BS Tracking Form for CS Major requirements ID#: Advisor: _ Name: Three Introductory CS Courses **Four Math Courses** Calc I Calc II **CICS 110 CICS 160 CICS 210** 198C M131 M132 Object Oriented Prog. Foundations of Prog. Data Structures Intro to C Semester: Semester: Semester: Semester: Semester: Semester: Grade: Grade: Grade: Grade: Grade: Grade: Required as of Fall 2023 M233 Multivariate Calc STAT515 Stats / Semester: Reasonina Intro to Programming 250 230 Comp Sys 220 240 Under Computation Methodology Grade: Principles Uncertainty Semester: Semester: Semester: Semester: M235 Linear Grade: Grade: Grade: Algebra Grade: Semester: Four CS Core Courses Grade: JrYr Writing Integrative Experience **Eight Upper-Level Courses** Univ requires IE and JYW courses be taken at UMass Amherst. Secondary CS Majors should satisfy IE and JYW Reqs in primary major. (prereq: 250) Algorithms Choice of 305 Social in Computing CS 300+ CS 300+ 311 320*, 326* 326 (Or JYW in another dept) Semester: Grade: Semester: Semester: Semester: Semester: *320 or 326 may also satisfy an Grade: Grade: Grade: Grade: upper-level elective. **Major GPA** (See ARR) CS 300+ UPD may approve a CS 300+ Minimum 2.0 cumulative GPA in all courses applied to maximum of 3 credits of Outside CS 499T/P or CS 396/496 to major. Pass/Fail not allowed in major. Approved satisfy a CS elective at the Elective appropriate level. CNS Lab Science Courses (8 credits) · Some graduate (600) level+ courses are permitted, but Semester: Semester: often have twice the workload CHEM 111 (or 121) Grade: Grade: of undergrad courses. CHEM 112 (or 122) GEOL 101/lab, (or 103/131, or 105/131) **PHYSIC 151 (or 181)** CS 400+ CS 400+ CS 400+ PHYSIC 152 (or 182) **CICS 256** Semester: Semester: Semester: Semester: Semester: Grade: Grade: Grade: Grade: Grade:

Revised Nov 1, 2022

Please see the section on Lab Science Courses at:

https://www.cics.umass.edu/ugrad-education/

details-bs-requirements

University and GenEd requirements should be checked on SPIRE. This form is for guidance only.

**Approved Outside Elective courses that may count in place of one CS 300+:

ECE 353, ECE 547, ECE 668, LINGUIST 401.

MATH 411, MATH 545, MATH 551, MATH 552

Specialized Areas of Study in CS

Select courses in specialized areas of study, or take courses across disciplines to satisfy Eight (8) upper-level requirements for the BS:

- 311 Algorithms
- 3 CS300+ (may include IE Req)
- 3 CS400+
- 1 CS300+ (or Outside Approved Elec)

Courses offered in CS cover many areas, including:

Artificial Intelligence Computer Architecture Data Science

Information Retrieval

Natural Language Processing

Networking

Robotics, Vision and Graphics

Security and Privacy

Software Engineering

Software Systems

Theory of Computation

Course Offering Plan:

https://www.cics.umass.edu/content/course-offering-plan

MY PLANNED UPPER-LEVEL CS

- 2. CS300+ (IE 320||326) _ _ _
- 3. CS300+___
- 4. CS300+___
- 5. CS400+___
- 6. CS400+___
- 7. CS400+___
- 8. CS300+/OE

MY PLANNED UPPER-LEVEL CS

- 1. 311
- 2. CS300+ (IE 320||326) _ _ _
- 3. CS300+___
- 4. CS300+___
- 5. CS400+___
- 6. CS400+___
- 7. CS400+
- 8. CS300+/OE

MY PLANNED UPPER-LEVEL CS

- 1. 311
- 2. CS300+ (IE 320||326) _ _ _
- 3. CS300+___
- 4. CS300+___
- 5. CS400+___
- 6. CS400+___
- 7. CS400+___
- 8. CS300+/OE

Junior Year Writing (JYW) Requirement: Primary computer science majors must take CompSci 305 Social Issues in Computing. The University's JYW requirement must be taken at UMass Amherst. Secondary CS Majors should complete the JYW requirement in their primary major. Primary CS Majors may

Integrative Experience (IE) Requirement: Students satisfy the University's IE Requirement by taking an approved IE course in their primary major at UMass Amherst. CompSci 320 Software Engineering and CompSci 326 Web Programming (Spring 2014 or later) are currently the designated IE courses for CS and also count as a CS Elective.

When does a class count for the CS major?

A computer science major may not use any course taken on a pass/fail basis to fulfill the computer science program requirements (including mathematics, lab science, and computer science introductory, core, and upper-level elective courses). Students must maintain an average grade of at least C (2.0) in all courses used to satisfy the major degree requirement (see major GPA on the ARR). While courses with grades of C-, D+, or D may be counted toward the degree, students normally repeat these courses so that the new grade will replace the old in their GPA calculation (Check Academic Regulations for rules about repeating courses). A grade below C will normally not suffice as a prerequisite for a later course. For example, enrolling in COMPSCI 220 requires a grade of "C or better" in COMPSCI 187.

What is an approved CS elective? https://www.cics.umass.edu/degrees Any regularly numbered COMPSCI course at the 300-level or above may be used as an elective, excluding COMPSCI 305, or if it is specifically barred as an elective in its course description. Many COMPSCI 500-level courses that are open to undergraduates may also be used for CS Electives.

- Experimental courses (x90), seminar courses (x91) and special topics (x97) may only be used as CS electives at the 300-level (or above) if specifically stated in the course description.
- CS Capstone courses (499T/P) may be used with UPD approval*.
- Independent studies (x96) at the 300-level (or above) are reviewed for elective credit via the independent study approval process when registering*.
- If a course is not showing correctly on the ARR, we will assume that you will use it for the major and will fix your ARR. Only email upd@cs.umass.edu if you opt not to use any of these courses.

NOTE: *Only 3 credits of either COMPSCI 499P/T or COMPSCI 396/496/596 may be used toward CS Major requirements.

Details about your ARR and how/when we will fix it:

ARR for CS Majors may show missing major requirements if students are taking COMPSCI x90-x99 courses. Course descriptions note when these types of courses satisfy CS Electives (300-, 400-, 500-level). Graduate level (690-699) courses will not indicate whether it counts for CS Major requirements in the course description and are vetted by the UPD. https://www.cics.umass.edu/ugrad-education/courses

REMEMBER: No P grades for major requirements.

IMPORTANT: The ARR may not get fixed for in-progress courses (or even completed courses in some cases) until at least after mid-semester date, but it could be closer to, or at the time of major clearance during your last semester (after grades post). Why?

- Some students take more courses than needed for a particular requirement group, i.e., CS300+, and we try to use the higher grades when 'fixing' the ARR.
- Exceptions or 'fixes' on the ARR are not bumped out if you do better in another course that satisfies the same requirement group.
- Students cannot elect P/F on major requirements, so we wait until at least after midsemester date before fixing the ARR. NOTE: if we decide to fix an ARR before this and a student receives a P grade, then the course will be removed from satisfying a requirement at the time of major clearance, which may impact degree completion.
- Some students prefer to 'save' 500-level+ course(s) for a graduate program, when applicable (course cannot count toward any undergraduate degree requirements -ortoward the 120 credits/150 credits for a dual degree).