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-degreesundergraduate-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/generaleducation/)" 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-degreesundergraduate-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.
- 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 Re	equirements	
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 Re	equirements	
CSC 301	Computers And Society	3
CTC 310	Software Project Management	3
CTC 316	Operating Systems and Networks Support	3

Senior Project	3
	~ ~ ~
	34
2 units)	
	Hours
	2
•	3
Introduction to Computers and Basic Programming	3
Introduction to Computer Hardware and Tools	3
Dynamic Web Programming	3
Introduction to Programming Concepts	3
Introduction to Computer Science and Programming I	4
ower Division Elective	4
ower Division Elective	4
Digital Logic Design	3
Elementary Statistics and Probability	3
Pre-Calculus with Trigonometry with Lab	4
Requirements	
Computers And Society	3
Software Project Management	3
Operating Systems and Networks Support	3
Network Security and Hacking Prevention	3
Senior Project	3
Ipper Division Elective	4
Ipper Division Elective	3
Ipper Division Elective	3
	Title Introduction to Computer Education Introduction to Computers and Basic Programming Introduction to Computer Hardware and Tools Programming Introduction to Computer Hardware and Tools Dynamic Web Programming Concepts Introduction to Computer Science and Programming 1 Introduction to Computer Science and Programming 1 Digital Logic Design Elementary Statistics and Probability Pre-Calculus with Trigonometry with Lab Pre-Calculus with Trigonometry with Lab Qoperating Systems and Networks Support Network Security and Hacking Prevention Senior Project Provision Elective

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

Homeland Securit		
Code	Title	Hours
Lower Division Re	equirements	
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 Comput Organization	er 3
CTC 218	Digital Logic Design	3
CTC 228	Introduction to Operating Systems and Networks	s 4
MAT 131	Elementary Statistics and Probability	3

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

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 R	equirements	
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 R	equirements	
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 Deg	gree	
Minor in anot	ner program	
Concentratior department	a courses- with the consultation of computer scien	nce
Free Electives		
Complete free el	ective 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	Hour
First Year		
Fall		
MAT 131	Elementary Statistics and Probability (GE Area B4)	
HIS 101	History Of United States	
GE Area A2 Written		
CSC 111	Introduction to Computers and Basic Programming	
CSC 101	Intro.to Computer Education	
	Hours	1
Spring		
MAT 153	Pre-Calculus with Trigonometry with Lab	
CSC 115	Introduction to Programming Concepts	
CSC 116	Introduction to Computer Hardware and Tools	
GE Area B1 Physica	Il Science	
GE Area B3 Science	Laboratory	
	Hours	1
Second Year		
Fall		
CSC 121	Introduction to Computer Science and Programming I	
	(see counselor for GE Area A3: Critical Thinking credit)	
POL 101	American Institutions	
CSC 255	Dynamic Web Programming	
CTC 228	Introduction to Operating Systems and Networks	
	Hours	1
Spring		
ITC 300	Security in a Digital Society	
CTC 218	Digital Logic Design	
GE Area A1 Oral Cor	mmunication	
GE Area C1 Arts Co	urses	
GE Area C2 Letters	Course	
	Hours	1
Third Year		
Fall		
CTC 316	Operating Systems and Networks Support	
CSC 301	Computers And Society (satisfies GE Area B5)	
GE Area D1 Perspec	ctives on Individuals, Groups, and Society	
GE Area D2 Global a	and Historical Perspectives	
Elective to meet 120	0 units	
	Hours	1
Spring		
CTC 310	Software Project Management	
CTC/CSC Lower Div		
CTC/CSC Lower Div	ision Elective	
Additional GE in Are	ea C1 or C2	
	Learning and Self-Development	
	Hours	1
Fourth Year		
Fall		
CTC 452	Network Security and Hacking Prevention	
ENG 350	Advanced Composition (GWAR satisfying course)	
GE Area B2 Life Scie		
CTC/CSC Upper Div	Hours	1
CTC/CSC Upper Div	Hours	1
CTC/CSC Upper Div		1
CTC/CSC Upper Div	Hours Senior Design	
CTC/CSC Upper Div Spring CSC 492 CTC/CSC Upper Div	Hours Senior Design	1

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

2- Year Roadmap (transfer students)

ap (transier students)	
Title	Hours
Computers And Society (satisfies GE Area B5)	3
Operating Systems and Networks Support	3
Computer Forensics and Investigation	4
Security in a Digital Society (or an alternative GE Area D3 satisfying course)	3
3	3
Hours	16
Software Project Management	3
ve	3
udies in the Humanities	3
ve	3
3	1
Hours	13
Network Security and Hacking Prevention	3
Advanced Composition (GWAR satisfying course)	3
Elective	3
Elective	3
3	3
Hours	15
Senior Design	3
Elective	4
3	3
3	3
3	3
Hours	16
	Title Title Computers And Society (satisfies GE Area B5) Operating Systems and Networks Support Computer Forensics and Investigation Security in a Digital Society (or an alternative GE Area D3 satisfying course) Televise Software Project Management Ve Udies in the Humanities Ve Software Project Management Ve Udies in the Humanities Ve Software Project Management Ve Udies in the Humanities Ve Software Project Management Ve Software

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 Comm	nunication	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 Labo	ratory	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
GE Area A1 Oral Comr	nunication	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 Scien	ce	3
GE Area C1 Arts Cours	Ses	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 Perspectiv	ves on Individuals, Groups, and Society	3
	d 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 Co		3
	arning 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
	Advanced Composition (GWAR satisfying course)	3
Additional GE in Area	C1 or C2	3
Additional GE in Area CTC Upper Division El	C1 or C2 ective	
Additional GE in Area	C1 or C2 ective	3 3 3
Additional GE in Area CTC Upper Division El CTC Upper Division El	C1 or C2 ective ective	3 3
Additional GE in Area CTC Upper Division El	C1 or C2 ective Hours	3 3 3
Additional GE in Area CTC Upper Division El CTC Upper Division El Spring CSC 492	C1 or C2 ective ective Hours Senior Design	3 3 3 15 3
Additional GE in Area CTC Upper Division El CTC Upper Division El Spring CSC 492 CTC Upper Division El	C1 or C2 ective ective Hours Senior Design	3 3 3 15
Additional GE in Area CTC Upper Division El CTC Upper Division El Spring CSC 492 CTC Upper Division El GE Area C3 Integrativo	C1 or C2 ective ective Hours Senior Design ective e Studies in the Humanities	3 3 3 15 3 3 3 3
Additional GE in Area CTC Upper Division El CTC Upper Division El Spring CSC 492 CTC Upper Division El GE Area C3 Integrativo	C1 or C2 ective ective Hours Senior Design ective e Studies in the Humanities e Studies in the Social Sciences	3 3 3 15 3 3
Additional GE in Area CTC Upper Division El CTC Upper Division El Spring CSC 492 CTC Upper Division El GE Area C3 Integrativo GE Area D3 Integrativo	C1 or C2 ective ective Hours Senior Design ective e Studies in the Humanities e Studies in the Humanities e Studies in the Social Sciences lies	3 3 15 3 3 3 3 3 3 3
Additional GE in Area CTC Upper Division El CTC Upper Division El Spring CSC 492 CTC Upper Division El GE Area C3 Integrativo GE Area D3 Integrativo	C1 or C2 ective ective Hours Senior Design ective e Studies in the Humanities e Studies in the Social Sciences	3 3 3 15 3 3 3 3 3

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 Integra	tive Studies in the Humanities	3
Elective to meet 12	20 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	n Elective	3
Elective to meet 12	20 units	3
	Hours	15
Spring		
CSC 492	Senior Design	3

CSC 492	Senior Design	3
CSC Upper Divisio	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 Electi	ve (or from Minor/Associate Degree)	3
CSC 116	Introduction to Computer Hardware and Tools	3
GE Area B1 Physical Scie	nce	3
GE Area B3 Science Labo	ratory	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 Electi	ve(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 Cours	e	3
	Hours	15
Third Year		
Fall		
CSC 301	Computers And Society (satisfies GE Area B5)	3
CTC 316		
010 310	Operating Systems and Networks Support	3

	Total Hours	120
	Hours	15
GE Area F Ethnic Sti	udies	3
ITC 300	Security in a Digital Society (satisfies GE Area D3)	З
GE Area C3 Integrat	ive Studies in the Humanities	3
CTC Upper Division	Elective (or from Minor)	3
CSC 492	Senior Design	3
Spring	Hours	1:
CTC Upper Division	Elective (or from Minor) Hours	
	Elective (or from Minor)	3
CTC Upper Division Elective (of from Minor)		3
ENG 350	Advanced Composition (GWAR satisfying course)	3
CTC 452	Network Security and Hacking Prevention	3
Fall		
Fourth Year		
	Hours	15
GE Area E Lifelong L	earning and Self-Development	3
Additional GE in Area C1 or C2		3
CTC Upper Division Elective (or from Minor)		:
CTC Upper Division Elective (or from Minor)		3
CTC 310	Software Project Management	3
Spring		
	Hours	15
GE Area D2 Global a	nd Historical Perspectives	;
GE Area D1 Perspectives on Individuals, Groups, and Society		3
CTC Upper Division	Elective (of from Minor/Associate Degree)	3

2- Year Roadmap (transfer students)

First Year Fall CSC 301 CTC 316	Computers And Society (satisfies GE Area B5) Operating Systems and Networks Support	3
CSC 301		3
		3
CTC 316	Operating Systems and Networks Support	0
010 310		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	e (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	e (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