



UNIVERSITY OF SOUTH FLORIDA

COLLEGE OF ENGINEERING  
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

BACHELOR OF SCIENCE:  
**COMPUTER ENGINEERING**  
2024-2025



## B.S. COMPUTER ENGINEERING – FUSE SAMPLE CURRICULUM PLAN – 120 CREDITS

This curriculum plan is for students in the Fuse program entering their first semester of college at a Florida College System (FCS) institute **during the 2024-2025 academic year**. Fuse students entering during a different academic year must follow the Fuse curriculum plan for that year.

*Students must meet multiple requirements, including prerequisite courses and a minimum grade average in specified major-related courses, for admittance to the Computer Engineering major at USF. Currently, a **minimum grade average is required for this program in key courses (those in BOLD below)**. Read more about these requirements on the next page. Connect regularly with your advisors to ensure you understand and are meeting all requirements.*

### Semesters 1 to 4 at FCS college (60 credits)

<b>Semester 1</b>	
<b>MAC 2281 or MAC 2311*</b>	<b>4</b>
CHM 2045 or CHS 2440	3
ENC 1101 Composition I*	3
CHM 2045L or CHS 2440L	1
General Elective	<u>4</u>
Total	15

<b>Semester 2</b>	
<b>MAC 2282 or MAC 2312*</b>	<b>4</b>
ENC 1102 Composition II*	3
<b>PHY 2048 General Physics I – Calculus Based*</b>	<b>3</b>
<b>PHY 2048L General Physics I Laboratory*</b>	<b>1</b>
COP 2510 Programming Concepts <sup>1</sup> *	<u>3</u>
Total	14

<b>Semester 3</b>	
MAC 2283 or MAC 2313	4
XXX XXXX Introduction to Linear Systems <sup>2</sup>	2
SGEH Gen Ed Humanities	3
General Elective	3
PHY 2049 General Physics II – Calculus Based*	3
PHY 2049L General Physics II Laboratory*	<u>1</u>
Total	16

<b>Semester 4</b>	
XXX XXXX Probability and Statistics for Engineers <sup>3</sup>	3
MAP 2302 Differential Equations	3
EGN 3615 Eng Econ with SG Implications <sup>4</sup>	3
SGES Gen Ed Core Social Sciences	3
Natural Science Elective (Life or Physical)	<u>3</u>
Total	15

### Semesters 5 to 8 at USF (61 credits)

<b>Semester 5</b>	
EGN 3000 Foundations of Engineering	0
COP 3514 Program Design	3
CDA 3103 Computer Organization	3
COT 3100 Introduction to Discrete Structures	3
ENC 3246 Communication for Engineers	3
EGN 3373 Introduction to Electrical Systems I	<u>3</u>
Total	15

<b>Semester 6</b>	
CDA 3201 Computer Logic and Design	3
COP 4530 Data Structures	3
EEE 3394 Electronic Materials	3
CSE Elective	3
CSE Elective	3
CDA 3201L Computer Logic and Design Lab	<u>1</u>
Total	16

<b>Summer</b>	
Internship/Co-op Participation	
<b>(Note: See Department Advisor for CIS 4940 for credit)</b>	

<b>Semester 7</b>	
COT 4400 Analysis of Algorithms	3
CDA 4205 Computer Architecture	3
CDA 4205L Computer Architecture Lab	1
CDA 4213 CMOS-VLSI Design	3
CDA 4213L CMOS-VLSI Design Lab	1
CSE Hardware Elective	<u>3</u>
Total	14

<b>Semester 8</b>	
CIS 4250 Ethical Issues and Prof Conduct	3
CIS 4910 Comp Science and Engineering Project	3
COP 4600 Operating Systems	3
CDA 4203 Computer System Design	3
CDA 4203L Computer System Design Lab	1
CSE Hardware Elective	<u>3</u>
Total	16

<sup>1</sup> COP 2250, COP 2220, or COP 2360 may substitute for COP 2510; see notes on next page for more information.

<sup>2</sup> MAS 2103, MAS 3105, or EGN 4450 can complete this requirement; see notes on next page for more information.

<sup>3</sup> STA 2023 or EGN 3443 can complete this requirement; see notes on next page for more information.

<sup>4</sup> ECO 2023 may substitute for EGN 3615; see notes on next page for more information.

\*Must be sufficiently completed for admission into the program at USF; see notes on next page for more information.

**This curriculum plan is only a guide; the USF catalog is the definitive authority on required curriculum. Students must meet regularly with both their state college and Fuse advisors to ensure they are selecting appropriate courses that fit their individual circumstances and meet catalog requirements.**

## REQUIRED PREREQUISITE COURSES AND GRADE AVERAGE

In addition to completing the requirements of the AA program, the following courses (or pre-approved substitutes) specific to the Computer Engineering program must be completed for admission into the Computer Engineering major at USF. **Unless otherwise noted**, minimum grades of C are required for these courses (C- is insufficient). A minimum grade average is required in the three bold courses below (calculus 1, calculus 2, and calculus-based physics with lab).

- ENC 1101 - Composition I
- ENC 1102 - Composition II
- **MAC 2311 or MAC 2281 - Engineering Calculus I** ⇒
- **MAC 2312 or MAC 2282 - Engineering Calculus II** ⇒
- **PHY 2048/2048L - Calculus-based Physics I** ⇒
- PHY 2049/2049L - Calculus-based Physics II
- COP 2510 - Programming Concepts (COP 2510 must be completed with a minimum grade of B; B- is insufficient)

MINIMUM ACCEPTABLE GRADE AVERAGE IN THESE 3 COURSES IS [POSTED ON THE DEPARTMENT WEBSITE](#)

## ADDITIONAL NOTES ABOUT CURRICULUM AND ACADEMIC REQUIREMENTS

1. All students must complete the equivalent of USF Composition I & II, Engineering Calculus I & II, and Calculus-based General Physics I & II (with labs) with minimum grades of C in each course (grades of C- are insufficient).
  - a. The **minimum overall grade average in Calculus 1, Calculus II, and Calculus-based General Physics I (with lab) required for progression to the upper level will be [posted on the Department's website](#) one year prior to the fall semester** that the revised grade average is applicable. The computed grade average is based on the best attempts in these courses. These requirements must be met with a maximum of two attempts allowed for each course. Grades of W, I, IF, U, R, and M are considered attempts.
2. Completion of COP 2510 with a minimum grade of B (grade of B- is insufficient) or another introductory programming course covering a modern programming language with an emphasis on programming concepts and design methodology with a minimum grade of B (grade of B- is insufficient).
3. The curriculum plan above includes several requirements for which substitutions may be possible. Availability of the indicated required courses or approved substitutes depends on the state college attended. Students may also take the required course at USF as a transient student if the student's community college doesn't offer the required course or any of its approved substitutes. Students should speak with an advisor at their community college to determine the best plan at their institution for completing these courses.
4. Continuation in the program will be allowed only for students who complete CDA 3103 and COP 3514 with minimum grades of B, based on best attempts in each course (grades of B- are insufficient). These requirements must be met with a maximum of two attempts allowed for each course.

## REQUIREMENTS OF THE FUSE PROGRAM

To remain in the Fuse program, the following minimum requirements must be met (some individual Fuse programs may have higher requirements than these minimums):

- Students must graduate with an Associate's degree within 3 years.
- Students must complete their Associate's degree with a minimum GPA of 2.0. Note some USF majors require higher GPAs; check the Fuse graduation path to confirm the minimum required GPA for that major.
- Students must complete all requirements of the graduation path.

## CONTACT INFORMATION

For questions about the curriculum and requirements of the Computer Engineering program, contact [eng-advisingmail@usf.edu](mailto:eng-advisingmail@usf.edu). Students may also learn more by visiting the webpage of the [Department of Computer Science and Engineering](#).

For general inquiries about the transfer process, contact [transfer-advising@usf.edu](mailto:transfer-advising@usf.edu). Students may also visit the [Fuse website](#) to learn more about the program, and the USF [Office of Transfer Student Success website](#) to learn more about resources available to transfer students.

For questions about financial aid or scholarships, visit the [Office of Financial Aid website](#).

To learn more about USF admissions, visit the [Office of Admissions website](#).