

2020-2021 BCS + Artificial Intelligence Specialization

1. Under **Required Courses** and **Electives**, check off the forty unique courses (20.0 units) that you have earned university credit for. **Additional Elective Units** can be *any* course for which you received university credit.
2. Verify that the **Required Courses** and **Electives** also satisfy the **Additional Constraints**.

Required Courses

- 7.5 CS Units
- CS 1[134]5
 - CS 1[34]6
 - CS 240
 - CS 241
 - CS 245
 - CS 246
 - CS 251
 - CS 341
 - CS 350
 - CS 340-398; 440-489
 - CS 340-398; 440-489
 - CS 340-398; 440-489
 - CS 480 or CS 485
 - CS 486
 - CS 492

- 3.5 Math Units
- MATH 1[34]5
 - MATH 1[34]6
 - MATH 1[234]7
 - MATH 1[234]8
 - MATH 2[34]9
 - STAT 2[34]0
 - STAT 2[34]1

Electives

- 5.0 Non-Math Elective Units
- Communication list I¹
 - Communication list II²
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- 4.0 Additional Elective Units
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Additional Constraints

- One of ECE 380 or SE 380³
- Three additional courses from⁴:
 - CO 367
 - CO 456
 - CO 463
 - CO 466
 - CS 452
 - CS 480⁵
 - CS 484
 - CS 485⁵
 - STAT 341
 - STAT 440
 - STAT 441
 - STAT 444
 - ECE 423
 - ECE 481
 - ECE 486
 - ECE 488
 - MSCI 446
 - MTE 544
 - SYDE 522
 - SYDE 556
 - SYDE 572
- Non-math elective units must satisfy [breadth and depth](#) requirements:
 - All of (breadth):
 - 1.0 units from the humanities⁶
 - 1.0 units from the social sciences
 - 0.5 units from the pure sciences
 - 0.5 units from the pure or applied sciences
 - One of (depth):
 - 1.5 units in the same subject area with at least 0.5 units at the 3rd year level or higher, or
 - 1.5 units with the same subject forming a prerequisite chain of length three
- Seven (regular) or eight (co-op) terms enrolled in at least three courses totaling 1.5 units
- No more than 2.0 units of failed courses
- No more than 5.0 units of unusable course attempts (failures and repeats of passed courses)
- CS major average of 60% or higher
- Cumulative average of 60% or higher
- Co-op requirements met, if applicable, including PD 1, PD 11, PD 10, and a minimum of two other PD courses

¹Communication List I: At least 60% in one of EMLS 101R, EMLS 102R, EMLS/ENGL 129R, ENGL 109, SPCOM 100, SPCOM 223.

²Communication List II: One of EMLS 103R, EMLS 104R, EMLS 110R, ENGL 108B, ENGL 108D, ENGL 119, ENGL 208B, ENGL 209, ENGL 210E, ENGL 210F, ENGL 378/MTHEL 300, SPCOM 225, SPCOM 227, SPCOM 228, or an additional course from Communication List 1.

³For ECE 380 and SE 380 in particular, AMATH 250, AMATH 251, and MATH 213, and are acceptable alternatives for its noted prerequisites.

⁴At least one of the 'three additional courses' must be from Math and at least one from Engineering. Special topics courses (e.g., CS 489) may sometimes be appropriate for this option; interested students should see the option co-ordinator for confirmation. Please note that you must complete the appropriate prerequisites in order to take the engineering courses required for AI option/specialization. In some cases, you may be required to take more courses beyond what is noted on the checklist. Engineering courses listed here cannot be used towards non-math electives.

⁵One of CS 480 and CS 485 is required. If both courses are taken then one of them would count as one of 'three additional courses'.

⁶The below Communication courses from List II can be used to satisfy both the Communication List II requirement *and* 0.5 unit for the humanities (breadth) requirement. Communication List I courses do NOT satisfy the humanities (breadth) requirement.

- ENGL 108B, ENGL 108D, ENGL 119, ENGL 208B, ENGL 209, ENGL 210E, ENGL 210F, ENGL 378/MTHEL 300, SPCOM 225, SPCOM 227, SPCOM 228.

Disclaimer: This checklist is a handy tool, but it is not a substitute for the official degree regulations. If there is a question of interpretation or a discrepancy, the University Calendar always takes precedence: <http://ugradcalendar.uwaterloo.ca/group/MATH-Computer-Science-1>. You may complete the checklist and ask a CS advisor to review it, but the student is ultimately responsible for ensuring that they have met their degree requirements.