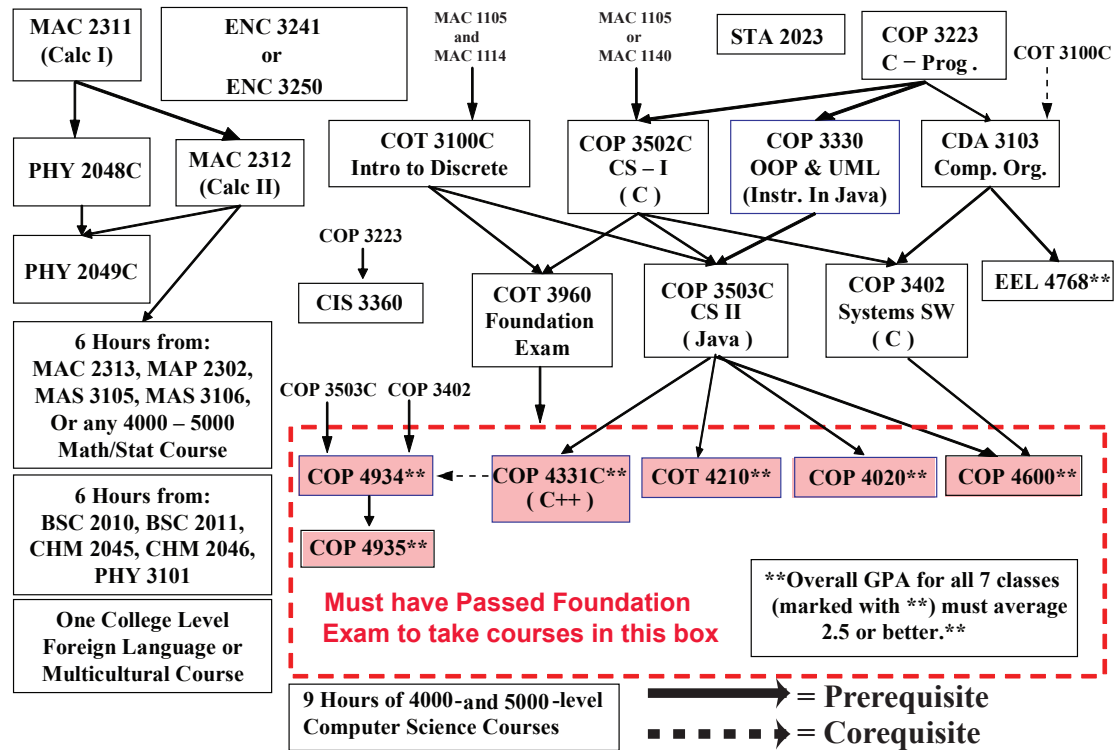


# Computer Science Course Flowchart



**Departmental Residency Requirement:** At least 24 hours of computer science coursework must be completed in the CS department at UCF (18 hours of these in regularly scheduled 4000-5000-level courses and six (6) of these in 3000- to 5000-level).

## 2.4 Transfer of Credit

Courses with a common course number taken at any Florida State University System (SUS) institution or Florida State or community college are automatically transferable. Students with a Bachelor of Science from an accredited institution or an Associate of Arts degree from a Florida SUS institution or Florida community college automatically satisfy the GEP. Substitutions for GEP must be approved through Academic Services, Millican Hall (MH) 210.

Substitutions for department requirements are on a course-by-course basis and MUST be approved by the CS Undergraduate Coordinator and the CS Chair. Instructions for this process are in the Computer Science office: Harris Corporation Engineering Center (HEC 346). The decision is typically based on the degree of similarity of the two courses both in content and level of presentation. Regardless of transfer credit, the University and Department residency requirements must be satisfied. **Exception:** Substitution requests for MAC 2311, MAC 2312, PHY 2048, PHY 2049, CHM 2045, CHM 2046, BSC 2010 and BSC 2011 must be filed in the Academic Affairs Office (ENG1 107).

## 3. How to Apply

**For an application to UCF and CS, visit or write to:**  
[www.admissions.mca.ucf.edu](http://www.admissions.mca.ucf.edu)  
 UCF Office of Undergraduate Admissions  
 PO Box 160111, Orlando, FL 32816-0111

**For more information contact:**  
 Department of CS Undergraduate Program  
 University of Central Florida, PO Box 162362  
 Orlando, FL 32816-2362  
[www.cs.ucf.edu](http://www.cs.ucf.edu)

## 4. Additional Information

- Computer Science Office/Advising (HEC 346): .....(407) 823-2341
- College Academic Affairs (ENG1 107): ..... (407) 823-2455
- Admissions: ..... (407) 823-3000
- Bookstore: ..... (407) 823-2665
- Campus Tours: ..... (407) 823-3000
- Info & Directions to UCF: ..... (407) 882-0909
- Employment Opportunity: ..... (407) 823-2778
- Financial Aid: ..... (407) 823-2827
- Housing: ..... (407) 823-4663
- Multicultural Academic & Support: ..... (407) 823-2716
- Veteran's Affairs: ..... (407) 823-2707
- University Honors Program: ..... (407) 823-2076
- UCF Web site: ..... [www.ucf.edu](http://www.ucf.edu)

October 16, 2015



# B.S. Degree Program in Computer Science

## I. General Information

This pamphlet briefly outlines the undergraduate Computer Science (CS) program for the Bachelor of Science degree offered by the Department of Computer Science (CS). CS students have many unique advantages at UCF:

- The UCF Programming Team is one of the best in the world! CS teams compete annually in the ACM's International Programming Contest, and our CS team has an unmatched record — finishing in the Southeast region's top three every year since 1982! CS teams have earned five Top-10 finishes out of 8,000 teams world-wide.
- CS has prestigious research programs for undergraduates (REUs). CS has been an NSF REU site in Computer Vision since NSF started the program in 1987.
- The Association for Computing Machinery (ACM) student chapter, additional Research Experiences for Undergraduates (REUs), IEEE Computer Society and UPE Computer Science Honor Society and the CS Foundation Exam all provide real-life benefits including networking, face-to-face meetings with experts and career experience.
- The Department's new home is the Harris Corp. Engineering Center — an ultra high-tech building with revolutionary equipment, computers and labs for students.
- The Computer Science Foundation Exam is a qualifying test all CS majors must pass to advance to upper-level CS courses. Nationally, only UCF's CS Program uses a test this way to qualify its students. The exam covers problem solving techniques, algorithms, abstraction, proofs and language skills. Tests are held each semester, and the exam helps ensure the success of our students. It is a major resume builder and a feature many industry partners highlight as a primary reason

**BS+MS Degree in Computer Science is also offered by the Dept of CS**

**Earn BOTH degrees in 5 years!**

For more information on the BS+MS, contact:  
**Dr. Hassan Foroosh, CS Graduate Program Coordinator**  
[BSMSinCS@cs.ucf.edu](mailto:BSMSinCS@cs.ucf.edu)

they want to hire CS graduates from our Department of CS.  
 • A detailed description of our computer facilities, faculty expertise and course descriptions is at: [www.cs.ucf.edu/](http://www.cs.ucf.edu/). Click on the "Undergraduate Programs" heading and then "B.S. in Computer Science" and the sections's other links.

## I.1 Accreditation

The Computer Science BS program is accredited by the Computing Accreditation Commission of ABET, [www.abet.org](http://www.abet.org).

## 2. The Academic Program

The following information is gathered from the UCF catalog, the Undergraduate Policies and Procedures Manual and the program procedures in CS. This brochure should not be considered a legal

document, is not necessarily exhaustive and is subject to change without notice.

All UCF students must fulfill a 36-hour General Education Program (GEP) requirement. The GEP is automatically satisfied by students with a prior B.S. from an accredited institution or an A.A.

degree from a Florida community college. Please consult the UCF catalog for specific details. Students must complete 120 semester hours of course work with a grade point average (GPA) of at least 2.00 and satisfy all University and Computer Science program requirements to earn a B.S. in Computer Science.

Any student wishing to receive a BS+MS degree in CS, a double-major or to seek a second Bachelor's degree should consult the UCF catalog and the CS coordinator. A student must be an official CS major to earn the computer science degree.

## 2.1 Foreign Language & Multicultural Requirements

There are two separate issues with regard to foreign languages. In order to be admitted to the University, the State of Florida requires two years of high school foreign language (or equivalent). This is called "Foreign Language Admission Requirement." In some cases, students who did

(Continued on inside...)

**DEPARTMENT OF COMPUTER SCIENCE**

| Plan  | Fall-1 (Sem 1) | Cr | Spring-1 (Sem 2) | Cr | Smmr-1 (Sem 3) | Cr | Fall-2 (Sem 4) | Cr | Spring-2 (Sem 5) | Cr | Smmr-2 (Sem 6) | Cr | Fall-3 (Sem 7) | Cr | Spring-3 (Sem 8) | Cr | Smmr-3 (Sem 9) | Cr | Fall-4 (Sem 10) | Cr    | Spring -4 (Sem 11) | Cr | Total Credits |
|-------|----------------|----|------------------|----|----------------|----|----------------|----|------------------|----|----------------|----|----------------|----|------------------|----|----------------|----|-----------------|-------|--------------------|----|---------------|
| 4Year | COP3223        | 3  | COP3502C         | 3  | MAC2312        | 4  | COP3503C       | 3  | COP4331C         | 3  | STA2023        | 3  | EEL4768        | 3  | COP4600          | 3  | COT4210        | 3  | COP4934         | 3     | CS-A               | 3  |               |
|       | MAC2311        | 4  | CDA3103          | 3  | COP3330        | 3  | COP3402        | 3  | ENC3241          | 3  | GEP            | 3  | COP4020        | 3  | CS-A             | 3  |                |    | CS-A            | 3     | SUP-3              | 3  |               |
|       | ENC1101        | 3  | COT3100C         | 3  |                |    | PHY2048C       | 4  | PHY2049C         | 4  |                |    |                | 4  | SUP-1            | 4  |                |    | GEP             | 3     | GEP                | 3  |               |
|       | GEP            | 3  | ENC1102          | 3  |                |    | GEP            | 3  | CIS3360          | 3  |                |    |                | 3  | SUP-2            | 3  |                |    | SUP-2           | 3     | COP4935            | 3  |               |
|       |                |    |                  |    |                |    |                |    |                  |    |                |    |                |    |                  |    |                |    | Free            | 3/4   |                    |    |               |
|       |                |    | F.Exam           | 0  | F.Exam         | 0  | F.Exam         | 0  |                  |    |                |    |                |    |                  |    |                |    |                 |       |                    |    | Total         |
|       | TOTALS=>       | 13 |                  | 12 |                | 7  |                | 13 |                  | 13 |                | 6  |                | 13 |                  | 13 |                | 3  |                 | 15/16 |                    | 12 | 120           |

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not have two years of foreign language in high school are provisionally admitted but they must satisfy the requirement before graduation.

**Foreign Language Graduation Requirement:** All undergraduates must demonstrate proficiency in a testable foreign language (see UCF catalog for the definition of “testable”) equivalent to successful completion of one year at the college level. Alternatively, students may satisfy this requirement by the successful completion of the equivalent course work. In the case of non-testable languages, the requirement may be satisfied by documentation through the Office of Undergraduate Studies.

Computer science students who satisfied the **Foreign Language Admission Requirement** may satisfy the **Foreign Languages Graduation Requirement** by taking one course from a list of **multicultural** or college-level **foreign language** courses. Those who have not yet satisfied the Foreign Language Admission Requirement should complete two (2) semesters of a single foreign language at college level. This simultaneously satisfies both admission and graduation requirements.

Please see the Computer Science Academics Web page ([www.cs.ucf.edu/CS/program.php](http://www.cs.ucf.edu/CS/program.php)) and click on “Foreign Language Requirement or Multicultural Courses document” for a current list of courses that satisfy this multicultural requirement.

## 2.2 Course Requirements

### 2.2.1 Computer Science Core (54 hours)

#### Basic Core (Total 21 hours)

|           |                                   |
|-----------|-----------------------------------|
| COP 3223  | Intro to Programming with C       |
| COP 3330  | Intro to OO Programming with Java |
| COP 3502C | Computer Science I                |
| COP 3503C | Computer Science II (3 cr)        |
| CDA 3103  | Computer Organization (3 cr)      |
| COP 3402  | Systems Software                  |
| COT 3100C | Intro to Discrete Structures      |
| COT 3960  | CS Foundation Exam                |

#### Support Courses (Total 33 hours)

|           |                                  |
|-----------|----------------------------------|
| MAC 2311  | Calculus w/ Analytic Geometry I  |
| MAC 2312  | Calculus w/ Analytic Geometry II |
| STA 2023  | Statistical Methods I            |
| PHY 2048C | Physics for Engr. & Sci. I       |
| PHY 2049C | Physics for Engr. & Sci. II      |

### Two (2) Science Courses<sup>1</sup>

ENC 3241 Technical Report Writing  
CIS 3360 Security in Computing

<sup>1</sup> These must be courses required by the respective science majors, such as BSC 2010, BSC 2011, CHM 2045 or CHM 2046. (8 cr)

### 2.2.2. Upper Division Required Courses (21 hours)<sup>2</sup>

COP 4331C Procs for OO Development (3 cr)  
EEL 4768 Intro to Computer Architecture (3 cr)  
COP 4020 Programming Languages  
COP 4600 Introduction to Operating Systems  
COT 4210 Discrete Computational Structures  
COP 4934 Senior Design I  
COP 4935 Senior Design II

<sup>2</sup> Students must earn a 2.5 GPA in above courses.

### 2.2.3 Restricted Electives (15 hours)

Nine (9) additional hours of 4000- and 5000-level computer science courses. A partial list of such elective courses includes: CAP 4020, CAP 4453, CAP 4630, CGS 5131, COP 4520, COP 4516, COP 4710, COT 4110, COT 4500, CIS 4361<sup>3</sup>, and CIS 4363<sup>3</sup>. No more than three (3) hours of independent study in computer science may be used. (<sup>3</sup>See SCAN Minor.)

Six (6) hours of math or statistics, exclusive of independent study. Course work must be selected from STA, MAP, MAA, MAD, MAS prefixes at the 4000 or 5000 level and MAC 2313, MAP 2302, MAS 3105 and MAS 3106.

## 2.3 Special Departmental Requirements

**Foundation Exam:** Prior to taking COP 4331C and COP 4600 (and beyond), students MUST pass the Foundation Exam, which covers problem solving techniques, algorithms, abstractions, proofs, programming skills, etc. Typically, students are expected to take the Foundation Exam in the same semester they complete COP 3502C and COT 3100C.

**Grade Requirements:** All department-required courses (listed in sections 2.2.1, 2.2.2 and 2.2.3) must be passed with a “C” grade or better. A minimum GPA of 2.5 is required in the courses listed in section 2.2.2.

| Plan        | Fall-1 (Sem 1) | Cr | Spring-1 (Sem 2) | Cr | Smmr-1 (Sem 3) | Cr | Fall-2 (Sem 4) | Cr | Spring-2 (Sem 5) | Cr | Smmr-2 (Sem 6) | Cr | Total Credits | Cr |     |
|-------------|----------------|----|------------------|----|----------------|----|----------------|----|------------------|----|----------------|----|---------------|----|-----|
| AA + 2years | COP3223        | 3  | COP3502C         | 3  | COP3402        | 3  | COP4331C       | 3  | EEL4768          | 3  | COP4600        | 3  | AA-Degree     | 60 |     |
|             | SUP-2          | 3  | CDA3103          | 3  | COP3503C       | 3  | COT4210        | 3  | COP4935          | 3  | COP4020        | 3  |               |    |     |
|             | ENC3241        | 3  | COP3330          | 3  |                |    | CS-A           | 3  | CS-A             | 3  |                |    |               |    |     |
|             | SUP-3          | 3  | COT3100C         | 3  |                |    | CIS3360        | 3  | CS-A             | 3  |                |    |               |    |     |
|             |                |    |                  |    |                |    | COP4934        | 3  |                  |    |                |    |               |    |     |
|             |                |    | F.Exam           | 0  | F.Exam         | 0  |                |    |                  |    |                |    | Total         |    |     |
|             | TOTALS=>       | 12 |                  | 12 |                | 6  |                | 15 |                  | 12 |                | 6  | 63            | 60 | 120 |

|       |                 | PLAN COMMENTS:  |
|-------|-----------------|---|
| SUP-1 | CS Science      | Choose <b>two courses</b> (at least 6 cr) from the <b>Science Group</b> ; one sequence in the same discipline or one course from each discipline.   |
| SUP-2 | CS Math/Stat    | Choose <b>two courses</b> from the <b>Upper Division Math/Stat Group</b> .  |
| SUP-3 | CS Culture & FL | Choose <b>one course</b> from the <b>CS Multi-culture Group</b> . This includes any college level Foreign Language.   |
| CS-A  | CS - 4000/5000  | Choose <b>three courses</b> from <b>Group, CS-A</b> . Any 4000/5000 level regular or special topics course offered by the CS faculty. This group also includes at most 3cr of 4000 level Independent Study or Directed Research on the undergraduate plan of study. |

**Note:** The “Sample Program of Study” assumes that the student has an AA from a Florida Community College and has completed all science/math courses.

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