Bachelor of Science in Computer Science

18 - 21 credits to be chosen from CS and CE upper division
Courses that are not in the CS core and/or research.

Information Technology
- CAP 4630 Introduction to Artificial Intelligence
- CNT 4104 Introduction to Data Communications
- CNT 4403 Introduction to Data & Network Security
- COP 4814 Web Services
- COP 4703 Applied Database Systems
- COP 4593 Component Programming w. NET
- CAP 4770 Data Mining & Machine Intelligence
- COP 4854 Cutting Edge Web Technology

Applications
- CAP 4034 Computer Animation
- CAP 4028 Introduction to Game Programming
- COP 4367 Graphical Application Development
- CAP 4401 Digital Image Processing

Software Engineering
- CEN 4910 Software Engineering Project
- COP 4331 Object-Oriented Design & Programming

System Programming
- COP 4020 Programming Languages
- CDA 4204 CAD-Based Computer Design
- CDA 4210 Introduction to VLSI
- CDA 4630 Introduction to Embedded System Design
- CDA 4102 Structured Computer Architecture
- CEN 4214 Software-Hardware Co-Design

System Performance
- CEN 4400 Introduction to Computer System Performance
- MAP 4260 Introduction to Queueing Theory

MATH ELECTIVE OPTIONS:
- (3 - 4 credits each)
  - MAC 2313 Calculus w/Analytic Geometry III
  - MAD 3400 Numerical Methods
  - MAP 2302 Differential Equations I
  - MAP 4260 Queuing Theory
  - MAS 2103 Matrix Theory
  - MAP 3305 Engineering Math I
  - MAS 4301 Modern Algebra

OTHER REQUIREMENTS:
To Declare Computer Science Major:
- Grade of "C" or better in:
  - COP 2220 and MAC 1140 and MAC 1114 or MAC 1147
- At least 120 credits
- At least 45 credits at a senior institution

Transfer Students:
- Grade of "C" or better in all core, math & science courses
- Course Requirements for Admission to MSCS program • required courses

This flowchart is reviewed periodically and is subject to change as new requirements become necessary to educate engineers. The information is intended to inform and is not a replacement for a degree audit conducted with an academic advisor.

Legend:
- Pre-Requisite
- Pre- or Co-
- Science & Math
- Core Courses
- Engineering Fund. Courses
- IFP Requirements
**PRE-PROFESSIONAL ENGINEERING PROGRAM (2015-2016)**

**FOUNDATIONS OF WRITTEN COMMUNICATION**
(6 credit hours required – Writing Across the Curriculum - WAC)
Grade of “C” or higher is required in each course
___ ENC 1101 ...... College Writing I *(REQUIRED)*
___ ENC 1102 ...... College Writing II *

**THE FOLLOWING COURSES BELOW MAY BE SUBSTITUTED FOR ENC 1102:**

**English Department**
___ ENC 1930+ .... University Honors Seminar in Writing *(Permit Only)*
___ ENC 1939+ .... Special Topic: College Writing
___ ENC 2452+ .... Honors Composition for Science

**Anthropology Department**
___ ANT 1471+ .... Cultural Difference in a Globalized Society

**History Department**
___ HIS 2050+ ...... Writing History: The American Revolution

**Nursing Department (Department Permission Required)**
___ NSP 1195+ ...... Being Cared For: Reflections from Other Side of Bed

*Note: Students must take four Writing-Across-the-Curriculum (WAC) courses, two of which must be taken from Foundations of Written Communication.*

**FOUNDATIONS OF SCIENCE & THE NATURAL WORLD**
(6 credit hours required - One of the courses must have a lab)
Student must take two of the following courses, one must be from group A. The second course may be from group A or group B.
Grade of “C” or higher is required

*** SEE SCIENCE REQUIREMENTS BY MAJOR ON PAGE 3 ***

**Group A**

**Biology Department**
___ BSC 1005 & L ........ Life Science (3 credits including Lab)
___ BSC 1010 & L & D ........ Biological Principles (4 credits including Lab & Dis)
___ BSC 2085 & L ........ Anatomy & Physiology 1 (4 credits including Lab) *

**Chemistry Department**
___ CHM 1020C ........ Contemporary Chemical Issues
___ CHM 2045 & L .......... General Chemistry 1 (4 cr. w/Lab) *(REQUIRED)*

**Geosciences Department**
___ ESC 2000 .................. Blue Planet *(online course)*

**Physics Department**
___ AST 2002 ................. Introduction to Astronomy *(P/F)*
___ PHY 2048 & L ............ General Physics 1 (5 cr. w/ Lab) *(REQUIRED)*
___ PHY 2053 ................. College Physics 1 (4 credits) ***

**Group B**

**Anthropology Department**
___ ANT 2511 & L .......... Intro to Biological Anthropology (4 cr. Incl. Lab)

**Biology Department**
___ BSC 1011 & L & D .......... Biodiversity (4 cr. including Lab & Discussion)

**Chemistry Department**
___ CHM 2032 & L .......... Chem. for Health Sciences (4 cr. including Lab)
___ CHM 2083 .................. Chemistry in Modern Life *(P/F)*

**Engineering Dean Department**
___ GLY 2010C ............... Physical Geology (4 cr. including Lab)
___ GLY 2100 ................. History of Earth and Life
___ MET 2010 & D ............ Weather and Climate

**Physics Department**
___ PHY 2049 & L .......... General Physics 2 (5 cr. w/ Lab) *(REQUIRED)*
___ PSC 2121 .................. Physical Science

**Exceptional Student Education Department**
___ ECP 2002 ............... Contemporary Economic Issues

**Economics Department**
___ ECO 2013 ............... Microeconomic Principles §
___ ECO 2023 ............... Macroeconomic Principles §

**Geosciences Department**
___ MAC 1105 .................. College Algebra
___ STA 2023 .................. Introductory Statistics
___ MAC 2311 .................. Calc. w/Analytic Geometry 1 (4 credits) *(REQUIRED)*

**Philosophy Department**
___ ANT 2000 ............... Introduction to Anthropology
___ ANT 2511 & L .......... Intro to Biological Anthropology (4 cr. Incl. Lab)

**History Department**
___ AMH 2010 ............... United States History Since 1877 *(P/F)*
___ AMH 2020 ............... United States History to 1877 *(P/F)*

**Political Science Department**
___ POS 2041 ............... Government of the United States
___ POS 2041 ............... Government of the United States

**Psychology Department**
___ PSY 1012 ............... Introduction to Psychology
___ PSY 1012 ............... Introduction to Psychology

**Sociology Department**
___ SYG 1000 ............... Sociological Perspectives
___ SYG 1000 ............... Sociological Perspectives

**Urban & Regional Planning Department**
___ URP 2051 ............... Designing the City

**PRETEST IS REQUIRED BEFORE TAKING YOUR FIRST MATH COURSE**

**Group A**
___ MGF 1106 .......... Math for Liberal Arts 1
___ MGF 1107 .......... Math for Liberal Arts 2
___ MAC 1105 .......... College Algebra
___ STA 2023 .......... Introductory Statistics
___ MAC 2311 .......... Calc. w/Analytic Geometry 1 (4 credits) *(REQUIRED)*

**Group B**
___ MAC 1140 .......... Precalculus Algebra
___ MAC 1114 .......... Trigonometry
___ MAC 1147 .......... Precalculus Algebra & Trigonometry (5 credits)
___ MAC 2233 .......... Methods of Calculus
___ MAC 2312 .......... Calc. w/Analytic Geometry 2 (4 credits) *(REQUIRED)*

**Foundations of Society & Human Behavior**
(6 credit hours required)
Student must take two of the following courses, one must be from group A. The second course may be from group A or group B.

**Group A**

**History Department**
___ AMH 2010 ............... United States History Since 1877 *(P/F)*
___ AMH 2020 ............... United States History to 1877 *(P/F)*

**Economics Department**
___ ECO 2013 ............... Microeconomic Principles §
___ ECO 2023 ............... Macroeconomic Principles §
___ ECP 2002 ............... Contemporary Economic Issues

**Geosciences Department**
___ EVR 2017 ............... Environment and Society

**Public Administration Department**
___ PAD 2258 ............... Changing Environment of Soc., Bus., & Gov’t

**Philosophy Department**
___ PHI 2102 ............... Logic

**Political Science Department**
___ POS 2041 ............... Government of the United States

**Psychology Department**
___ PSY 1012 ............... Introduction to Psychology

**Sociology Department**
___ SYG 1000 ............... Sociological Perspectives
___ SYG 1000 ............... Sociological Perspectives

**Urban & Regional Planning Department**
___ URP 2051 ............... Designing the City

**Note:** Students must take at least one course with the prefix MAC or MGF.
Students must attain grades of “C” or higher. 12 credits of writing (WAC) and 6 credits of mathematics are required. Please note:

- Students must take four (4) WAC courses. Two (2) courses are to be taken from Foundations of Written Communication. We strongly recommend the two additional WAC courses come from these courses: PHI 2010, WOH 2012, LIT 2030, LIT 2040 and LIT 2070. See advisor for additional details.

- Elective Credits
  The number of elective credits allowed varies by major. Please consult with an academic advisor to determine the number of elective credits required for your major. **Certain majors do not allow any electives.**

Legend

- ENC 1101 is a prerequisite.
- Two Foundations of Written Communications classes are required before taking this course.
- Sophomore standing (30 credits earned) is a requirement to take this course.
- Nursing majors are required to take this course in their first semester.
- MAC 2311 is a prerequisite for this course. If a lab is needed, then take General Physics 1 Lab (PHY 2048 Lab).
- MAC 1105 and MAC 1114 are prerequisites for this course. If a lab is needed, then take General Physics 1 Lab (PHY 2048 Lab).
- Co-requisite of College Algebra (MAC 1105) or a prerequisite of Introductory Chemistry (CHM 1025).
- Writing Across the Curriculum (WAC)/Gordon Rule
  Students must take two of the following courses, one must be from group A. The second course may be from group A or group B.

**Group A**

- Visual Art & Art History Department
  ___ ARH 2000 .................. Art Appreciation (P/F)

- Music Department
  ___ MUL 2010 .................. Music Appreciation

- Philosophy Department
  ___ PHI 2010 & D .............. Introduction to Philosophy (WAC) ++

**Group B**

- Theatre & Dance Department
  ___ THE 2000 .................. Theatre Appreciation

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<th>Coordinator</th>
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<td>Languages</td>
<td>LAS 2000</td>
<td>Intro to Caribbean &amp; Latin American Studies</td>
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http://myfau.fau.edu

Go to MyFAU to:

- Check e-mail
- See FAU Announcements
- FAU Self-Service:
  - Course schedules
  - Registration (drop/add classes) and withdrawals
  - Student records and financial aid
  - Tuition payments
  - The University Course Catalog

STUDENTS ASSUME RESPONSIBILITY FOR MEETING ALL GRADUATION REQUIREMENTS

Course selections should be made in consultation with an academic advisor.

Foundations of Humanities (6 credit hours required)

Student must take two of the following courses, one must be from group A. The second course may be from group A or group B.

Group A

- Visual Art & Art History Department
  ___ ARH 2000 .................. Art Appreciation (P/F)

- Music Department
  ___ MUL 2010 .................. Music Appreciation

- Philosophy Department
  ___ PHI 2010 & D .............. Introduction to Philosophy (WAC) ++

Group B

- Theatre & Dance Department
  ___ THE 2000 .................. Theatre Appreciation

- Architecture Department
  ___ ARC 2208 .................. Culture & Architecture

- Theatre & Dance Department
  ___ DAN 2100 .................. Appreciation of Dance

- School of Communication & Multimedia Studies
  ___ FIL 2000 & D .............. Film Appreciation

- Languages, Linguistics, & Comparative Literature Department
  ___ LIT 2100 .................. Introduction to World Literature

- English Department
  ___ LIT 2010 .................. Interpretation of Fiction (WAC) ++
  ___ LIT 2030 .................. Interpretation of Poetry (WAC) ++
  ___ LIT 2040 .................. Interpretation of Drama (WAC) ++
  ___ LIT 2070 .................. Interpretation of Creative Nonfiction (WAC) ++
FOREIGN LANGUAGE (4-8 credits) – REQUIRED only for COMPUTER SCIENCE MAJOR

Students with more than one year of a foreign language in high school should enroll in the second half of the beginners foreign language class (ARA/CHI/FRE/GER/HBR/ITA/JPN/LAT/SPN 1121) or a higher level course. Proficiency for a first-level course can be earned by successfully completing a second-level course. For questions related to this requirement, consult an academic advisor. CLEP exam credits meet this requirement: see the catalog.

-NOTE: Native Speakers of a foreign language must consult the Languages, Linguistics, and Comparative Literature Department regarding this requirement.
-
-NOTE: Honors Seminars SHALL BE ACCEPTED AS MEETING THE WAC/GRW REQUIREMENT.
See the University Advising Services Office for details.

FREE ELECTIVES: Engineering students DO NOT have any electives. Engineering students must stick to the core curriculum.

MAJOR REQUIREMENTS
(All required major courses must earn a “C” or better)

___ EGN 1002 & L  Fundamentals of Engineering [Must be taken freshman year] (NOT required for Computer Science majors)
___ SPC 2608  Public Speaking (Required for Computer Science & Geomatics majors ONLY)

SCIENCE REQUIREMENTS BY MAJOR
(All required science courses must earn a “C” or better)

Civil, Electrical, Geomatics, Mechanical, Ocean, and Computer Engineering:

___ CHM 2045 & L ........General Chemistry 1 (4 cr. w/Lab) ‡ (REQUIRED)
___ PHY 2048 & L ..........General Physics 1 (5 cr. w/ Lab) ** (REQUIRED)
___ PHY 2049 & L ..........General Physics 2 (5 cr. w/ Lab) (REQUIRED)

Civil Engineering majors must also choose 1 from:

___ BSC 1010 & L & D...Biological Principles (4 credits including Lab & Discussion)
___ GLY 2010C..............Physical Geology (4 cr. including Lab) (RECOMMENDED)

Computer Science:

___ PHY 2048 & L ..........General Physics 1 (5 cr. w/ Lab) ** (REQUIRED)
___ PHY 2049 & L ..........General Physics 2 (5 cr. w/ Lab) (REQUIRED)

Computer Science majors must also choose 1 from:

___ CHM 2045 & L ........General Chemistry 1 (4 cr. w/Lab) ‡
___ BSC 1010 & L & D...Biological Principles (4 credits including Lab & Discussion)
___ GLY 2010C..............Physical Geology (4 cr. including Lab)

REQUIREMENT INFORMATION

- NOTE: All Engineering and Computer Science students should take Physics I (PHY 2048 & PHY 2048L) with Calculus II (MAC 2312) in the same semester.
- NOTE: Students must receive a minimum grade of “C” and overall GPA of 2.5 or greater in a combination of the math and physics courses below. Calculation of the GPA will be based on the highest grade earned. Advance placement (AP) – a score of 5 is equivalent to an “A” and a score of 4 is equivalent to a “B”.

- Electrical and Computer Engineering: MAC 2311 & MAC 2312 = 2.5 GPA or MAC 2311 & PHY 2043 or PHY 2048 = 2.5 GPA.
- Ocean, Mechanical, Civil, Environmental & Geomatics Engineering: MAC 2311 & PHY 2043 or PHY 2048 = 2.5 GPA.
- Computer Science: COP 2220 & MAC 1140 & MAC 1114 = 2.5 GPA or COP 2220 & MAC 1147 = 2.5 GPA.

Incoming Freshman and students transferring with less than 30 credits contact: Nicole Raymond
University Advising Services
Phone: (561) 297-3064

Transfer students or students with more than 30 credits contact: College of Engineering & Computer Science
Phone: (561) 297-2780
Email address: engineering-advising@fau.edu