

# Bachelors of Science-Computer Science

## Program Description

The discipline of computer science is concerned with the design of computers, computational processes and information transfer and transformation. Examples of projects a computer scientist might work on include: design of next-generation computer systems, computer networking, biomedical information systems, gaming systems, search engines, Web browsers and computerized package distribution systems.

Computer scientists might also focus on improving software reliability, network security or information retrieval systems, or may even work as a consultant to a financial services company. Students pursuing this degree may choose to concentrate their studies in software engineering or information assurance.

## Career Opportunities

Graduates with a degree in computer science find employment working in a variety of capacities ranging from computer and software design to development of information technologies. Their jobs are often distinguished by the high level of theoretical expertise they apply to solving complex problems and the creation and application of new technologies. Some computer science-related jobs may include creating video games, designing artificial intelligence systems, developing network security applications and inventing and implementing more efficient systems for managing data including information on the Internet.

## **Chandler Gilbert Community College Contact**

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## **Arizona State University Contact**

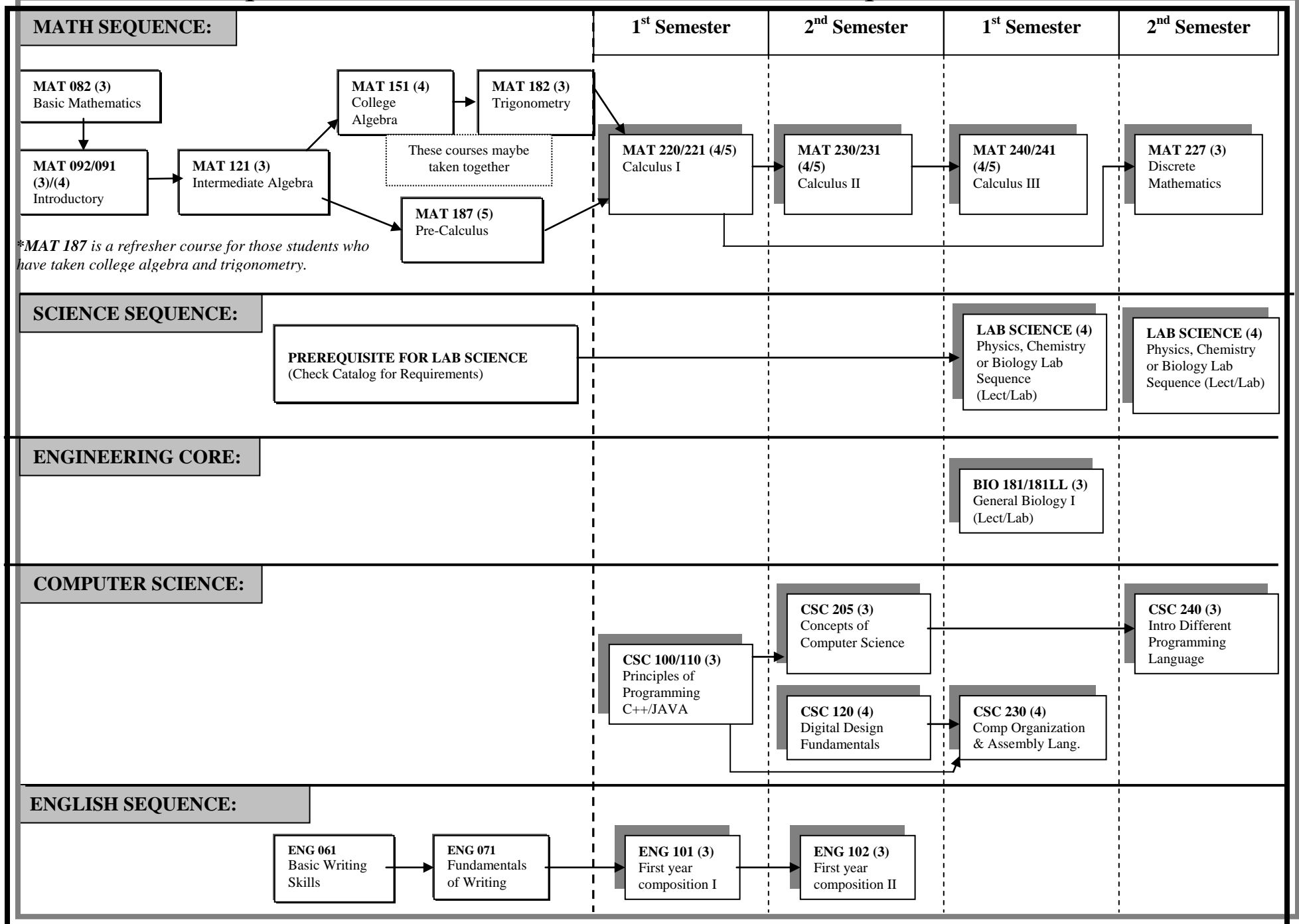
[Computer Science and Engineering Program](#) |

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# ENGINEERING ASSESSMENTS AND COURSE SEQUENCE COMPUTER SCIENCE

## Prerequisite Courses

## Required Courses





## Computer Science Engineering Recommended Study Guide

Year 1		Year 2	
First Semester	Second Semester	Third Semester	Fourth Semester
<b>MAT 220 (4)</b> Calc 1 <u>Mat 187 or MAT182</u> <b>MAT 265 (3)</b>	<b>MAT 230 (4)</b> Calc 2 <u>MAT 220</u> <b>MAT 266 (3)</b>	<b>MAT 240 (4)</b> Calc 3 <u>MAT 220</u> <b>MAT267 (4)</b>	<b>MAT 227(3)</b> Discrete Mathematics <u>MAT220</u> <b>MAT275 (3)</b>
<b>CSC 100/110 (3)</b> C++/Java	<b>CSC 120 (4)</b> Digital Design Fundamentals <b>CSC 120 (3)</b>	<b>Science +Lab (4)</b> Physics, Chemistry or Biology Lec+Lab	<b>Science +Lab (4)</b> Physics, Chemistry or Biology Lec+Lab
<b>ENG 101 (3)</b> First Year Composition 1 <b>ENG 101 (3)</b>	<b>ENG102 (3)</b> First Year Composition 2 <b>ENG102 (3)</b>		<b>HU/SB (3)</b>
<b>HU/SB (3)</b>	<b>CSC 205 (3)</b> Concepts of Computer Science <u>CSC100</u> <b>CSC 205 (4)</b>	<b>CSC 230 (4)</b> Comp Organization & Assembly Lang <u>CSC 100,CSC120</u>	<b>HU/SB (3)</b>
<b>16</b>	<b>14</b>	<b>15</b>	<b>13</b>

Underlined = Pre-req      *Italic*= ASU Equivalence

CHM151 (4)+CHM152(4)=CHM 114 or CHM 116 (4)

According to ASU Computer Science advisement sheet:  
 Humanities & Social Sciences (HU/SB) (15 hrs minimum) (Required: 1 course upper division; 2 courses from the same dept; 2 depts. or more Represented; plus a minimum of two courses that satisfy three awareness areas: Cultural (C), Global (G), and Historical (H). Double counting is permissible between HU or SB and the awareness areas and also within the awareness areas.)

Course Subject and Title (courses in bold/shading are critical)	Hrs.	Upper Division	Completed ATP: <input type="checkbox"/> Yes <input type="checkbox"/> No		Completed AGEC: <input type="checkbox"/> Yes <input type="checkbox"/> No	Additional Critical Requirement Notes
			Transfer Course/Grade	Minimum Grade if Required		
<b>TERM ONE: 0-15 CREDIT HOURS</b>						
ASU 101-FSE: The ASU Experience	1	<input type="checkbox"/>				<ul style="list-style-type: none"> <li>Complete CSE 100 or 110; MAT 265 each with a minimum grade of "C"</li> <li>ASU 101-FSE should be completed first semester.</li> <li>An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>ASU Math Placement Exam score determines placement in Mathematics course</li> </ul> **If ENG 105 a 3 hr applicable elective must also be taken prior to graduation. See Advisor. # Designates Major Course: A minimum cumulative GPA of 2.0 required.
<b># CSE 100: Principles of Programming with C++ (CS) OR # CSE 110: Principles of Programming with Java (CS)</b>	3	<input type="checkbox"/>		Grade of C		
#CSE 101: Introduction to Computer Science & Engineering	2	<input type="checkbox"/>		Grade of C		
<b>MAT 265: Calculus for Engineers I (MA)</b>	3	<input type="checkbox"/>		Grade of C		
ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students	3	<input type="checkbox"/>		Grade of C		
Social & Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	3	<input type="checkbox"/>				
<b>TERM TWO: 16-30 CREDIT HOURS</b>						
<b># CSE 120: Digital Design Fundamentals</b>	3	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>Complete CSE 120, 205; MAT 266 each with a minimum grade of "C"</li> </ul> # Designates Major Course: A minimum cumulative GPA of 2.0 required.	
<b># CSE 205: Object-Oriented Programming &amp; Data Structures (CS)</b>	3	<input type="checkbox"/>		Grade of C		
<b>MAT 266: Calculus for Engineers II</b>	3	<input type="checkbox"/>		Grade of C		
BIO 187: General Biology I (SQ) or BIO 188: General Biology II (SQ)	4	<input type="checkbox"/>				
ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students	3	<input type="checkbox"/>		Grade of C		
<b>TERM THREE: 31-45 CREDIT HOURS</b>						
<b># CSE 230: Computer Organization and Assembly Language Programming</b>	3	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>Complete CSE 230; MAT 243, 267 each with a minimum grade of "C"</li> <li>Complete First-Year Composition requirement: ENG 101 &amp; 102 or ENG 107 &amp; 108 or ENG 105</li> <li>See Advisor for approved Laboratory Science sequence courses</li> </ul> # Designates Major Course: A minimum cumulative GPA of 2.0 required.	
<b>MAT 243: Discrete Mathematical Structures</b>	3	<input type="checkbox"/>		Grade of C		
<b>MAT 267: Calculus for Engineers III</b>	3	<input type="checkbox"/>		Grade of C		
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C), Global Awareness (G), or Historical Awareness (H)	3	<input type="checkbox"/>				
Laboratory Science I (SQ)	4	<input type="checkbox"/>				
<b>TERM FOUR: 46-60 CREDIT HOURS</b>						
<b>#CSE 240: Introduction to Programming Languages</b>	3	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>Complete CSE 240 with a minimum grade of "C"</li> <li>See Advisor for approved Laboratory Science sequence courses</li> <li>General Elective: cannot include CSE, MAT, PHY, BIO, CHM or other Science course</li> </ul> # Designates Major Course: A minimum cumulative GPA of 2.0 required.	
# MAT 343: Applied Linear Algebra	3	<input checked="" type="checkbox"/>				
Laboratory Science II (SQ)	4	<input type="checkbox"/>				
Social & Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G), or Historical Awareness (H)	3	<input type="checkbox"/>				
General Elective	3	<input type="checkbox"/>				
<b>TERM FIVE: 61-75 CREDIT HOURS</b>						
# IEE 380: Probability and Statistics for Engineering Problem Solving	3	<input checked="" type="checkbox"/>			# Designates Major Course: A minimum cumulative GPA of 2.0 required.	
# CSE 301: Computing Ethics	1	<input checked="" type="checkbox"/>		Grade of C		
# CSE 310: Data Structures and Algorithms	3	<input checked="" type="checkbox"/>		Grade of C		
# CSE 360: Introduction to Software Engineering	3	<input checked="" type="checkbox"/>		Grade of C		
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C), Global Awareness (G), or Historical Awareness (H)	3	<input type="checkbox"/>				
<b>TERM SIX: 76-90 CREDIT HOURS</b>						
# CSE 340: Principles of Programming Languages	3	<input checked="" type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>See Advisor for approved list of Technical Electives</li> </ul> # Designates Major Course: A minimum cumulative GPA of 2.0 required.	
# CSE 355: Introduction to Theoretical Computer Science	3	<input checked="" type="checkbox"/>		Grade of C		
# CSE 4** Computer Science Elective	3	<input checked="" type="checkbox"/>		Grade of C		
Computer Science Technical Elective	3	<input checked="" type="checkbox"/>		Grade of C		
UD Humanities, Fine Arts & Design (HU) OR Social & Behavioral Science (SB)	3	<input checked="" type="checkbox"/>				
<b>TERM SEVEN: 91-105 CREDIT HOURS</b>						
# CSE 430: Operating Systems	3	<input checked="" type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>See Advisor for approved list of Computer Science Electives</li> <li>General Elective: cannot include CSE, MAT, PHY, BIO, CHM or other Science course</li> </ul> # Designates Major Course: A minimum cumulative GPA of 2.0 required.	
# CSE 485: Computer Science Capstone Project I (L)	3	<input checked="" type="checkbox"/>		Grade of C		
# CSE 4** Computer Science Elective	3	<input checked="" type="checkbox"/>		Grade of C		
# CSE 4** Computer Science Elective	3	<input checked="" type="checkbox"/>		Grade of C		
General Elective	2	<input type="checkbox"/>				

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM EIGHT: 106-120 CREDIT HOURS</b>					
# CSE 486: Computer Science Capstone Project II (L)	3	<input checked="" type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>See Advisor for approved list of Technical Electives</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
# CSE 4** Computer Science Elective	3	<input checked="" type="checkbox"/>		Grade of C	
# CSE 4** Computer Science Elective	3	<input checked="" type="checkbox"/>		Grade of C	
# Computer Science Technical Elective	3	<input checked="" type="checkbox"/>		Grade of C	
Humanities, Fine Arts & Design (HU) OR Social & Behavioral Science (SB)	3	<input type="checkbox"/>			

**Graduation Requirements Summary:**

Total Hours Regular Curriculum (120)	Total UD Hrs (45 min)	Total Hrs at ASU (30 min)	Cumulative GPA (2.00 minimum)	Major GPA (2.00 minimum GPA )	Hrs Resident Credit for Academic Recognition (56 min)	Total Comm. College Hrs. (64 Max)

**General University Requirements: Legend**

- General Studies Core Requirements:
  - Literacy and Critical Inquiry (L)
  - Mathematical Studies (MA)
  - Computer/Statistics/Quantitative applications (CS)
  - Humanities, Fine Arts, and Design (HU)
  - Social and Behavioral Sciences (SB)
  - Natural Science-Quantitative (SQ)
  - Natural Science-General (SG)
- General Studies Awareness Requirements
  - Cultural Diversity in the US (C)
  - Global Awareness (G)
  - Historical Awareness (H)
- First-Year Composition

**Additional Notes:**