

COMBINED MAJOR IN SCIENCE

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

Mathematical sciences - Statistics (STAT), Earth and Environmental Sciences (EES), Physics & Astronomy – Physics (PHYS)

| | | | | | |
|--------------------|--|--|---|--|--|
| First Year | <input type="checkbox"/> MATH 100 (or equiv.) | <input type="checkbox"/> CHEM 121 or 120+115 or CHEM 111 or 110+115 | <input type="checkbox"/> EES* elective | <input type="checkbox"/> PHYS 101 or 107 or 117 or 131 | <input type="checkbox"/> Communication (See page 2) |
| | <input type="checkbox"/> MATH 101 (or equiv.) | <input type="checkbox"/> _____ | <input type="checkbox"/> (EOSC 114 Recom) | <input type="checkbox"/> PHYS 118 + 119 or 108+109 | <input type="checkbox"/> Communication (See page 2) |
| Second Year | <input type="checkbox"/> STAT 200 (or equiv.) | <input type="checkbox"/> MATH 152 OR 221 OR 223 | <input type="checkbox"/> MATH 217 (or 200) | <input type="checkbox"/> PHYS 200 | <input type="checkbox"/> Arts (See page 2) |
| | <input type="checkbox"/> Computing req. (see page 2) | <input type="checkbox"/> MATH 220 OR 226 | <input type="checkbox"/> (MATH 215 recom.) | <input type="checkbox"/> (PHYS 219 + 229 recom.) | <input type="checkbox"/> Arts (See page 2) |

*EES Elective: one of ATSC 201, BIOL 111, BIOL 112, BIOL 121, GEOB 103, 200 or EOSC 110 and 111

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

| | | | | | |
|-------------------------------|---|---|--|--|---|
| Third and Fourth Years | <input type="checkbox"/> SCIE 300 | <input type="checkbox"/> STAT 300 | <input type="checkbox"/> EOSC 340 | <input type="checkbox"/> PHYS pkg Course 1 (3cr) | <input type="checkbox"/> Arts (See page 2) |
| | <input type="checkbox"/> _____ | <input type="checkbox"/> STAT 302 or MATH 302 | <input type="checkbox"/> EOSC 326, or 355, or 372 | <input type="checkbox"/> PHAS pkg Course 1 (3 cr) | <input type="checkbox"/> Arts (See page 2) |
| | <input type="checkbox"/> Generalist req. (see page 2) | <input type="checkbox"/> STAT 306 or STAT 344 | <input type="checkbox"/> EES pkg course | <input type="checkbox"/> PHAS pkg Course 2 (3 cr) | <input type="checkbox"/> _____ |
| | <input type="checkbox"/> _____ | <input type="checkbox"/> Lab req. (See page 2) | <input type="checkbox"/> _____ | <input type="checkbox"/> _____ | <input type="checkbox"/> _____ |

1. MATHEMATICAL SCIENCES (MASC) - MATH CMS PKG COURSES:

- MATH courses at the 300- or 400-level; recommended: MATH 302, 307, 317, 340, 360
- ! Some courses may have additional pre-requisites!

Pay particular attention to the credit-exclusion list (UBC calendar)

2. EARTH AND ENVIRONMENTAL SCIENCES (EES) CMS PKG COURSES:

- Earth and Environmental Science courses 300- or 400-level: ATSC, ENVR, GEOB (except: GEOB 307, 407), EOSC (except: EOSC 310, 311, 312, 314, 315, 371, 470, 471, 474, 475, 478).

Recommended: another one of EOSC 324, 326*, 329, 330, 355, 372, 373, or GEOB 300*

Specific prerequisites required from the EES electives*

3. PHYSICS (PHYS) CMS PKG COURSES:

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

4. PHYSICS & ASTRONOMY (PHAS) CMS PKG COURSES:

- All PHYS and ASTR courses at the 300- or 400-level, except PHYS 348
- Recommended: PHYS 301*, 304, 305, 309*, 312*, 314*, 315*, 318, 319*, 330, 333, 404, 405, 420;
 ASTR 300, 333, 403, 406, 407 (*have additional pre-requisites)

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 315 or 355** (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
- **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: one of:** CPSC 100, CPSC 103, CPSC 110 or 111, CPSC 301, EOSC 211, MATH 210, PHYS 210
- **Generalist Requirement: only required for students who entered the CMS program prior to 2019S.** These students take **one** (at least 3 cr) of CHEM 200 or higher (except: CHEM 300), or BIOL 121, 343, 345, 346, 438

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 (recommended); CHEM 300; APSC 176; ASTU 100, 150; or WRDS 150 (recommended); their equivalents; SCIE 300 is required for the CMS program | | | | 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>