

# Joint Programs in Chemistry and Computer Sciences

a) Advanced Major in Chemistry and Computer Sciences  
c) Honours in Chemistry and Computer Sciences

b) Advanced Major in Computer Sciences and Chemistry  
d) Honours in Computer Sciences and Chemistry

## Joint Advanced Major Program (Chemistry and Computer Sciences)

Science A Chemistry	42 credits: Required courses: CHEM 101/102 <b>or</b> 121/122 <input type="checkbox"/> , CHEM 221/222 <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 <input type="checkbox"/> , CHEM 332 <input type="checkbox"/> , CHEM 341 <input type="checkbox"/> , CHEM 342 <input type="checkbox"/> , CHEM 421 <input type="checkbox"/> , CHEM 422 <input type="checkbox"/> plus a 3 credit CHEM 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 Computer Sciences	credits: Required courses: MATH 106 <input type="checkbox"/> , MATH 107 <input type="checkbox"/> , CSCI 161 <input type="checkbox"/> , CSCI 162 <input type="checkbox"/> , STAT 231 <input type="checkbox"/> , MATH 253 <input type="checkbox"/> , MATH 277 <input type="checkbox"/> , CSCI 255 <input type="checkbox"/> , CSCI 365 <input type="checkbox"/> , CSCI 375 <input type="checkbox"/> , CSCI 383 <input type="checkbox"/> , CSCI 475 <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 (junior year, 3-cr) <input type="checkbox"/> , CSCI 465 [3-cr] <input type="checkbox"/> , PHYS 221 [3-cr] <input type="checkbox"/> , PHYS 223 [3-cr] <input type="checkbox"/>
Open elective	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 (Computer Sciences and Chemistry)

Science A Computer Sciences	42 credits: Required courses: MATH 106 <input type="checkbox"/> , MATH 107 <input type="checkbox"/> , CSCI 161 <input type="checkbox"/> , CSCI 162 <input type="checkbox"/> , STAT 231 <input type="checkbox"/> , MATH 253 <input type="checkbox"/> , MATH 277 <input type="checkbox"/> , CSCI 255 <input type="checkbox"/> , CSCI 265 <input type="checkbox"/> , CSCI 375 <input type="checkbox"/> , CSCI 383 <input type="checkbox"/> , CSCI 465 <input type="checkbox"/> , CSCI 475 <input type="checkbox"/> , CSCI 491 <input type="checkbox"/> - non-credit plus a 3 credits CSCI elective _____ <input type="checkbox"/>
Science B Chemistry	36 credits: Required courses: CHEM 101/101 <b>or</b> 121/122 <input type="checkbox"/> , CHEM 221/222 <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: PHYS 221 [3-cr] <input type="checkbox"/> , PHYS 223 [3-cr] <input type="checkbox"/> , 6 credits approved by the Department of Mathematics, Statistics and Computer Sciences _____ <input type="checkbox"/> _____ <input type="checkbox"/>
Open elective	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 Honours Program (Chemistry and Computer Sciences)

Science A Chemistry	48 credits: Required courses: CHEM 101/102 <b>or</b> 121/122 <input type="checkbox"/> , CHEM 221/222 <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 Computer Sciences	36 credits: Required courses: MATH 106 <input type="checkbox"/> , MATH 107 <input type="checkbox"/> , CSCI 161 <input type="checkbox"/> , CSCI 162 <input type="checkbox"/> , CSCI 255 <input type="checkbox"/> , CSCI 256 <input type="checkbox"/> , STAT 231 <input type="checkbox"/> , MATH 277 <input type="checkbox"/> , CSCI 365 <input type="checkbox"/> , CSCI 375 <input type="checkbox"/> , CSCI 383 <input type="checkbox"/> , CSCI 385 <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"/> , CSCI 475 [3-cr] <input type="checkbox"/> , PHYS 221 [3-cr] <input type="checkbox"/> , PHYS 223 [3-cr] <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 (Computer Sciences and Chemistry)

Science A Computer Sciences	48 credits: Required courses: MATH 106 <input type="checkbox"/> , MATH 107 <input type="checkbox"/> , CSCI 161 <input type="checkbox"/> , CSCI 162 <input type="checkbox"/> , CSCI 255 <input type="checkbox"/> , CSCI 256 <input type="checkbox"/> , STAT 231 <input type="checkbox"/> , MATH 253 <input type="checkbox"/> , MATH 277 <input type="checkbox"/> , CSCI 365 <input type="checkbox"/> , CSCI 375 <input type="checkbox"/> , CSCI 383 <input type="checkbox"/> , CSCI 465 <input type="checkbox"/> , CSCI 475 <input type="checkbox"/> , CSCI 485 <input type="checkbox"/> , CSCI 493 <input type="checkbox"/> , CSCI 491 <input type="checkbox"/> - non-credit
Science B Chemistry	36 credits: Required courses: CHEM 101/102 <b>or</b> 121/122 <input type="checkbox"/> , CHEM 221/222 <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: PHYS 221 [3-cr] <input type="checkbox"/> , PHYS 223 [3-cr] <input type="checkbox"/> , 6 credits approved by the Department of Mathematics, Statistics and Computer Sciences _____ <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