

Joint programs in Chemistry and Physics

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

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

Joint Advanced Major Program (Chemistry and Physics)

Science A Chemistry	42 credits: Required courses: CHEM 101/102 <input type="checkbox"/> or 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 331/332 <input type="checkbox"/> or CHEM 341/342 <input type="checkbox"/> or CHEM 421/422 <input type="checkbox"/> 3 credits 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.
Science B Physics	36 credits: Required courses: PHYS 121 <input type="checkbox"/> , PHYS 122 <input type="checkbox"/> , PHYS 201 <input type="checkbox"/> , PHYS 221 <input type="checkbox"/> , PHYS 241 <input type="checkbox"/> , PHYS 242 <input type="checkbox"/> , PHYS 302 <input type="checkbox"/> , PHYS 322 <input type="checkbox"/> PHYS 323 <input type="checkbox"/> , PHYS 325 <input type="checkbox"/> , PHYS 343 <input type="checkbox"/> , PHYS 344 <input type="checkbox"/>
Science C Mathematics	6 credits: MATH 106 <input type="checkbox"/> , MATH 107 <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	18 credits: CHEM 325 (3-cr, junior year) <input type="checkbox"/> , MATH 221 [3-cr] <input type="checkbox"/> , MATH 253 [3-cr] <input type="checkbox"/> , MATH 254 [3-cr] <input type="checkbox"/> , MATH 267 [3-cr] <input type="checkbox"/> , MATH 361 [3-cr] <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 (Physics and Chemistry)

Science A Physics	42 credits: Required courses: PHYS 121 <input type="checkbox"/> , PHYS 122 <input type="checkbox"/> , PHYS 201 <input type="checkbox"/> , PHYS 221 <input type="checkbox"/> , PHYS 241 <input type="checkbox"/> , PHYS 242 <input type="checkbox"/> , PHYS 302 <input type="checkbox"/> , PHYS 322 <input type="checkbox"/> , PHYS 323 <input type="checkbox"/> , PHYS 325 <input type="checkbox"/> , PHYS 343 <input type="checkbox"/> , PHYS 344 <input type="checkbox"/> Two 3 credit PHYS electives _____ <input type="checkbox"/> , _____ <input type="checkbox"/> Required non-credit course: PHYS 491 <input type="checkbox"/>
Science B Chemistry	36 credits: Required courses: CHEM 101/102 <input type="checkbox"/> or 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"/> or CHEM 341/342 <input type="checkbox"/>
Science C Mathematics	6 credits MATH 106 <input type="checkbox"/> , MATH 107 <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: MATH 221 <input type="checkbox"/> , MATH 253 <input type="checkbox"/> , MATH 254 <input type="checkbox"/> , MATH 267 <input type="checkbox"/> , MATH 361 <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 Physics)

Science A Chemistry	45 credits in total Required courses: CHEM 101/102 <input type="checkbox"/> or 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 325 <input type="checkbox"/> , CHEM 361 <input type="checkbox"/> , CHEM 362 <input type="checkbox"/> , CHEM 493 <input type="checkbox"/> One 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 Physics	39 credits in total Required courses: PHYS 121 <input type="checkbox"/> , PHYS 122 <input type="checkbox"/> , PHYS 201 <input type="checkbox"/> , PHYS 221 <input type="checkbox"/> , PHYS 241 <input type="checkbox"/> , PHYS 242 <input type="checkbox"/> , PHYS 302 <input type="checkbox"/> , PHYS 322 <input type="checkbox"/> , PHYS 323 <input type="checkbox"/> , PHYS 325 <input type="checkbox"/> , PHYS 343 <input type="checkbox"/> , PHYS 344 <input type="checkbox"/> One of: PHYS 425 <input type="checkbox"/> , PHYS 443 <input type="checkbox"/> , PHYS 444 <input type="checkbox"/> , PHYS 475 <input type="checkbox"/> , PHYS 476 <input type="checkbox"/>
Science C Mathematics	6 credits. MATH 106 <input type="checkbox"/> , MATH 107 <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: MATH 221 <input type="checkbox"/> , MATH 253 <input type="checkbox"/> , MATH 254 <input type="checkbox"/> , MATH 267 <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 (Physics and Chemistry)

Science A Physics	45 credits: Required courses: PHYS 121 <input type="checkbox"/> , PHYS 122 <input type="checkbox"/> , PHYS 201 <input type="checkbox"/> , PHYS 221 <input type="checkbox"/> , PHYS 241 <input type="checkbox"/> , PHYS 242 <input type="checkbox"/> , PHYS 302 <input type="checkbox"/> , PHYS 322 <input type="checkbox"/> , PHYS 323 <input type="checkbox"/> , PHYS 325 <input type="checkbox"/> , PHYS 343 <input type="checkbox"/> , PHYS 344 <input type="checkbox"/> , PHYS 443 <input type="checkbox"/> , PHYS 493 <input type="checkbox"/> One of: PHYS 425 <input type="checkbox"/> , PHYS 444 <input type="checkbox"/> , PHYS 475 <input type="checkbox"/> , PHYS 476 <input type="checkbox"/> Required non-credit course: PHYS 491 <input type="checkbox"/>
Science B Chemistry	39 credits: Required courses: CHEM 101/102 <input type="checkbox"/> or 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"/> or CHEM 341/342 <input type="checkbox"/> 3-credit CHEM elective _____ <input type="checkbox"/> or PHYS 473 (PHYS 444 required) _____ <input type="checkbox"/>
Science C Mathematics	6 credits. MATH 106 <input type="checkbox"/> , MATH 107 <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: MATH 221 <input type="checkbox"/> , MATH 253 <input type="checkbox"/> , MATH 254 <input type="checkbox"/> , MATH 267 <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