

COMPUTER SCIENCE BA/BS

The Computer Science program is designed to prepare students for industry or graduate work in Computer Science or Management Information Systems. The Computer Science major uses a traditional computer science curriculum, with requisite mathematical rigor, and is based on the Association of Computing Machinery (ACM) core curricula recommendations. The curriculum is designed to be very flexible and allow students to use credits from the Associates of Information Systems and Information Systems Analysis towards this degree. The degree is also designed to allow students to use Biology courses towards the degree for students who are interested in pursuing a Bioinformatics degree in graduate school.

The goals of the Computer Science program are to provide students with learning experiences in both the classroom and laboratory so that they will be well-prepared to:

1. Think critically and apply knowledge in novel contexts;
2. Design and implement object-oriented and imperative programs;
3. Understand algorithms and data structures;
4. Understand relational databases, operating system kernels, and network software development;
5. And, perform basic laboratory analysis.

General Education Requirements

Code	Title	Credits
Written Communication		
Select one of the following:		6.00
ENGL-101 & ENGL-102	WRITING AND RHETORIC I and WRITING AND RHETORIC II	
ENGL-109	COLLEGE WRITING AND RESEARCH	
Oral Communication		
Select one from the following:		3.00
COMM-101	FUNDAMENTALS OF ORAL COMMUNICATION	
COMM-203	SMALL GROUP COMMUNICATION	
COMM-204	PUBLIC SPEAKING	
Mathematical Ways of Knowing		
MATH-170	CALCULUS I	4.00
Humanistic & Artistic Ways of Knowing		
Select two courses from two different categories (Literature, Arts, Language).		6.00-7.00
Literature		
ENGL-175	LITERATURE AND IDEAS	
ENGL-257	WORLD CLASSICS	
ENGL-258	INTERNATIONAL LITERATURE (*)	
ENGL-260	NATIVE AMERICAN LITERATURE (*)	
ENGL-261	MYTHOLOGIES	
Arts		
ART-100	INTRODUCTION TO ART	
HUM-101	THE ART AND HISTORY OF THE MOTION PICTURE	
HUM-150	INTRODUCTION TO THE ARTS	
MUS-101	SURVEY OF MUSIC	
MUS-102	MUSIC IN AMERICA	
MUS-150	WORLD MUSIC	
MUS-151	HISTORY OF MUSICAL THEATER	
MUS-152	HISTORY OF JAZZ AND POPULAR MUSIC STYLES	
THEA-101	SURVEY OF THE THEATER	
Language		
NP-101	NEZ PERCE LANGUAGE AND CULTURE (*)	
NP-102	NEZ PERCE LANGUAGE AND HISTORY (*)	

SPAN-101	ELEMENTARY SPANISH I (*)
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SPAN-102	ELEMENTARY SPANISH II (*)
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Scientific Ways of Knowing

Select two courses from two different disciplines, one course must include a lab:	7.00-8.00
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BIOF-100	INTRODUCTION TO BIOINFORMATICS
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BIOL-100	CONCEPTS OF BIOLOGY
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BIOL-120	PLANTS AND PEOPLE
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BIOL-123	BIOLOGY IN FILM
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BIOL-175	HUMAN BIOLOGY
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BIOL-227	HUMAN ANATOMY AND PHYSIOLOGY I
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CHEM-100	CONCEPTS OF CHEMISTRY
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CHEM-105	GENERAL, ORGANIC AND BIOCHEMISTRY
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CHEM-111	PRINCIPLES OF CHEMISTRY I
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ENGR-108	SEMICONDUCTORS, SCIENCE, AND SOCIETY
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FSCI-101	INTRODUCTION TO FORENSIC SCIENCE
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GEOL-101	PHYSICAL GEOLOGY
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GEOL-120	INTRODUCTION TO EARTH SYSTEMS
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GIS-271	GEOGRAPHIC INFORMATION SYSTEMS
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ID-160	WATER AND ENERGY
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ID-240	INTEGRATED SCIENCE II
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NS-140	INTEGRATED SCIENCE I
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NS-150	INTRODUCTION TO NATURAL SCIENCES
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NS-174	NATURAL SCIENCE FOR ELEMENTARY EDUCATOR
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PHYS-111	GENERAL PHYSICS I
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or PHYS-112	GENERAL PHYSICS II
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PHYS-171	PHYS SCIENCES FOR ELEMENTARY EDUCATORS
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PHYS-205	DESCRIPTIVE ASTRONOMY
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PHYS-211	PHYSICS FOR SCIENTISTS AND ENGINEERS I
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Social & Behavioral Ways of Knowing

Select two courses from two different disciplines:	6.00
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ANTH-102	CULTURAL ANTHROPOLOGY (*)
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ANTH-120	WORLD PREHISTORY (*)
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ANTH-170	INTRODUCTION TO NATIVE AMERICAN STUDIES (*)
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ECON-201	PRINCIPLES OF MACROECONOMICS
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ECON-202	PRINCIPLES OF MICROECONOMICS
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GEOG-102	INTRODUCTION TO GEOGRAPHY (*)
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HIST-101	WORLD HISTORY I (*)
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HIST-102	WORLD HISTORY II (*)
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HIST-111	UNITED STATES HISTORY I (*)
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HIST-112	UNITED STATES HISTORY II (*)
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HRPT-184	DIVERSITY IN ORGANIZATIONS (*)
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HRPT-185	HUMAN RELATIONS IN ORGANIZATIONS
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POLS-101	AMERICAN NATIONAL GOVERNMENT
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POLS-237	INTERNATIONAL POLITICS
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POLS-285	COMPARATIVE GOVERNMENT (*)
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PSYC-101	INTRODUCTION TO GENERAL PSYCHOLOGY
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PSYC-205	LIFESPAN DEVELOPMENTAL PSYCHOLOGY
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SOC-101	INTRODUCTION TO SOCIOLOGY (*)
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SOC-102	SOCIAL PROBLEMS
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SS-184	DIVERSITY IN ORGANIZATIONS (*)
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SS-185	HUMAN RELATIONS IN ORGANIZATIONS
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Global Perspectives

Select one of the following:	3.00-4.00
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Courses above designated with an asterisk (*) are eligible to fulfill the Global Perspectives requirement. Please note that an asterisked course may not be used to satisfy more than one core requirement.

ANTH-360	RACE AND ETHNICITY
COMM-345	INTERCULTURAL COMMUNICATION
ENGL-474	NATIVE AMERICAN WRITTEN LITERATURE
ID-300C	ETHICS AND IDENTITY
KIN-220	SOCIAL-CULTURAL ASPECTS OF SPORTS
SPAN-201	INTERMEDIATE SPANISH I
SPAN-202	INTERMEDIATE SPANISH II

Integrative Seminar: Ethics & Values

Select one of the following:	3.00
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ID 300A - 300Z (see course descriptions for options)

ID-301A	HELLS CANYON INSTITUTE
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Foreign/Heritage Language

Select 16 credits of language if selecting Bachelor of Arts Degree	16.00
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Total Credits	38.00-41.00
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Program Requirements

Code	Title	Credits
Major Courses		
CS-101	COMPUTER SCIENCE SEMINAR	1.00
CS-111	COMPUTER SCIENCE 1	4.00
CS-211	COMPUTER SCIENCE II	4.00
CS-226	SQL: STRUCTURED QUERY LANGUAGE	3.00
CS-250	COMPUTER ORGANIZATION AND ARCHITECTURE	4.00
CS-253	INTRO TO SYSTEMS PROGRAMMING	4.00
CS-311	ALGORITHMS AND DATA STRUCTURES	4.00
CS-360	SOFTWARE ENGINEERING	3.00
CS-401	FUTURE PROFESSIONALS SEMINAR	1.00
CS-430	OPERATING SYSTEMS	3.00
CS-435	COMPUTER NETWORKS	3.00
CS-480	CAPSTONE DESIGN PROJECT	4.00
MATH-186	DISCRETE MATHEMATICS	3.00
Take 6 credits from the following:		6.00
MATH-175	CALCULUS II	
WEB-111	FOUNDATIONS OF WEB DEVELOPMENT	
WEB-112	FUND OF PROG: JAVASCRIPT	
Take 12 credits from MATH, BIOL, BIOF, CHEM, CS, CYB, GIS, NS, WEB or PHYS courses, numbered 200 and above.		12.00
Upper Division Electives		
Take 8 credits from MATH, BIOL, BIOF, CHEM, CS, CYB, GIS, NS or PHYS courses, numbered 300 and above.		8.00
Take 6 credits of CS or BIOF 300 level and above.		6.00
Electives		
Take 8-9 credits of general electives		8.00-9.00
Total Credits		81.00-82.00

Notes:

1. This program has been developed following the guidelines established by the CS 2001 "Computer Science Curriculum," and the CS 2008 "Computer Science Curriculum Interim Update" developed by the Association of Computing Machinery (ACM) and the IEEE Computer Society (IEEE-CS).
2. This program complies with all requirements for a Minor in Mathematics.
3. WBL: Work-based Learning.

Sequential Plan of Study

Course	Title	Credits
First Year		
Fall		
CORE	Oral Communication	3.00
CORE	Humanistic & Artistic Ways of Knowing	3.00
ENGL-101	WRITING AND RHETORIC I	3.00
MATH-170	CALCULUS I	4.00
CORE	Scientific Ways of Knowing	4.00
Credits		17.00
Spring		
CORE	Humanistic & Artistic Ways of Knowing	3.00
CORE	Social & Behavioral Ways of Knowing	3.00
CS-101	COMPUTER SCIENCE SEMINAR	1.00
CS-111	COMPUTER SCIENCE 1	4.00
CS-226	SQL: STRUCTURED QUERY LANGUAGE	3.00
ENGL-102	WRITING AND RHETORIC II	3.00
Credits		17.00
Second Year		
Fall		
CORE	Social & Behavioral Ways of Knowing	3.00
CORE	Scientific Ways of Knowing	3.00
CS-211	COMPUTER SCIENCE II	4.00
CS-253	INTRO TO SYSTEMS PROGRAMMING	4.00
Program Requirement	MATH, BIOL, BIOF, CHEM, CS, CYB, GIS, NS, WEB or PHYS courses, numbered 200 and above.	3.00
Credits		17.00
Spring		
CORE	Global Perspectives	3.00
CS-250	COMPUTER ORGANIZATION AND ARCHITECTURE	4.00
CS-311	ALGORITHMS AND DATA STRUCTURES	4.00
MATH-186	DISCRETE MATHEMATICS	3.00
Credits		14.00
Third Year		
Fall		
CS-360	SOFTWARE ENGINEERING	3.00
Program Requirement	MATH, BIOL, BIOF, CHEM, CS, CYB, GIS, NS, WEB or PHYS courses, numbered 200 and above.	3.00
Program Requirement	MATH, BIOL, BIOF, CHEM, CS, CYB, GIS, NS, WEB or PHYS courses, numbered 200 and above.	3.00
Program Requirement	Take MATH-175, or WEB-111, or WEB-112.	3.00
Credits		12.00
Spring		
CS-430	OPERATING SYSTEMS	3.00
CORE	Integrative Seminar: Ethics & Values	3.00
Program Requirement	MATH, BIOL, BIOF, CHEM, CS, CYB, GIS, NS, WEB or PHYS courses, numbered 200 and above.	3.00
Program Requirement	Take MATH-175, or WEB-111, or WEB-112.	3.00
Program Requirement	BIOF or CS course 300/400 Level	3.00
Credits		15.00
Fourth Year		
Fall		
CS-401	FUTURE PROFESSIONALS SEMINAR	1.00
CS-435	COMPUTER NETWORKS	3.00
Program Requirement	Upper Division Electives	3.00

Program Requirement	MATH, BIOL, BIOF, CHEM, CS, CYB, GIS, NS, WEB or PHYS courses, numbered 300 and above.	4.00
Program Requirement	BIOF or CS course 300/400 Level	3.00
Credits		14.00
Spring		
CS-480	CAPSTONE DESIGN PROJECT	4.00
Program Requirement	Upper Division Electives	3.00
Program Requirement	Upper Division Electives	3.00
Program Requirement	MATH, BIOL, BIOF, CHEM, CS, CYB, GIS, NS, WEB or PHYS courses, numbered 300 and above.	4.00
Credits		14.00
Total Credits		120.00

Graduates with a BA/BS in Computer Science go on to obtain careers in a variety of fields:

- Programming
- Network Technology
- Consulting
- Non-Technical
- Systems Development
- Internet
- Education