sup>e</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>l</sup>		
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>122-130</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative or Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Society.

b Enrollment in this course requires completion of a placement exam.

- c Enrollment in math courses requires completion of a placement exam.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f Students may take CS:2630, CS:2820 and CS:3330 in any order after completing CS:1210, CS:2210, and CS:2230.
- g Required math electives include (1) MATH:2700 and (2) STAT:2020 or STAT:3120
- h Students who have completed four levels of a single language or two levels of two different languages in high school or college have satisfied the GE CLAS Core World Languages requirement. Students who have completed three levels of a single language may complete a fourth-level course in the same language or may choose an approved World Language and Cultural Exploration course. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course. Contact your academic advisor or CLAS Undergraduate Programs Office with questions concerning the World Languages requirement.
- i Students may choose a computer science course (prefix CS) numbered 3620-5899, except CS:3910, CS:3980 and CS:4310, or a CS course numbered 5900 or above with department approval. A course used to complete a core requirement cannot also be used as a major elective.
- j The BS in computer science requires a 6-8 s.h., two-semester sequence science cognate. Select courses approved to meet the major requirement may also be used to meet the GE CLAS Core Natural Science requirement. See your academic advisor for additional information.
- k Students may choose a computer science course (prefix CS) numbered 3620-5890, except CS:3910, CS:3980 and CS:4310, or a CS course numbered 5900 or above with department approval. A course used to satisfy a core requirement cannot also be used as an advanced major elective. Alternatively, students may take a course in other disciplines with department approval. See academic advisor for additional information.
- l Please see Academic Calendar, on Office of the Registrar website, for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Degree Services.