

COMPUTER SCIENCE MAJOR WITH FOUNDATIONS OPTION, BACHELOR OF ARTS (BA)

The Bachelor of Arts degree in Computer Science–Foundations Option provides a solid foundation in the practice of computing, while allowing you to expand your education with coursework in other disciplines. The program will prepare you for a career in software development, and is of particular interest if you wish to pursue interdisciplinary applications of computing that are not covered by any of our other degrees.

Notes:

- two years of a single high school foreign language or one year of a single college level foreign language is required.
- students are encouraged to choose CMST 340 Intercultural Communications or CMST 314 Gender and Communications to fulfill their cultural and gender diversity requirement and/or CMST 440 Global Communications to fulfill their international studies requirement.

Required Computer Science Courses

CSCD 210	PROGRAMMING PRINCIPLES I	5
CSCD 211	PROGRAMMING PRINCIPLES II	5
CSCD 240	C AND UNIX PROGRAMMING	5
CSCD 300	DATA STRUCTURES	5
CSCD 320	ALGORITHMS	4
CSCD 327	RELATIONAL DATABASE SYSTEMS	4
CSCD 330	COMPUTER NETWORKS	4
CSCD 349	DESIGN PATTERNS	4
CSCD 350	SOFTWARE ENGINEERING	4
CSCD 488	SENIOR PROJECT	5
CSCD 490	SENIOR CAPSTONE	5

Choose one of the following

CSCD 370	GUI PROGRAMMING	
CSCD 371	.NET PROGRAMMING	
CSCD 372	ANDROID MOBILE DEVELOPMENT	
CSCD 373	iOS MOBILE DEVELOPMENT	

Choose one of the following

CSCD 378	WEB APPLICATION DEVELOPMENT	4
or CSCD 379	.NET WEB APPLICATION DEVELOPMENT	

Required Supporting Courses

MATH 301	DISCRETE MATHEMATICS	5
PHIL 212	INTRODUCTORY ETHICS	5

Required Focus Group—choose group A, B or C

Group A—Game Development

CSCD 216	3D MODELING and ANIMATION I	
CSCD 470	3D COMPUTER GRAPHICS PRINCIPLES	
CSCD 471	ADVANCED 3D COMPUTER GRAPHICS	
CSCD 474	COMPUTER GAMES DEVELOPMENT	
MATH 231	LINEAR ALGEBRA	

Group B—Animation

ART 300	DRAWING	
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CSCD 216	3D MODELING and ANIMATION I	
CSCD 416	3D MODELING AND ANIMATION II	
CSCD 417	3D MODELING AND ANIMATION III	
DESN 216	DIGITAL FOUNDATIONS	

Group C—any CSCD Department Approved Minor

Electives—three additional electives from the following 12–15

CSCD 95-99 courses may be used—prior departmental approval of topic content is required.

Note: many of these elective courses have prerequisites.

Note: any course used as a requirement may not also be used as an elective.

CSCD 303	COMPUTER AND INFORMATION SECURITY	
CSCD 305	C++ PROGRAMMING	
CSCD 316	PRACTICAL PROBLEM SOLVING (must be taken twice to be used as an elective)	
CSCD 340	OPERATING SYSTEMS	
CSCD 370	GUI PROGRAMMING	
CSCD 371	.NET PROGRAMMING	
CSCD 372	ANDROID MOBILE DEVELOPMENT	
CSCD 373	iOS MOBILE DEVELOPMENT	
CSCD 378	WEB APPLICATION DEVELOPMENT	
CSCD 379	.NET WEB APPLICATION DEVELOPMENT	
CSCD 409	SCIENTIFIC PROGRAMMING	
CSCD 416	3D MODELING AND ANIMATION II	
CSCD 417	3D MODELING AND ANIMATION III	
CSCD 418	3D MODELING AND ANIMATION IV	
CSCD 420	AUTOMATA	
CSCD 427	ADVANCED DATABASE MANAGEMENT SYSTEMS	
CSCD 429	DATA MINING	
CSCD 433	ADVANCED COMPUTER NETWORKS	
CSCD 434	NETWORK SECURITY	
CSCD 435	PRINCIPLES OF PROGRAMMING LANGUAGE	
CSCD 437	SECURE CODING	
CSCD 440	ADVANCED OPERATING SYSTEMS	
CSCD 443	DISTRIBUTED MULTIPROCESSING	
CSCD 460	ADVANCED ARCHITECTURE AND ORGANIZATION	
CSCD 461	EMBEDDED SYSTEMS	
CSCD 462	EMBEDDED REAL-TIME CONTROL	
CSCD 467	PARALLEL AND CLOUD COMPUTING	
CSCD 470	3D COMPUTER GRAPHICS PRINCIPLES	
CSCD 471	ADVANCED 3D COMPUTER GRAPHICS	
CSCD 474	COMPUTER GAMES DEVELOPMENT	
CSCD 480	INTELLIGENT SYSTEMS	
CSCD 487	HUMAN COMPUTER INTERFACE	
CSCD 495	INTERNSHIP (two 4-5 credit internships are allowed)	

Total Credits 88

For information on General Education, see Undergraduate Degree (<http://catalog.ewu.edu/archives/2015-2016/undergraduate-degree>).

Student Learning Outcomes—students will

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Student Learning Outcomes for the BA in Computer Science, Foundations Option, may be found at [ewu.edu/csslo](http://www.ewu.edu/csslo) (<http://www.ewu.edu/csslo>)