

Joint programs in Chemistry and Earth Sciences

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

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

Joint Advanced Major Program (Chemistry and Earth Sciences)

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 325 <input type="checkbox"/> , CHEM 341 <input type="checkbox"/> , CHEM 342 <input type="checkbox"/> , CHEM 361 <input type="checkbox"/> , CHEM 362 <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 Earth Sciences	36 credits Required courses: ESCI 170 <input type="checkbox"/> , ESCI 201 <input type="checkbox"/> , ESCI 202 <input type="checkbox"/> , ESCI 215 <input type="checkbox"/> , ESCI 216 <input type="checkbox"/> , ESCI 245 <input type="checkbox"/> , ESCI 301 <input type="checkbox"/> , ESCI 302 <input type="checkbox"/> , ESCI 305 <input type="checkbox"/> , ESCI 406 <input type="checkbox"/> 3-credit elective ESCI _____ <input type="checkbox"/> Required non-credit course: ESCI 275 <input type="checkbox"/> Note: Depending on the student's field of interest in Earth Sciences, some of the 300/400 course above may be substituted for others. See chair of Earth Sciences
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 Humanities or Social Science discipline. _____ <input type="checkbox"/>
Approved electives	12 credits: PHYS 121 <input type="checkbox"/> , PHYS 122 <input type="checkbox"/> , MATH 253 <input type="checkbox"/> or MATH 267 <input type="checkbox"/> , 3-credit elective MATH _____ <input type="checkbox"/>
Open elective	6 credits Arts or Science _____ <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 (Earth Sciences and Chemistry)

Science A Earth Sciences	42 credits Required courses: ESCI 170 <input type="checkbox"/> , ESCI 201 <input type="checkbox"/> , ESCI 202 <input type="checkbox"/> , ESCI 215 <input type="checkbox"/> , ESCI 216 <input type="checkbox"/> , ESCI 245 <input type="checkbox"/> , ESCI 301 <input type="checkbox"/> , ESCI 302 <input type="checkbox"/> , ESCI 305 <input type="checkbox"/> , ESCI 406 <input type="checkbox"/> , ESCI 493 <input type="checkbox"/> , 6-credits electives ESCI _____ <input type="checkbox"/> , ESCI _____ <input type="checkbox"/> Required non-credit course: ESCI 275 <input type="checkbox"/> , ESCI 491 <input type="checkbox"/> Note: Depending on the student's field of interest in Earth Sciences, some of the 300/400 course above may be substituted for others. See chair of Earth Sciences
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"/> , CHEM 341 <input type="checkbox"/> , CHEM 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 Humanities or Social Science discipline. _____ <input type="checkbox"/>
Approved electives	12 credits: PHYS 101/102 <input type="checkbox"/> or PHYS 121/122 <input type="checkbox"/> , MATH 253 <input type="checkbox"/> or MATH 267 <input type="checkbox"/> , 3-credit elective MATH _____ <input type="checkbox"/>
Open elective	6 credits Arts or Science _____ <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 Earth Sciences)

Science A Chemistry	48 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 325 <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 Earth Sciences	36 credits Required courses: ESCI 170 <input type="checkbox"/> , ESCI 201 <input type="checkbox"/> , ESCI 202 <input type="checkbox"/> , ESCI 215 <input type="checkbox"/> , ESCI 216 <input type="checkbox"/> , ESCI 245 <input type="checkbox"/> , ESCI 301 <input type="checkbox"/> , ESCI 302 <input type="checkbox"/> , ESCI 305 <input type="checkbox"/> , ESCI 406 <input type="checkbox"/> , CHEM 255 <input type="checkbox"/> Required non-credit course: ESCI 275 <input type="checkbox"/> Note: Depending on the student's field of interest in Earth Sciences, some of the 300/400 course above may be substituted for others. See chair of Earth Sciences
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 Humanities or Social Science discipline. _____ <input type="checkbox"/>
Approved electives	12 credits: PHYS 121 <input type="checkbox"/> , PHYS 122 <input type="checkbox"/> , MATH 253 <input type="checkbox"/> or 267 <input type="checkbox"/> , 3-credit elective MATH _____ <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 (Earth Sciences and Chemistry)

Science A Earth Sciences	48 credits Required courses: ESCI 170 <input type="checkbox"/> , ESCI 201 <input type="checkbox"/> , ESCI 202 <input type="checkbox"/> , ESCI 215 <input type="checkbox"/> , ESCI 216 <input type="checkbox"/> , ESCI 245 <input type="checkbox"/> , ESCI 301 <input type="checkbox"/> , ESCI 302 <input type="checkbox"/> , ESCI 305 <input type="checkbox"/> , ESCI 406 <input type="checkbox"/> , ESCI 493 <input type="checkbox"/> 12-credit electives ESCI _____ <input type="checkbox"/> , ESCI _____ <input type="checkbox"/> , ESCI _____ <input type="checkbox"/> , ESCI _____ <input type="checkbox"/> Required non-credit course: ESCI 275 <input type="checkbox"/> , ESCI 491 <input type="checkbox"/> Note: Depending on the student's field of interest in Earth Sciences, some of the 300/400 course above may be substituted for others. See chair of Earth Sciences
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"/> , or CHEM 421/422 <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 Humanities or Social Science discipline. _____ <input type="checkbox"/>
Approved electives	12 credits: PHYS 101/102 <input type="checkbox"/> or PHYS 121/122 <input type="checkbox"/> , MATH 253 <input type="checkbox"/> or MATH 267 <input type="checkbox"/> , 3-credit elective MATH _____ <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