

## Joint programs in Chemistry and Mathematics

a) Advanced Major in Chemistry and Mathematics  
c) Honours in Chemistry and Mathematics

b) Advanced Major in Mathematics and Chemistry  
d) Honours in Mathematics and Chemistry

### Joint Advanced Major Program (Chemistry and Mathematics)

Science A Chemistry	42 credits: Required courses: CHEM 100 <input type="checkbox"/> or 120 <input type="checkbox"/> , CHEM 220 <input type="checkbox"/> , CHEM 231 <input type="checkbox"/> , CHEM 232 <input type="checkbox"/> , CHEM 245 <input type="checkbox"/> , CHEM 255 <input type="checkbox"/> , CHEM 265 <input type="checkbox"/> , CHEM 361 <input type="checkbox"/> , CHEM 362 <input type="checkbox"/> One of: CHEM 331/332 <input type="checkbox"/> , or CHEM 341/342 <input type="checkbox"/> 3 credits Chemistry elective _____ <input type="checkbox"/> In addition, students must complete the junior and senior seminars (CHEM 391 <input type="checkbox"/> and CHEM 491 <input type="checkbox"/> ) - non-credit courses. 36
Science B Mathematics	credits: Required courses: MATH 106 <input type="checkbox"/> , MATH 107 <input type="checkbox"/> , CSCI 160 <input type="checkbox"/> , STAT 231 <input type="checkbox"/> , MATH 253 <input type="checkbox"/> , MATH 254 <input type="checkbox"/> , MATH 267 <input type="checkbox"/> , MATH 277 <input type="checkbox"/> One of: CSCI 125 <input type="checkbox"/> or CSCI 160 <input type="checkbox"/> , 9 credits MATH/STAT electives (at least 2 x 3 credit courses must be at the 300/400 level): _____ <input type="checkbox"/> , _____ <input type="checkbox"/> , _____ <input type="checkbox"/>
Science C Physics	6 credits: PHYS 121 <input type="checkbox"/> and PHYS 122 <input type="checkbox"/>
Arts X	12 credits: in a single Humanities or Social Science discipline _____ <input type="checkbox"/> _____ <input type="checkbox"/>
Arts Y	6 credits: in a second Humanities or Social Science discipline _____ <input type="checkbox"/>
Approved electives	12 credits: CHEM 325 (3-cr, junior year) <input type="checkbox"/> , plus 9 credits approved by the Department of Chemistry: _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/>
Open Electives	6 credits: Arts or Science elective(s) _____ <input type="checkbox"/> _____ <input type="checkbox"/>

#### Grade requirements:

- Overall average of 65% or better in the first two years
- Grades of 65% or better in each Advanced Majors (Science A and B) course
- General average of 70% or better in each of the final two years
- Averages of 70% or better in the Advanced Majors courses (for Science A and for Science B) in each of the final two years

## Joint Advanced Major Program (Mathematics with Chemistry)

Science A Mathematics	42 credits: Required courses: MATH 106 <input type="checkbox"/> , MATH 107 <input type="checkbox"/> , CSCI 160 <input type="checkbox"/> , STAT 231 <input type="checkbox"/> , MATH 253 <input type="checkbox"/> , MATH 254 <input type="checkbox"/> , MATH 267 <input type="checkbox"/> , MATH 277 <input type="checkbox"/> 15 credits MATH/STAT electives (at least 2 x 3 credit courses must be at the 300/400 level): _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> MATH 491 <input type="checkbox"/> (non-credit)
Science B Chemistry	36 credits: Required courses: CHEM 100 <input type="checkbox"/> <b>or</b> 120 <input type="checkbox"/> , CHEM 220 <input type="checkbox"/> , CHEM 231 <input type="checkbox"/> , CHEM 232 <input type="checkbox"/> , CHEM 245 <input type="checkbox"/> , CHEM 265 <input type="checkbox"/> One of: CHEM 361/2 <input type="checkbox"/> <b>or</b> CHEM 341/342 <input type="checkbox"/>
Science C Physics	6 credits: PHYS 101/102 <input type="checkbox"/> <b>or</b> PHYS 121/122 <input type="checkbox"/>
Arts X	12 credits: in a single Humanities or Social Science discipline _____ <input type="checkbox"/> _____ <input type="checkbox"/>
Arts Y	6 credits: in a second Humanities or Social Science discipline _____ <input type="checkbox"/>
Approved electives	12 credits: as approved by the Department of Mathematics, Statistics and Computer Sciences: _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/>
Open elective	3 credits: Arts or Science elective _____ <input type="checkbox"/>

### Grade requirements:

- Overall average of 65% or better in the first two years
- Grades of 65% or better in each Advanced Majors (Science A and B) course
- General average of 70% or better in each of the final two years
- Averages of 70% or better in the Advanced Majors courses (for Science A and for Science B) in each of the final two years

## Joint Honours Program (Chemistry and Mathematics)

Science A Chemistry	48 credits: Required courses: CHEM 100 <input type="checkbox"/> or 120 <input type="checkbox"/> , CHEM 220 <input type="checkbox"/> , CHEM 231 <input type="checkbox"/> , CHEM 232 <input type="checkbox"/> , CHEM 245 <input type="checkbox"/> , CHEM 255 <input type="checkbox"/> , CHEM 265 <input type="checkbox"/> , CHEM 361 <input type="checkbox"/> , CHEM 362 <input type="checkbox"/> , CHEM 493 <input type="checkbox"/> Two of: CHEM 331/332 <input type="checkbox"/> , CHEM 341/342 <input type="checkbox"/> , CHEM 421/422 <input type="checkbox"/> In addition, students must complete the junior and senior seminars (CHEM 391 <input type="checkbox"/> and CHEM 491 <input type="checkbox"/> ) - non-credit courses.
Science B Mathematics	36 credits: Required courses: MATH 106 <input type="checkbox"/> , MATH 107 <input type="checkbox"/> , CSCI 160 <input type="checkbox"/> , MATH 253 <input type="checkbox"/> , MATH 254 <input type="checkbox"/> , MATH 267 <input type="checkbox"/> , MATH 277 <input type="checkbox"/> , STAT 333 <input type="checkbox"/> , MATH 354 <input type="checkbox"/> , MATH 366 <input type="checkbox"/> , MATH 367(or 221) <input type="checkbox"/>
Science C Physics	6 credits: PHYS 121 <input type="checkbox"/> and PHYS 122 <input type="checkbox"/>
Arts X	12 credits: in a single Humanities or Social Science discipline _____ <input type="checkbox"/> _____ <input type="checkbox"/>
Arts Y	6 credits: in a second Humanities or Social Science discipline _____ <input type="checkbox"/>
Approved electives	12 credits: CHEM 325 (3-cr, junior year) <input type="checkbox"/> , plus 9 credits approved by the Department of Chemistry: _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/>

### Grade requirements:

- Overall average of 75% or better in each of the first two years
- 70% or better in each Honours course (Science A and B) with overall averages of 75% for each of Science A and Science B courses
- Overall averages of 75% or better in each of the final two years
- Normally 70% or better in each Honours course (Science A & B) with overall averages of 75% for each of Science A and Science B courses in the final two years

## Joint Honours Program (Mathematics and Chemistry)

Science A Mathematics	48 credits: Required courses: MATH 106 <input type="checkbox"/> , MATH 107 <input type="checkbox"/> , CSCI 160 <input type="checkbox"/> , MATH 253 <input type="checkbox"/> , MATH 254 <input type="checkbox"/> , MATH 267 <input type="checkbox"/> , MATH 277 <input type="checkbox"/> , STAT 333 <input type="checkbox"/> , MATH 354 <input type="checkbox"/> , MATH 366 <input type="checkbox"/> , MATH 367(or 221) <input type="checkbox"/> , MATH 493 <input type="checkbox"/> 3 credits MATH 4xx _____ <input type="checkbox"/> 6 credits MATH/STAT electives from the 300/400 level: _____ <input type="checkbox"/> _____ <input type="checkbox"/> MATH 491 <input type="checkbox"/> (non-credit)
Science B Chemistry	36 credits: Required courses: CHEM 100 <input type="checkbox"/> <b>or</b> 120 <input type="checkbox"/> , CHEM 220 <input type="checkbox"/> , CHEM 231 <input type="checkbox"/> , CHEM 232 <input type="checkbox"/> , CHEM 245 <input type="checkbox"/> , CHEM 265 <input type="checkbox"/> , CHEM 361 <input type="checkbox"/> , CHEM 362 <input type="checkbox"/> One of: CHEM 331/332 <input type="checkbox"/> <b>or</b> CHEM 341/342 <input type="checkbox"/> <b>or</b> CHEM 421/422 <input type="checkbox"/>
Science C Physics	6 credits: PHYS 101/102 <input type="checkbox"/> <b>or</b> PHYS 121/122 <input type="checkbox"/>
Arts X	12 credits: in a single Humanities or Social Science discipline _____ <input type="checkbox"/> _____ <input type="checkbox"/>
Arts Y	6 credits: in a second Humanities or Social Science discipline _____ <input type="checkbox"/>
Approved electives	12 credits: as approved by the Department of Mathematics, Statistics and Computer Sciences: _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/>

### Grade requirements:

- Overall average of 75% or better in each of the first two years
- 70% or better in each Honours course (Science A and B) with overall averages of 75% for each of Science A and Science B courses
- Overall averages of 75% or better in each of the final two years
- Normally 70% or better in each Honours course (Science A & B) with overall averages of 75% for each of Science A and Science B courses in the final two years