2019-2020 BMath CS + 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 360 or CS 365
- ☐ CS 370 or CS 371
- ☐ CS 340-398; 440-489
- ☐ CS 480 or CS 485
- ☐ CS 486
- ☐ CS 492

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

☐ 1.5 Additional Math Units[1]
- ☐
- ☐
- ☐

Electives

☐ 5.0 Non-Math Elective Units
- ☐ Communication list I[2]
- ☐ Communication list II[3]
- ☐
- ☐
- ☐
- ☐
- ☐
- ☐
- ☐
- ☐

☐ 1.5 Additional Elective Units
- ☐
- ☐
- ☐

Additional Constraints

☐ ECE 380 or SE 380[4]

☐ Three courses from List A[5]:

☐ CO 367	☐ ECE 423
☐ CO 456	☐ ECE 481
☐ CO 463	☐ ECE 486
☐ CO 466	☐ ECE 488
☐ CS 452	☐ MSCI 446
☐ CS 480[6]	☐ MTE 544
☐ CS 484	☐ SYDE 522
☐ CS 485[6]	☐ SYDE 556
☐ STAT 341	☐ SYDE 572
☐ STAT 440	
☐ STAT 441	
☐ STAT 444	

☐ Non-math elective units must satisfy breadth and depth requirements:
- ☐ All of (breadth):
  - ☐ 1.0 units from the humanities[7]
  - ☐ 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

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[1] Three additional courses labeled ACTSC, AMATH, CO, PMATH, STAT, excluding the following:
- Courses with requisites normally excluding Honours CS students
- Courses cross-listed with a CS course
- Courses explicitly listed in CS major plans as alternatives to CS courses
- Readings and Topics courses
- ACTSC 221, CO 353, CO 380, CO 480

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

[3] Communication 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.

[4] For ECE 380/SE 380, MATH 213 is an acceptable alternative for its noted prerequisite. Alternatively, ECE 380/SE 380 can be substituted with CS 480, CS 484, or CS 485. If this substitution is chosen, then the substituted CS course cannot be used towards the one of 'three additional courses' from List A.

[5]At 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 a CS advisor for confirmation. Please note that you must complete the appropriate prerequisites in order to take the engineering courses required for AI 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.

[6]One 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' from List A. However, please see the restriction noted for these courses in footnote #4.

[7]The 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.