

**MAJOR in COMPUTER SCIENCE**

BACHELOR OF SCIENCE DEGREE (BS)

**COMPUTER SCIENCE MAJOR (2008 - 2009)****INTELLECTUAL FOUNDATIONS PROGRAM AND FOREIGN LANGUAGE REQUIREMENTS****ENGLISH COMPOSITION** (6 credits, two courses, **must get a C or better**)

ENC 1101 College Writing 1 (Gordon Rule Writing) (3 credits)

ENC 1102 College Writing 2 (Gordon Rule Writing) (3 credits)

**MATHEMATICS** (11-12 credits minimum, three courses from the following list) (**Gordon Rule, must get a C or better**)**MUST TAKE A PLACEMENT TEST BEFORE REGISTERING FOR MATH COURSES.**

Calculus requires a solid background in algebra and trigonometry. This background, if not attained in high school, can be attained at FAU by taking College Algebra (MAC 1105), Trigonometry (MAC 1114) and Pre-calculus Algebra (MAC 1140)

**MAC 2253 Calculus for Engineers 1 (4 credits) REQUIRED****MAC 2254 Calculus for Engineers 2 (4 credits) REQUIRED****ONE ADDITIONAL MATHEMATICS COURSE REQUIRED FOR MAJOR -- CHOOSE ONE FROM THE FOLLOWING:****(Cannot be used as a CS elective if used to satisfy the math requirement)**

MAC 2313 Calculus with Analytic Geometry 3 (4 credits)

MAD 3400 Numerical Methods (3 credits -- MAC 2312 is prerequisite)

MAP 2302 Differential Equations I (3 credits -- MAC 2312 is prerequisite)

MAS 2103 Matrix Theory (3 credits -- MAC 2253 is prerequisite)

MAS 4301 Modern Algebra (3 credits -- MAD 2104 is prerequisite)

MAP 4260 Introduction to Queuing Theory (3 credits -- STA 4821 is prerequisite)

**SOCIAL SCIENCES** (9 credits, **3 courses, from 3 different departments**)

ANT 2000 (D) Introduction to Anthropology (3 credits)

ANT 2410 Culture &amp; Society (3 credits)

GEA 2000 (D) World Geography (3 credits)

ECO 2023 Microeconomic Principles Recommended (3 credits - **Sophomore standing is a prerequisite**)ECO 2013 Macroeconomic Principles Recommended (3 credits - **Sophomore standing is a prerequisite**)

ECP 2002 Contemporary Economic Issues (3 credits) for Non-Business majors

PAD 2258 Changing Environment of Society, Business and Government (3 credits)

POS 1041 The Government of the United States (3 credits)

INR 2002 Introduction to World Politics (3 credits)

PSY 1012 General Psychology (3 credits)

SYG 1000 Introductory Sociology (3 credits)

SYG 2010 Social Problems (3 credits)

**HUMANITIES** (9 credits, three courses) ♦ **choose ONE from the following six courses,**

ARC 2208 Culture and Architecture: The Master Builder (3 credits)

ARH 2000 (P/F) Art Appreciation (3 credits) (Computer Science majors cannot take for P/F option)

DAN 2100 Appreciation of Dance (3 credits)

FIL 2000 (D) Film Appreciation (3 credits)

MUL 2010 History and Appreciation of Music (3 credits)

THE 2000 Appreciation of Theater (3 credits)

**AND Choose TWO courses from two different departments.**

WOH 2012 (D) History of Civilization (Gordon Rule Writing, C or better) (3 credits)

PHI 2010 (D) Introduction to Philosophy (Gordon Rule Writing, C or better) (3 credits)

LIT 2010 Interpretation of Fiction (Gordon Rule Writing, C or better) (3 credits)

OR LIT 2030 Interpretation of Poetry (Gordon Rule Writing, C or better) (3 credits)

OR LIT 2040 Interpretation of Drama (Gordon Rule Writing, C or better) (3 credits)

**SCIENCE** (12 - 14 credits from two departments, **3 or more courses with labs required**) **C or better required****Choose one from the following 3 courses**

BSC 1010 &amp; L Biological Principles w/lab (4 credits, Biology)

**OR** CHM 2045 & L General Chemistry I w/lab (4 credits, Chemistry)**OR** GLY 2010 & L Physical Geology (4 credits, Geology)**See department advisor if a second science class is needed. You may then choose one from the following:**

GLY 2006 Geology of National Parks (3 credits);

GLY 3100 Historical Geology (3 credits);

GLY 3155 Geology of Florida (3 credits);

GLY 3731 Coastal and Marine Science (3 credits)

**PHYSICS (2 courses with labs required) (C or better required)**

PHY 2043 &amp; PHY 2048L Physics for Engineers I (3 cr) &amp; General Physics I lab (1 cr, Physics)

**(MAC 2311 is prerequisite and MAC 2312 is recommended as co-req)**

PHY 2044 &amp; PHY 2049L Physics for Engineers II (3 cr) &amp; General Physics II lab (1 cr, Physics)

**(PHY 2048 (4 cr) & PHY 2049 (4 cr) General Physics I & II may be substituted for PHY 2043 and PHY 2044 respectively)**

**FOREIGN LANGUAGE** (4-8 cr, 1-2 courses) **REQUIRED. (P/F)** Students with more than one year of foreign language in high school should enroll in Beginning Language and Culture II (FRE/GER/GRK/GRE/HBR/ITA/JPN/SPN 1121) or a higher course. Students can earn proficiency for a first level course by completing a second-level course. For questions related to this requirement, consult an academic advisor. CLEP exam credits meet this requirement. **NOTE: Native speakers of a foreign language must consult the Languages & Linguistics dept. regarding this requirement**

♦NOTE: Honors Seminars SHALL BE ACCEPTED AS MEETING THE GORDON RULE WRITING REQUIREMENT. See *Freshman Academic Advising Services for details.*

D = Course also has discussion section. Must register and attend both lecture and discussion sections.

## MAJOR COURSES AND IN/OUT OF COLLEGE REQUIREMENTS

### DEPARTMENT REQUIREMENT

SPC 2601 Public Speaking (3 credits)

### COMPUTER SCIENCE (52 credits minimum, 17 or more courses)

**Major Core (43 credits, 14 courses, ALL REQUIRED, 2.5 GPA required in these courses except COP 2220)**

COP 2220 Introduction to Prog. in C (3 cr) **MAC 2253 is recom. as coreq) (GRADE C OR BETTER REQUIRED)**  
CDA 3201 Introduction to Logic Design (4 credits -- **COP 2220 is recommended as prereq. or coreq.)**  
COT 3002 & L Foundations of Computer Science (4 cr. - **COP 2220 is prereq) (GRADE C OR BETTER REQUIRED)**  
MAD 2104 Discrete Mathematics (3 credits -- **MAC 2253 is recommended as prerequisite)**  
COP 3530 Data Structures and Algorithm Analysis (3 cr. -- **COT 3002 is prereq & MAD 2104 coreq.)**  
COP 3813 Introduction to Internet Computing (3 credits -- **COT 3002 is prereq.)**  
STA 4821 Stochastic Models for Computer Science (3 credits -- **MAC 2312 is prereq.)**  
CDA 3331C Microprocessor Systems (4 credits -- **CDA 3201 is prereq.)**  
COP 4610 Computer Operating Systems (3 credits -- **CDA 4331 & COP 3530 are prereq.)**  
COP 3540 Introduction to Database Structures (3 credits -- **COP 3530 is prereq.)**  
COT 4420 Formal Language and Automata Theory (3 credits -- **COP 3530 & MAD 2104 are prereq.)**  
COT 4400 Design and Analysis of Algorithms (3 credits -- **COP 3530 is prereq.)**  
CEN 4010 Principles of Software Engineering (3 credits -- **COP 3530 is prereq.)**  
COT 4935 Senior Seminar (1 credit -- **senior standing is required)**

**Major Electives (9 credits minimum, 3 courses)** -- At least one elective must involve programming in a language other than C/C ++. Consult with advisor for best courses from the following:

#### INTERNET TECHNOLOGY:

COP 4331 Introduction to Object-Oriented Systems (3 credits - **COP 3530 is a prereq.)**  
CDA 4504 Introduction to Data Communication (3 credits -- **COP 3530 & CDA 3331C are prereq.)**  
COP 4020 Programming Languages (3 credits -- **COP 3530 is prereq.)**  
COP 4703 Applied Database Systems (3 credits - **COP 3540 is prereq.)**

#### APPLICATIONS:

CAP 4630 Artificial Intelligence (3 credits -- **COP 3530 is prereq.)**  
CAP 4730 Computer Graphic Methods (3 credits -- **COP3530 is prereq.)**

#### SOFTWARE ENGINEERING:

CEN 4910 Software Engineering Project (3 credits -- **CEN 4010 is prereq.)**  
ISM 4133 Advanced Systems Analysis and Design (3 credits -- **COP 3540 is prereq.)**

#### SYSTEM PERFORMANCE:

MAP 4260 Introduction to Queuing Theory (3 credits -- **STA 4821 is prereq.)**  
COP 4301 Modeling and Simulation of Systems (3 credits -- **COT 3002 & STA 4821 are prereq.)**  
CEN 4400 Intro. to Computer Systems Performance Eval. (3 cr.- **COT 3002 & STA 4821 are prereq.)**

#### SYSTEM PROGRAMMING:

COP 4620 Computer Language Translation (3 credits -- **COP 3530 is prereq.)**  
COP 4604 UNIX System Programming (3 credits -- **COP 4610 & UNIX experience are prereq.)**

#### COMPUTER ARCHITECTURE:

CDA 4102 Structured Computer Architecture (3 credits -- **CDA 3201 is prereq.)**  
CDA 4204 CAD-Based Computer Design (3 credits -- **CDA 3201 is prereq.)**  
CDA 4210 Introduction to VLSI (3 credits -- **CDA 3201 is prereq.)**

#### OTHER ELECTIVES:

COT 4930 Topics in Computer Science (1-3 credits)  
COT 4900 Directed Independent Study (1-3 credits)  
COT 5930 Topics in Computer Science (1-3 credits)  
COT 3949 Cooperative Education (3 semesters, 1 credit each, may be counted as one Major Elective)

**FREE ELECTIVES (5 - 14 credits, 1 or more classes)** Credits required to reach minimum of 120 credits, any college or subject.

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44-50 credits	Intellectual Foundations Program and Foreign Language
7-10 credits	Additional Math & Science
3 credits	Communications
52 credits	Computer Science Major & Electives
5-14 credits	Electives (as needed to bring total to 120)

**120 CREDITS TOTAL**

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**CLAST:** Satisfy the College Level Academic Skills Test (CLAST). See catalog or check with your advisor.

**NOTE:** See the catalog for specific requirements, course descriptions, and additional information. The requirements for some Intellectual Foundations Program & other courses may be satisfied by passing the appropriate AP or CLEP exam. Check with your advisor. There is a University Requirement of 45 credits minimum course work from a 4-year degree granting institution. Computer Science majors are required to **(1) get a C or better in math and science course (with a GPA of 2.5 in math and Physics), (2) complete the major core with a GPA of at least 2.5. No major course may be taken pass/fail. All course selections should be made in consultation with an advisor.**

**STUDENTS ASSUME ALL RESPONSIBILITY FOR MEETING ALL GRADUATION REQUIREMENTS.**

(5/08)