

# Major Check-Off Form: Computer Science – BA / Certificate Requirements

Students who have declared their major 09/01/02 or later

Name (Please Print): \_\_\_\_\_

Student Number: \_\_\_\_\_

Expected Graduation Date: \_\_\_\_\_  
Month Year

**CHECK ONE:**  BA in Computer Science  
 Certificate in Computer Science

C average (2.0) required in courses fulfilling the CS majors and certificate.

**BA Requirement:** At least four 300, 400 or 600 level Computer Science or Mathematics courses must be taken at UMass/Boston.

**Certificate Requirement:** At least three 300 or 400 level Computer Science or Mathematics courses must be taken at UMass/Boston.  
No requirement for the CS major (BA or BS or Certificate) may be taken P/F.

**BA program complete all 7 courses || Certificate program complete: CS110 (CS114L and CS115L), CS210L, CS240, CS310**

- |  |           |   |
|--|-----------|---|
| <input type="checkbox"/> CS110 Introduction to Computing (4cr.)                | <b>OR</b> | <input type="checkbox"/> CS/IT115L Introduction to Java – Part 2 (3cr.)   |
| <input type="checkbox"/> CS210L Intermediate Comp Data Structure (4cr.)        |           | <input type="checkbox"/> CS240 Programming in C (3cr.)                    |
| <input type="checkbox"/> CS241/341 Computer Architecture & Organization (3cr.) |           | <input type="checkbox"/> CS310 Advance Data Structures & Algorithm (3cr.) |
| <input type="checkbox"/> CS420 Introduction to Theory of Computation (3cr.)    |           | <input type="checkbox"/> CS450 Structure of Higher Level Languages (3cr.) |

**BA program complete all mathematics courses || Certificate program complete: MATH140**

- |  |   |
|--|---|
| <input type="checkbox"/> MATH140 Calculus I (4cr.)     | <input type="checkbox"/> MATH141 Calculus II (4cr.)               |
| <input type="checkbox"/> MATH260 Linear Algebra (3cr.) | <input type="checkbox"/> CS/MATH320L Applied Discrete Math (3cr.) |

**BA program complete two applied computer science electives: One of these choices must be CS444 or CS451**

**Certificate program complete one Computer Science Elective (can include CS260 or CS341)**

- |   |  |
|---|--|
| <input type="checkbox"/> CS410 Intro Software Engineering (3cr.)              | <input type="checkbox"/> CS411 Competitive Programming (3cr.)            |
| <input type="checkbox"/> CS430 Database Management Systems (3cr.)             | <input type="checkbox"/> CS436 Database Application Development (3cr.)   |
| <input type="checkbox"/> CS437 Database-Backed Web Sites Services (3cr.)      | <input type="checkbox"/> CS438 Applied Machine Learning (3cr.)           |
| <input type="checkbox"/> CS443 Mobile Applications (3cr.)                     | <input type="checkbox"/> CS444 Introduction to Operating Systems (3cr.)  |
| <input type="checkbox"/> CS446 Introduction to Internetworking (3cr.)         | <input type="checkbox"/> CS447 Introduction to Multimedia Systems (3cr.) |
| <input type="checkbox"/> CS449 Introduction to Computer Security (3cr.)       | <input type="checkbox"/> CS451 Compilers (3cr.)                          |
| <input type="checkbox"/> CS460 Graphics (3cr.)                                | <input type="checkbox"/> CS461 Computer Games Programming (3cr.)         |
| <input type="checkbox"/> CS470 Introduction to Artificial Intelligence (3cr.) | <input type="checkbox"/> Other CS: _____                                 |

**BA program complete one theoretical elective from (but not limited to):**

- |  |  |
|--|--|
| <input type="checkbox"/> MATH345 Probability and Statistics I (3cr.) | <input type="checkbox"/> MATH360 Abstract Algebra (3cr.) |
| <input type="checkbox"/> MATH425 Numerical Analysis (3cr.)           | <input type="checkbox"/> MATH458 Number Theory (3cr.)    |
| <input type="checkbox"/> MATH470 Mathematical Logic (3cr.)           | <input type="checkbox"/> Other: _____                    |

**BA program complete one additional elective (either theoretical, applied or CS260)**

**Certificate program complete one application elective**

Many graduate courses can be used as theoretical or applied electives.

**CS478 – Independent Study Course (must complete form at the back)**

<b>DEPARTMENT USE: Date:</b> _____	<b>(STAFF) Hold lifted by: Date:</b> _____
<b>Advisor (Print name):</b> _____	<input type="checkbox"/> AC <input type="checkbox"/> GG <input type="checkbox"/> Other: _____
<b>Advisor Signature:</b> _____	<b>Register:</b> <input type="checkbox"/> GG <input type="checkbox"/> AC <b>Date:</b> _____

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<b>BA Pre- and Co- Requirements</b>	
<b>CS110</b>	Appropriate scores on the Math Placement Test or MATH115 with a grade of B or better in the previous semester Note: Students with grades lower than B in the pre-requisite course will be dropped from the class
<b>CS/IT114L</b>	Appropriate scores on the Math Placement Test or MATH 115 with a grade of B or better in the previous semester Note: Students with grades lower than B in the pre-requisite course will be dropped from the class
<b>CS/IT115L</b>	CS/IT114L
<b>CS210</b>	CS110 or CS/IT115L or permission of the department
<b>CS240</b>	CS110 or CS/IT115L and Co-requisite with CS210L
<b>CS241/341</b>	CS240
<b>CS285L</b>	No pre/co-requisites required
<b>CS310</b>	CS210 and CS240 and MATH140
<b>CS320L</b>	CS110 or CS115L and MATH260 or permission of instructor
<b>CS410</b>	CS310, CS320L and any 400 level Computer Science course
<b>CS411</b>	CS310 and CS320L
<b>CS420</b>	CS320L
<b>CS430</b>	CS240 and CS310 or permission of the instructor
<b>CS436</b>	CS310 and CS430
<b>CS437</b>	CS310 and CS430 or permission of the instructor
<b>CS438</b>	CS310
<b>CS443</b>	CS310
<b>CS444</b>	CS310 and CS341
<b>CS446</b>	Pre-requisites CS341 and 310 and Co-requisites CS444
<b>CS447</b>	CS310 & CS341
<b>CS449</b>	CS310 and CS341
<b>CS450</b>	CS310 and CS320L
<b>CS451</b>	CS310 and CS420 or CS622
<b>CS460</b>	MATH260 and CS310
<b>CS461</b>	CS310
<b>CS470</b>	CS310 and CS320L
<b>MATH140</b>	MATH130 with a grade B or better in the previous semester or the appropriate scores on the ALEKS System
<b>MATH141</b>	MATH140 with grade of C- or better or MATH145 with grade of C- or better
<b>MATH260</b>	MATH140 or permission of instructor
<b>MATH345</b>	MATH141
<b>MATH360</b>	MATH260 or permission of instructor
<b>MATH425</b>	MATH141 & MATH260
<b>MATH458</b>	MATH260 and MATH/CS320L
<b>MATH470</b>	MATH/CS320L or MATH360

## CS478 – Independent Study

To register for CS478, fill out the form below and have the instructor sign below. Bring this form to Gemma Galecia (S-3-132) for course enrollment

Supervisor: \_\_\_\_\_

Select the semester and fill in the year you will be taking the course:

How many credits?

Semester:     Spring     Summer     Fall            Year: \_\_\_\_\_

1             2             3

Do you intend to use this Independent Study as an elective for the major?     Yes     No

Topic for the course:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Brief description of required activity:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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