

## Computer Science Option in Computer Information Systems

- All non-articulated courses MUST be submitted for review by the Department Chair via the Alternate Course Approval form on the Computer Science website: [www.csusm.edu/cs](http://www.csusm.edu/cs); for courses in disciplines outside of Computer Science, direct inquiries to appropriate departments.
- All major courses must be completed with a grade of C (2.0) or higher.
- A minimum of fifteen (15) units counted toward the major must be completed at CSU San Marcos.
- No more than three (3) units of either CS 498 or CS 499 may be applied toward the major.

**LOWER DIVISION (12 UNITS):**

Course #	Course Title	Units	Grade	Sem	Equivalent	Institution	Need	IP	Met
CS 111	Computer Science I (*Math 125)	4							
CS 211	Computer Science II (*CS 111)	4							
CS 231	Assembly Language and Digital Circuits (*CS 111)	4							

**NON-COMPUTER SCIENCE SUPPORTING COURSES (36-38UNITS):**

Course #	Course Title	Units	Grade	Sem	Equivalent	Institution	Need	IP	Met
MATH 160	Calculus with Applications, I (*Math 125 or strong HS math skills, incl Trig)	5							
MATH 242 or 440	Introduction to Statistics OR Intro to Probability and Stats (*MATH 260)	3-4							
MATH 270	Discrete Mathematics (*Math 160)	3							
ACCT 201	Introduction to Financial Accounting	3							
ACCT 202	Intro to Managerial Acctng (*ACCT 201)	3							
ECON 201	Principles of Microeconomics	3							
ECON 202	Principles of Macroeconomics	3							
PSYC 100 or SOC 101	Introduction to Psychology (3) or Introduction to Sociology (4)	3-4							
BUS 302*	Foundations of Business Environments	2							
FIN 302*	Foundations of Finance	2							
MGMT 302*	Foundations of Management	2							
MKTG 302*	Foundations of Marketing	2							
OM 302**	Foundations of Operations Management (*Math 242 or Math 440)	2							

CH 4.26.13 \*Prerequisites required

\*CIS Majors must complete ACCT 201, 202, ECON 201, 202, PSYC 100 or SOC 101, and MATH 160 before enrolling in the following: BUS 302, FIN 302, MGMT 302, MKTG 302, and OM 302.

\*\*OM 302 has an additional pre-requisite of MATH 242 or MATH 440

**Computer Science**  
**Option in Computer Information Systems**

**UPPER-DIVISION MAJOR REQUIREMENTS (27 UNITS):**

Course #	Course Title	Units	Grade	Sem	Equivalent	Institution	Need	IP	Met
CS 311	Data Structures (*CS 211, Co/Prereq. Math 270)	3							
CIS 341	Computer System Analysis and Design (*CS 111)	3		F					
CS 433	Operating Systems (*CS 231, CS 311)	3							
CS 436	Introduction to Networking (*CS 311)	3							
CS 441	Software Engineering (*CS 311, Math 270)	3							
CS 443	Database Management Systems (*CS 311)	3		S					
CIS 444	Web Programming (*CS 443)	3		F					
CIS 490	Project Management and Practice (*CIS 444, CS 443, 436, 441)	3		S					

\*PRE-REQUISITE COURSE(S)

\*\*PLEASE CONSULT WITH AN ACADEMIC ADVISOR REGULARLY REGARDING UPPER COURSE OFFERINGS

**UPPER-DIVISION COMPUTER SCIENCE OR COMPUTER INFORMATION SYSTEMS ELECTIVE (3 UNITS)**

**CS/CIS courses numbered 300 or higher with the exception of CS 301.**

(You may wish to consult with your Faculty advisor for course selection).

Course Number/Title	Units	Grade	Sem	Equivalent	Institution	Need	IP	Met
	3							