

COMBINED MAJOR IN SCIENCE

<http://www.cms.science.ubc.ca/home>

Chemistry (CHEM), Mathematical Sciences – Computer science (CPSC)¹,
Physics & Astronomy – Astronomy (ASTR)²

| | | | | | |
|--------------------|---|--|--|---|---|
| First Year | <input type="checkbox"/> MATH 100 (or equiv.) <input type="checkbox"/> MATH 101 (or equiv.) | <input type="checkbox"/> CHEM 121 or 120+115 or CHEM 111 or 110+115 <input type="checkbox"/> CHEM 123 or CHEM 130+135 | <input type="checkbox"/> _____ <input type="checkbox"/> CPSC 110 or CPSC 111 | <input type="checkbox"/> PHYS 101 Or 131 or 107 or 106 or 117 <input type="checkbox"/> PHYS 118+119 or 108+109 | <input type="checkbox"/> Communication (See page 2) <input type="checkbox"/> Arts (See page 2) |
| Second Year | <input type="checkbox"/> STAT 200 (or equiv.) <input type="checkbox"/> MATH 217 (or 200 + 317) | <input type="checkbox"/> CHEM 233, 235 or CHEM 203 or 223+225 <input type="checkbox"/> CHEM 205 or 208 or CHEM 211 or 210+215 or 213 or CHEM 203 or 223+225 | <input type="checkbox"/> CPSC 121 <input type="checkbox"/> CPSC 210 or CPSC 211 | <input type="checkbox"/> PHYS 200 <input type="checkbox"/> PHYS 203 | <input type="checkbox"/> MATH 221 or 223 <input type="checkbox"/> Arts (See page 2) |

Third and Fourth Year – See below for specific information on packages

| | | | | | |
|-------------------------------|--|---|---|--|---|
| Third and Fourth Years | <input type="checkbox"/> SCIE 300 <input type="checkbox"/> (PHYS 219 + 229 recom.) <input type="checkbox"/> Generalist req. (see page 2) <input type="checkbox"/> _____ | <input type="checkbox"/> CHEM 341 <input type="checkbox"/> CHEM pkg Course 1 <input type="checkbox"/> CHEM pkg Course 2 <input type="checkbox"/> Lab req. (See page 2) | <input type="checkbox"/> CPSC 221 <input type="checkbox"/> CPSC pkg course 1 <input type="checkbox"/> CPSC pkg course 2 <input type="checkbox"/> _____ | <input type="checkbox"/> PHYS 216 <input type="checkbox"/> ASTR pkg Course 1 (3 cr) <input type="checkbox"/> ASTR pkg Course 2 (3 cr) <input type="checkbox"/> PHYS pkg Course 1 (3 cr) | <input type="checkbox"/> MATH 215 <input type="checkbox"/> Arts (See page 2) <input type="checkbox"/> Arts (See page 2) <input type="checkbox"/> _____ |
|-------------------------------|--|---|---|--|---|

1. CHEMISTRY (CHEM) CMS PKG COURSES:

- 6 credits CHEM courses 300- or 400-level (except: CHEM 300, CHEM 348)

2. PHYSICS (PHYS) CMS PKG COURSES:

- All PHYS courses at the 300- or 400-level, except PHYS 348

3. ASTRONOMY (ASTR) CMS PKG COURSES:

- ASTR 300, 333, 403, 406, 407

¹ All students planning to pursue the CPSC package should contact the CMS advisor/director as soon as possible.

² The CHEM/CPSC/ASTR is a very heavy and ambitious combination.

4. MATHEMATICAL SCIENCES – COMPUTER SCIENCE (CPSC) CMS PKG COURSES:

- 6 credits of CPSC courses 300- or 400-level
- ! CPSC 302 and 303 have additional prerequisites

LOWER LEVEL REQUIREMENTS FOR BSC:

<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,215,410,1465>

CMS LAB REQUIREMENT

Must take 2 of the following:

- **CHEM 355 or 315** (1 cr) - Prerequisites: one of CHEM 233+235, CHEM 203 or CHEM 223+225, CHEM 205, CHEM 208, CHEM 211 or CHEM 210+215
- **EOSC 442** (1 cr) - Prerequisites: EOSC 340, **and one of** CPSC 103, CPSC 110, CPSC111, CPSC 301, EOSC 211, PHYS 210, MATH 210, **and one of** STAT 200, STAT241, STAT251, BIOL300
- **BIOL 342** (2 cr) - Prerequisite: BIOL 121, 140 or 180
- **PHYS 309** (3 cr) - Prerequisite: PHYS 219 and PHYS 229 (PHYS 219 has multiple prerequisites). Please note that this course does not count as a PHYS package course unless you take two other lab courses to fulfill the lab requirement.

CMS CORE COURSES:

- **MATH 100/101** (or equivalent)
- **STAT 200** (or STAT 241 or STAT 251 or BIOL 300)
- **SCIE 300** (Communicating Science)
- **Computing Requirement:** students who pursue the CPSC package automatically fulfill their computing requirement by virtue of completing their CPSC pre-requisites
- **Generalist Requirement: only required for students who entered the CMS program prior to 2019S.** These students take **one** (at least 3 cr) of BIOL 112, 121, 345, 346, 438, EOSC 340, 326, 477, 453, 354, 329

CMS GRADUATION CHECKLIST TABLE:

Review Upper Level B.Sc. Requirements:

<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,215,410,1466>

| CREDIT TOTALS | Completed | in Progress | Total | Required |
|--|-----------|-------------|-------|-----------------|
| Total Credits: includes all UBC courses, transfer credits & advance credits. DO NOT count paired courses, COOP credits, or courses “not for credit in the Faculty of Science”. | | | | 120 |
| Science Credits: includes all required & elective Science courses at all year levels. | | | | 72 |
| Communication Credits: six credits from ENGL 100, 110, 111, 120, 121; SCIE 113 or WRDS 150 (recommended); SCIE 300 (required) or CHEM 300; APSC 176; ASTU 100, 150; their equivalents | | | | 6 |
| Arts Credits: includes arts courses at all year levels. | | | | 12 |
| Upper-Level Credits: includes all courses at the 300-level and 400-level in any field (Arts, Science, and a maximum of 18 “Other” cr.). | | | | 48 |
| Upper-Level Science Credits: includes all Science courses at the 300-level and 400-level required for program. | | | | 32 – 38* |

* Number of credits will depend on selection of lab and generalist requirements.

Review CMS information in Calendar:

<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,215,410,1474>