COMPUTER TECHNOLOGY, BACHELOR OF ARTS

Requirements

Total Course Requirements for the Bachelor's Degree

See the "Requirements for the Bachelor's Degree (https://catalog.csudh.edu/general-information/baccalaureate-degrees-undergraduate-studies/)" in the University Catalog for complete details on general degree requirements. A minimum of 40 units, including those required for the major, must be upper division.

Elective Requirements

Completion of elective courses (beyond the requirements listed below) to reach a total of a minimum of 120 units.

General Education Requirements (49 units)

See the "General Education (https://catalog.csudh.edu/general-education/)" requirements in the University Catalog or the Class Schedule for the most current information on General Education requirements and course offerings.

Graduation Writing Assessment Requirement

See the "Graduation Writing Assessment Requirement (https://catalog.csudh.edu/general-information/baccalaureate-degrees-undergraduate-studies/gwar-certifying-courses/)" in the University Catalog.

Minor Requirements

Single field major, no minor required.

Major Requirements (62-68 units)

Students entering the Computer Technology program must complete the following.

1. Earn an overall grade point average of 2.0 or better in courses taken outside of the department.
2. Earn a grade of "C" or better in each course taken within the department.
3. Students must take capstone course CTC 492 Senior Project at CSUDH.

The following courses, or their approved transfer equivalents, are required of all candidates for this degree.

Core Requirements (34 units)

Code	Title	Hours
Lower Division Requirements		
CSC 101	Intro.to Computer Education	3
CSC 111	Introduction to Computers and Basic Programming	3
CSC 116	Introduction to Computer Hardware and Tools	3
CSC 255	Dynamic Web Programming	3
MAT 131	Elementary Statistics and Probability	3
MAT 153	Pre-Calculus with Trigonometry with Lab	4
Upper Division Requirements		
CSC 301	Computers And Society	3
CTC 310	Software Project Management	3
CTC 316	Operating Systems and Networks Support	3
CTC 452	Network Security and Hacking Prevention	3
CTC 492	Senior Project	3
Total Hours		**34**

Tracks

General Track (62 units)

Code	Title	Hours
Lower Division Requirements		
CSC 101	Intro.to Computer Education	3
CSC 111	Introduction to Computers and Basic Programming	3
CSC 116	Introduction to Computer Hardware and Tools	3
CSC 255	Dynamic Web Programming	3
CSC 115	Introduction to Programming Concepts	3
CSC 121	Introduction to Computer Science and Programming I [1]	4
CTC/CSC Elec. Lower Division Elective		4
CTC/CSC Elec. Lower Division Elective		4
CTC 218	Digital Logic Design	3
MAT 131	Elementary Statistics and Probability	3
MAT 153	Pre-Calculus with Trigonometry with Lab	4
Upper Division Requirements		
CSC 301	Computers And Society	3
CTC 310	Software Project Management	3
CTC 316	Operating Systems and Networks Support	3
CTC 452	Network Security and Hacking Prevention	3
CTC 492	Senior Project	3
CTC/CSC Elec. Upper Division Elective		4
CTC/CSC Elec. Upper Division Elective		3
CTC/CSC Elec. Upper Division Elective		3
Total Hours		**62**

[1] Major students may substitute this course for General Education Area A3. Please contact the CNBS Student Success Center to request the course substitution.

Homeland Security Track (65 units)

Code	Title	Hours
Lower Division Requirements		
CSC 101	Intro.to Computer Education	3
CSC 111	Introduction to Computers and Basic Programming	3
CSC 116	Introduction to Computer Hardware and Tools	3
CSC 255	Dynamic Web Programming	3
CSC 115	Introduction to Programming Concepts	3
CSC 121	Introduction to Computer Science and Programming I [1]	4
CSC 123	Introduction to Computer Science and Programming II	4
CSC 221	Assembly Language and Introduction to Computer Organization	3
CTC 218	Digital Logic Design	3
CTC 228	Introduction to Operating Systems and Networks	4
MAT 131	Elementary Statistics and Probability	3

MAT 153	Pre-Calculus with Trigonometry with Lab	4
Upper Division Requirements		
CSC 301	Computers And Society	3
CTC 310	Software Project Management	3
CTC 316	Operating Systems and Networks Support	3
CTC 328	Computer Forensics and Investigation	4
CTC 362	Communication Systems Security	3
CTC 428	Operating Systems Security	3
CTC 452	Network Security and Hacking Prevention	3
CTC 492	Senior Project	3
Total Hours		**65**

1   Major students may substitute this course for General Education Area A3. Please contact the CNBS Student Success Center to request the course substitution.

Professional Track (68 units)

Code	Title	Hours
Lower Division Requirements		
CSC 101	Intro.to Computer Education	3
CSC 111	Introduction to Computers and Basic Programming	3
CSC 116	Introduction to Computer Hardware and Tools	3
CSC 255	Dynamic Web Programming	3
MAT 131	Elementary Statistics and Probability	3
MAT 153	Pre-Calculus with Trigonometry with Lab	4
Upper Division Requirements		
CSC 301	Computers And Society	3
CTC 310	Software Project Management	3
CTC 316	Operating Systems and Networks Support	3
CTC 452	Network Security and Hacking Prevention	3
CTC 492	Senior Project	3
Specific Domain		
Complete one of the following:		15-31
Associate Degree		
Minor in another program		
Concentration courses- with the consultation of computer science department		
Free Electives		
Complete free elective courses		3-19
Total Hours		**52-84**

Program Learning Outcomes

- Analyze, design, implement, and evaluate a Technology related solution in areas such electronics, Manufacturing, Homeland Security, and etc. using appropriate tools.
- Work effectively as a team member in design, implementation, and use of software and hardware utilization.
- Communicate effectively through speaking, writing, and the use of presentation tools in describing the hardware and software specification.
- Appraise the impact of ethical issues and societal concerns about constant changes in hardware/software computer technology.

General Option Roadmaps
4- Year Roadmap

Course	Title	Hours
First Year		
Fall		
MAT 131	Elementary Statistics and Probability (GE Area B4)	3
HIS 101	History Of United States	3
GE Area A2 Written Communication		3
CSC 111	Introduction to Computers and Basic Programming	3
CSC 101	Intro.to Computer Education	3
	Hours	15
Spring		
MAT 153	Pre-Calculus with Trigonometry with Lab	4
CSC 115	Introduction to Programming Concepts	3
CSC 116	Introduction to Computer Hardware and Tools	3
GE Area B1 Physical Science		3
GE Area B3 Science Laboratory		1
	Hours	14
Second Year		
Fall		
CSC 121	Introduction to Computer Science and Programming I (see counselor for GE Area A3: Critical Thinking credit)	4
POL 101	American Institutions	3
CSC 255	Dynamic Web Programming	3
CTC 228	Introduction to Operating Systems and Networks	4
	Hours	14
Spring		
ITC 300	Security in a Digital Society	3
CTC 218	Digital Logic Design	3
GE Area A1 Oral Communication		3
GE Area C1 Arts Courses		3
GE Area C2 Letters Course		3
	Hours	15
Third Year		
Fall		
CTC 316	Operating Systems and Networks Support	3
CSC 301	Computers And Society (satisfies GE Area B5)	3
GE Area D1 Perspectives on Individuals, Groups, and Society		3
GE Area D2 Global and Historical Perspectives		3
Elective to meet 120 units		2
	Hours	14
Spring		
CTC 310	Software Project Management	3
CTC/CSC Lower Division Elective		4
CTC/CSC Lower Division Elective		4
Additional GE in Area C1 or C2		3
GE Area E Lifelong Learning and Self-Development		3
	Hours	17
Fourth Year		
Fall		
CTC 452	Network Security and Hacking Prevention	3
ENG 350	Advanced Composition (GWAR satisfying course)	3
GE Area B2 Life Science		3
CTC/CSC Upper Division Elective		3
CTC/CSC Upper Division Elective		3
	Hours	15
Spring		
CSC 492	Senior Design	3
CTC/CSC Upper Division Elective		4
GE Area C3 Integrative Studies in the Humanities		3

GE Area D3 Integrative Studies in the Social Sciences		3
GE Area F Ethnic Studies		3
	Hours	**16**
	Total Hours	**120**

2- Year Roadmap (transfer students)

Course	Title	Hours
First Year		
Fall		
CSC 301	Computers And Society (satisfies GE Area B5)	3
CTC 316	Operating Systems and Networks Support	3
CTC 328	Computer Forensics and Investigation	4
ITC 300	Security in a Digital Society (or an alternative GE Area D3 satisfying course)	3
Elective to meet 120 units		3
	Hours	**16**
Spring		
CTC 310	Software Project Management	3
CTC Upper Division Elective		3
GE Area C3 Integrative Studies in the Humanities		3
CTC Upper Division Elective		3
Elective to meet 120 units		1
	Hours	**13**
Second Year		
Fall		
CTC 452	Network Security and Hacking Prevention	3
ENG 350	Advanced Composition (GWAR satisfying course)	3
CTC/CSC Upper Division Elective		3
CTC/CSC Upper Division Elective		3
Elective to meet 120 units		3
	Hours	**15**
Spring		
CSC 492	Senior Design	3
CTC/CSC Upper Division Elective		4
Elective to meet 120 units		3
Elective to meet 120 units		3
Elective to meet 120 units		3
	Hours	**16**
	Total Hours	**60**

Homeland Security Option Roadmaps

4- Year Roadmap

Course	Title	Hours
First Year		
Fall		
MAT 131	Elementary Statistics and Probability (GE Area B4)	3
HIS 101	History Of United States	3
GE Area A2 Written Communication		3
CSC 111	Introduction to Computers and Basic Programming	3
CSC 101	Intro.to Computer Education	3
	Hours	**15**
Spring		
MAT 153	Pre-Calculus with Trigonometry with Lab	4
CSC 115	Introduction to Programming Concepts	3
CSC 116	Introduction to Computer Hardware and Tools	3
GE Area B1 Physical Science		3
GE Area B3 Science Laboratory		1
	Hours	**14**

Course	Title	Hours
Second Year		
Fall		
CSC 121	Introduction to Computer Science and Programming I (see counselor for GE Area A3: Critical Thinking credit)	4
POL 101	American Institutions	3
CSC 255	Dynamic Web Programming	3
CTC 228	Introduction to Operating Systems and Networks	4
GE Area A1 Oral Communication		3
	Hours	**17**
Spring		
CSC 123	Introduction to Computer Science and Programming II	4
CTC 218	Digital Logic Design	3
CSC 221	Assembly Language and Introduction to Computer Organization	3
GE Area B2 Life Science		3
GE Area C1 Arts Courses		3
	Hours	**16**
Third Year		
Fall		
CSC 301	Computers And Society (satisfies GE Area B5)	3
CTC 316	Operating Systems and Networks Support	3
CTC 328	Computer Forensics and Investigation	4
GE Area D1 Perspectives on Individuals, Groups, and Society		3
GE Area D2 Global and Historical Perspectives		3
	Hours	**16**
Spring		
CTC 310	Software Project Management	3
CTC 362	Communication Systems Security	3
CTC 428	Operating Systems Security	3
GE Area C2 Letters Course		3
GE Area E Lifelong Learning and Self-Development		3
	Hours	**15**
Fourth Year		
Fall		
CTC 452	Network Security and Hacking Prevention	3
ENG 350	Advanced Composition (GWAR satisfying course)	3
Additional GE in Area C1 or C2		3
CTC Upper Division Elective		3
CTC Upper Division Elective		3
	Hours	**15**
Spring		
CSC 492	Senior Design	3
CTC Upper Division Elective		3
GE Area C3 Integrative Studies in the Humanities		3
GE Area D3 Integrative Studies in the Social Sciences		3
GE Area F Ethnic Studies		3
	Hours	**15**
	Total Hours	**123**

2- Year Roadmap (transfer students)

Course	Title	Hours
First Year		
Fall		
CSC 301	Computers And Society (satisfies GE Area B5)	3
CTC 316	Operating Systems and Networks Support	3
CTC 328	Computer Forensics and Investigation	4
ITC 300	Security in a Digital Society (or an alternative GE Area D3 satisfying course)	3
Elective to meet 120 units		3
	Hours	**16**
Spring		
CTC 310	Software Project Management	3

CTC 362	Communication Systems Security	3
CTC 428	Operating Systems Security	3
GE Area C3 Integrative Studies in the Humanities		3
Elective to meet 120 units		3
	Hours	**15**
Second Year		
Fall		
CTC 452	Network Security and Hacking Prevention	3
ENG 350	Advanced Composition (GWAR satisfying course)	3
CTC Upper Division Elective		3
CTC Upper Division Elective		3
Elective to meet 120 units		3
	Hours	**15**
Spring		
CSC 492	Senior Design	3
CSC Upper Division Elective		4
Elective to meet 120 units		3
Elective to meet 120 units		3
Elective to meet 120 units		1
	Hours	**14**
	Total Hours	**60**

Professional Option Roadmaps

4- Year Roadmap

Course	Title	Hours
First Year		
Fall		
MAT 131	Elementary Statistics and Probability (GE Area B4)	3
HIS 101	History Of United States (statutory requirement)	3
GE Area A2 Written Communication		3
CSC 111	Introduction to Computers and Basic Programming	3
CSC 101	Intro.to Computer Education	3
	Hours	**15**
Spring		
MAT 153	Pre-Calculus with Trigonometry with Lab	4
CTC Lower Division Elective (or from Minor/Associate Degree)		3
CSC 116	Introduction to Computer Hardware and Tools	3
GE Area B1 Physical Science		3
GE Area B3 Science Laboratory		1
	Hours	**14**
Second Year		
Fall		
GE Area A3 Logic/Critical Thinking		3
POL 101	American Institutions	3
CSC 255	Dynamic Web Programming	3
CTC 228	Introduction to Operating Systems and Networks	4
GE Area A1 Oral Communication		3
	Hours	**16**
Spring		
CTC Lower Division Elective(or from Minor/Associate Degree)		3
ITC 300	Security in a Digital Society	3
GE Area B2 Life Science		3
GE Area C1 Arts Courses		3
GE Area C2 Letters Course		3
	Hours	**15**
Third Year		
Fall		
CSC 301	Computers And Society (satisfies GE Area B5)	3
CTC 316	Operating Systems and Networks Support	3

CTC Upper Division Elective (of from Minor/Associate Degree)		3
GE Area D1 Perspectives on Individuals, Groups, and Society		3
GE Area D2 Global and Historical Perspectives		3
	Hours	**15**
Spring		
CTC 310	Software Project Management	3
CTC Upper Division Elective (or from Minor)		3
CTC Upper Division Elective (or from Minor)		3
Additional GE in Area C1 or C2		3
GE Area E Lifelong Learning and Self-Development		3
	Hours	**15**
Fourth Year		
Fall		
CTC 452	Network Security and Hacking Prevention	3
ENG 350	Advanced Composition (GWAR satisfying course)	3
CTC Upper Division Elective (of from Minor)		3
CTC Upper Division Elective (or from Minor)		3
CTC Upper Division Elective (or from Minor)		3
	Hours	**15**
Spring		
CSC 492	Senior Design	3
CTC Upper Division Elective (or from Minor)		3
GE Area C3 Integrative Studies in the Humanities		3
ITC 300	Security in a Digital Society (satisfies GE Area D3)	3
GE Area F Ethnic Studies		3
	Hours	**15**
	Total Hours	**120**

2- Year Roadmap (transfer students)

Course	Title	Hours
First Year		
Fall		
CSC 301	Computers And Society (satisfies GE Area B5)	3
CTC 316	Operating Systems and Networks Support	3
CTC Upper Division Elective (or from Minor)		3
ITC 300	Security in a Digital Society (satisfies GE Area D3)	3
Elective to meet 120 units		3
	Hours	**15**
Spring		
CTC 310	Software Project Management	3
CTC Upper Division Elective (or from Minor)		3
GE Area C3 Integrative Studies in the Humanities		3
CTC Upper Division Elective (or from Minor)		3
Elective to meet 120 units		3
	Hours	**15**
Second Year		
Fall		
CTC 452	Network Security and Hacking Prevention	3
ENG 350	Advanced Composition (GWAR satisfying course)	3
CTC Upper Division Elective (or from Minor)		3
CTC Upper Division Elective (or from Minor)		3
Elective to meet 120 units		3
	Hours	**15**
Spring		
CSC 492	Senior Design	3
CTC Upper Division Elective (or from Minor)		4
Elective to meet 120 units		3
Elective to meet 120 units		3

Elective to meet 120 units	2
Hours	**15**
Total Hours	**60**