

Honours in Mathematical Optimization: Operations Research Specialization Checklist (updated May 2023)

Contact **David Jao** (coundergrad.officer@uwaterloo.ca) for further assistance.

Notational conventions: brackets indicate choice lists; i.e., “1[34]5” is a short-hand for “135 or 145”; indicate requirements.

Disclaimer: In case of discrepancies between the checklist and the University Calendar located at: <http://ugradcalendar.uwaterloo.ca/page/MATH-Mathematical-Optimization-Degree-Requirements>

The University Calendar will always take precedence. This checklist does not apply to students in Double Degree plans.

You may replace CS courses with the corresponding courses available to CS Honours Computer Science major students.

<input type="checkbox"/> Minimum 20 course units <input type="checkbox"/> Minimum 5 non-math course units ² <input type="checkbox"/> Minimum 60% cumulative and 65% major average <input type="checkbox"/> Maximum 2 course units excluded/failed ³ <input type="checkbox"/> Maximum 5 units of unusable course attempts <input type="checkbox"/> Minimum 7 full-time terms (regular), 8 full-time terms (coop) <input type="checkbox"/> Undergraduate Communication Requirement ⁴	MATH <input type="checkbox"/> 1[034]6 <input type="checkbox"/> 1[234]7 <input type="checkbox"/> 1[234]8 <input type="checkbox"/> 1[34]5 <input type="checkbox"/> 2[34]5 <input type="checkbox"/> One of: 237, 239, 247, 249	STAT <input type="checkbox"/> 2[34]0 <input type="checkbox"/> 2[34]1 CS <input type="checkbox"/> One of: 115, 135, 145 <input type="checkbox"/> One of: 116, 136, 146 COOP (if applicable) <input type="checkbox"/> Minimum COOP course units: 2.5 <input type="checkbox"/> Minimum PD course units: 2.5
<input type="checkbox"/> MATH 2[34]7 <input type="checkbox"/> MATH 2[34]9 <input type="checkbox"/> AMATH 242/CS 371 or CS 370 <input type="checkbox"/> CO 25[05] <input type="checkbox"/> CS 330 or CS 490 <input type="checkbox"/> AFM 101 <input type="checkbox"/> CO 370	<input type="checkbox"/> ECON 101 <input type="checkbox"/> MSCI 211 <input type="checkbox"/> STAT 340 <input type="checkbox"/> Three additional courses from the following: CO 342, 351, 353, 367, 372, 450, 452, 454, 456, 463, 466, 471 <hr/> <hr/> <hr/>	
None of the courses given above can be used to meet the following requirements:		
<input type="checkbox"/> CO 351 or CO 353 ⁵ <input type="checkbox"/> CS 234 <input type="checkbox"/> STAT 331 <input type="checkbox"/> STAT 333 <input type="checkbox"/> 2 additional courses from: AFM 102, ECON 102, MSCI 311, MSCI 432 <hr/> <hr/>	<input type="checkbox"/> 1 additional course from: AMATH 250, CO 487, CS 338, CS 430, STAT [332, 433, 435, 443] <hr/> <input type="checkbox"/> 2 additional Math courses ¹ <hr/> <hr/>	
<p>¹Math courses:</p> <ul style="list-style-type: none"> • Courses/Cross-listed courses with prefixes: ACTSC, AMATH, CO, CS, MATBUS, MATH, PMATH, or STAT • Additionally, any course cross-listed with one of these subject codes is considered a MATH course. <p>²Non-math courses:</p> <ul style="list-style-type: none"> • Courses with the prefix COMM, MTHEL, and those courses offered by other faculties (excluding courses cross-listed with math courses and courses listed above as math courses) • COOP and PD courses do not count as math or non-math courses. <p>³Excluding PD courses and co-op work-term courses.</p> <p>⁴Undergraduate Communication Requirement requires:</p> <ul style="list-style-type: none"> • At least 60% in one of the following courses (prior to 2A term): COMMST [100, 223], EMLS [101R, 102R], EMLS/ENGL 129R, ENGL 109 • One of the following courses: COMMST [225, 227, 228], EMLS [103R, 104R, 110R], ENGL [101B, 108B, 108D, 119, 208B, 209, 210E, 210F], ENGL 378/MTHEL 300 <p>⁵If CO 255 is taken, this requirement can be satisfied by taking one of CO 450-471 instead of CO 351 or CO 353</p>		