

2020-2021 BMath CS + Digital Hardware 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

- | | |
|--|--|
| <input type="checkbox"/> 7.5 CS Units | <input type="checkbox"/> 4.5 Math Units |
| <input type="checkbox"/> CS 1[134]5 | <input type="checkbox"/> MATH 1[34]5 |
| <input type="checkbox"/> CS 1[34]6 | <input type="checkbox"/> MATH 1[34]6 |
| <input type="checkbox"/> CS 240 | <input type="checkbox"/> MATH 1[234]7 |
| <input type="checkbox"/> CS 241 | <input type="checkbox"/> MATH 1[234]8 |
| <input type="checkbox"/> CS 245 | <input type="checkbox"/> MATH 2[34]5 |
| <input type="checkbox"/> CS 246 | <input type="checkbox"/> MATH 2[34]7 |
| <input type="checkbox"/> ECE 222 | <input type="checkbox"/> MATH 2[34]9 |
| <input type="checkbox"/> CS 341 | <input type="checkbox"/> STAT 2[34]0 |
| <input type="checkbox"/> CS 350 | <input type="checkbox"/> STAT 2[34]1 |
| <input type="checkbox"/> CS 360 or CS 365 | <input type="checkbox"/> 1.5 Additional Math |
| <input type="checkbox"/> CS 370 or CS 371 | Units ¹ |
| <input type="checkbox"/> CS 340-398; 440-489 | <input type="checkbox"/> |
| <input type="checkbox"/> CS 450 or ECE 429 | <input type="checkbox"/> |
| <input type="checkbox"/> CS 440-489 | <input type="checkbox"/> |
| <input type="checkbox"/> CS 440-498 or CS 499T
or CS 6xx or CS 7xx or
CO 487 or STAT 440 | |

Electives

- | | |
|---|--|
| <input type="checkbox"/> 5.0 Non-Math Elective Units | <input type="checkbox"/> 1.5 Additional Elective Units |
| <input type="checkbox"/> Communication list I ² | <input type="checkbox"/> |
| <input type="checkbox"/> Communication list II ³ | <input type="checkbox"/> |
| <input type="checkbox"/> GENE 123 or MTE 120 | <input type="checkbox"/> |
| <input type="checkbox"/> ECE 124 | |
| <input type="checkbox"/> ECE 224 or MTE 325 | |
| <input type="checkbox"/> ECE 327 | |
| <input type="checkbox"/> ECE 423 | |
| <input type="checkbox"/> Recommended: ECE 455 | |
| <input type="checkbox"/> Recommended: PHYS 121 | |
| <input type="checkbox"/> | |

Additional Constraints

- | | | |
|--|--|---|
| <input type="checkbox"/> Two of:
<input type="checkbox"/> CS 452
<input type="checkbox"/> CS 454
<input type="checkbox"/> CS 456
<input type="checkbox"/> CS 457 | <input type="checkbox"/> Non-math elective units must satisfy breadth and depth requirements:
<input type="checkbox"/> All of (breadth):
<input type="checkbox"/> 1.0 units from the humanities ⁴
<input type="checkbox"/> 1.0 units from the social sciences
<input type="checkbox"/> 0.5 units from the pure sciences
<input checked="" type="checkbox"/> 0.5 units from the pure or applied sciences
<input checked="" type="checkbox"/> The depth requirement is automatically met by the required ECE courses. | <input type="checkbox"/> Seven (regular) or eight (co-op) terms enrolled in at least three courses totaling 1.5 units
<input type="checkbox"/> No more than 2.0 units of failed courses
<input type="checkbox"/> No more than 5.0 units of unusable course attempts (failures and repeats of passed courses)
<input type="checkbox"/> CS major average of 60% or higher
<input type="checkbox"/> Cumulative average of 60% or higher
<input type="checkbox"/> Co-op requirements met, if applicable, including PD 1, PD 11, PD 10, and a minimum of two other PD courses |
|--|--|---|

¹Three 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

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

³Communication 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.

⁴The 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.