

COMPARISON OF REQUIREMENTS
FOR THE COMPUTER ENGINEERING MAJOR, THE COMPUTER SCIENCE MAJOR,
AND THE OPERATIONS & MANAGEMENT INFORMATION SYSTEMS MAJOR
(For freshmen starting in Fall 2007 or later)

Subject	Required by All Programs	Computer Engineering (School of Engineering) 187 units minimum	Computer Science (College of Arts & Sciences) 175 units minimum	Operations & Management Information Systems (School of Business) 175 units minimum
<i>University Core Requirements (Humanities)</i>	English 1 & 2, United States, World Cultures I, Ethics, Western Culture I & II, Religious Studies I, II, III	Introduction to Technical Writing for Engineers, Social Science	1 additional writing course (MATH 100 recommended), Social Science	Writing for Business, Princ. of Microecon. (ECON 1)
<i>College Requirements</i>		Intro. to Engineering, Electric Circuits I, Senior Thesis Project (COEN 194, 195, 196 [2 units each])	World Cultures II, Fine Arts, Ethnic or Women's Studies, Foreign Lang. I & II	Intro. Bus. Comput., Found. of Leadership, Bus. Lead. Skills, Accounting 11, 12, Stats. & Data Analysis I & II, Manag. Info. Systems, Cont. Amer. Business., Foreign Lang. I & II (can be waived), Org. & Mgmt., Princ. of Marketing, Financial Mgmt., Production Mgmt., Macro. Econ. (ECON 2), Intern. Econ. (ECON 3)
<i>Mathematics</i>	Calculus I & II (MATH 11, 12 or 30, 31 [for OMIS majors])	Calculus III & IV, Discrete Math, Differential Equations, Linear Algebra (or Num. Methods), Probability & Statistics	Calculus III & IV, Abstract Algebra, Differential Equations, Linear Algebra, 2 upper div. "pure" Math courses (Prob. & Stats. recommended)	
<i>Natural Sciences</i>		Physics I-III, Chemistry I	Physics I & II	Any natural lab science course
<i>Lower Division Computing</i>		[Intro. to Prog. (COEN 10),] Adv. Prog. (COEN 11), Data Types & Struct. (COEN 12), Formal Spec. & Adv. Data Structures (COEN 70), Computer Org. & Embedded Systems Prog. (COEN 20), Intro. to Logic Design (COEN 21)	Intro. to Comp. Sci. (CSCI 10), Obj. Orient. Prog. (CSCI 60), Data Struct. (CSCI 61), Computer Org. & Embedded Systems Prog. (COEN 20), Intro. to Logic Design (COEN 21)	Structured Programming (OMIS 30)
<i>Upper Division Computing</i>		Computer Arch. (COEN 122), Comp. Networks (COEN 146), Software Engin. (COEN 174), Form. Lang. & Compilers (COEN 175), Operating Systems (COEN 177), Th. of Algorithms (as COEN 179)	Operating Systems (COEN 177), Th. of Algorithms (as CSCI 163), Th. of Automata & Lang. (CSCI 161) or Numerical Analysis (CSCI 166)	Database Management (OMIS 105), Systems Analysis & Design (OMIS 106), Systems Programming (OMIS 107)
<i>Upper Division Computing Electives</i>		3 COEN Electives	4 Computing Electives as follows:† • 1 from COEN, • 2 from CS courses in Math&CS, • 1 from either	3 OMIS Electives
<i>Other</i>		Electronic Circuits (ELEN 115), Integ. Circ. Design (ELEC 153), Integrated Ed. Req. (See Bulletin for info.)		Business Capstone course

† CS Majors are recommended to choose elective courses in one of four tracks: Numerical Computation, Software, Foundations, Graduate School Preparation.

DISCLAIMER: This table merely attempts to provide an overview comparing and contrasting the requirements of the majors. It is not meant to be an official document prescribing all requirements. For details, one should consult the most recent edition of the Undergraduate Bulletin.

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