# COMBINED MAJOR IN SCIENCE
## http://www.cms.science.ubc.ca/home
Chemistry (CHEM), Earth and Environmental Sciences (EES),
Physics (PHYS)

**First and Second Year**

| | | | | | |
|---|---|---|---|---|---|
| **First Year** | ☐ **MATH 100 (or equiv)**<br>☐ **MATH 101 (or equiv)** | ☐ **CHEM 121 (111)**<br>☐ **CHEM 123 (113)** | ☐ **PHYS 101 (or PHYS107)**<br>☐ **PHYS 118 & 119 (or 108 & 109)** | ☐ **EES* elective**<br>☐ ***(EOSC 114 Recom*** | ☐ **Communication (See page 2)**<br>☐ **Communication (See page 2)** |
| **Second Year** | ☐ **STAT 200**<br>☐ **Computing Requirement (see page 2)** | ☐ **CHEM 233, 235**<br>☐ **CHEM 205** | ☐ **PHYS 200**<br>☐ **(PHYS 219 / PHYS 229 *Recom.)*** | ☐ ***(MATH 215 Recom.)***<br>☐ ***MATH 200*** | ☐ ***Arts*** **(See page 2)**<br>☐ ***Arts*** **(See page 2)** |

***EES Elective: one** of ATSC 201, BIOL 111, BIOL 112, BIOL 121, GEOB 103, 200 **or** EOSC 110 and 111
Students who do not have credit for Biology 11 or 12 take 3 credits of 100-level BIOL (usually BIOL 111).
**Note**: MATH 215 (or 225); PHYS 219, 229, recommended.

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

| | | | | | |
|---|---|---|---|---|---|
| **3rd/4th Years** | ☐ **SCIE 300**<br>☐ | ☐ **CHEM 341**<br>☐ **CHEM pkg course** | ☐ **PHYS 301, 304, or 333**<br>☐ **PHYS pkg course** | ☐ **EOSC 340**<br>☐ **EOSC 326, 355, or 372** | ☐ ***Arts*** **(See page 2)**<br>☐ ***Arts*** **(See page 2)** |
| | ☐ **Generalist Requirement (see page 2)**<br>☐ _____ | ☐ **CHEM pkg course**<br>☐ **Lab Requirement (see page 2)** | ☐ **PHYS pkg course**<br>☐ _____ | ☐ **EES pkg course**<br>☐ _____ | ☐ _____<br>☐ _____ |

## CMS PACKAGES:

**1. CHEMISTRY (CHEM) CMS PACKAGE:**
- CHEM 341 (3)
- 6 credits CHEM courses 300- or 400-level

**2. EARTH AND ENVIRONMENTAL SCIENCES (EES) CMS PACKAGE:**
- EOSC 340 (3)
- 3 credits from EOSC 326*, 355, 372
- 3 credits from Earth and Environmental Science courses 300- or 400-level: ATSC, ENVR, GEOB (except for GEOB 307, 407), EOSC (except for 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 & ASTRONOMY - PHYSICS (PHYS) CMS PACKAGE:**
- 3 credits of PHYS 301*, 304*, 333
- 6 credits PHYS or ASTR courses 300- or 400-level
  Recommended Courses: PHYS 301*, 304*, 305*, 309*, 312*, 314*, 315*, 318*, 319*, 330, 333, 404*, 405, 420
  *Other Prerequisites in addition to 1st/2nd year Core.

## LOWER LEVEL REQUIREMENTS:

Review lower level requirements for B.Sc.
http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,215,410,1465

## LAB REQUIREMENT:

Must take 2 of the following:

- **CHEM 315** (1 cr) - Prerequisites: CHEM 233, 235, 205
- **EOSC 442** (1 cr) - Prerequisites: EOSC 340 and one of (CPSC 110, CPSC111, CPSC 301, EOSC 211, PHYS 210, MATH 210), and one of STAT 200, STAT241, BIOL300)
- **BIOL 342** (2 cr) - Prerequisite: BIOL 121, 140. (BIOL112/BIOL200 recommended)
- **PHYS 309** (3 cr) - Prerequisite: PHYS 219 and 229

## CORE COURSES:

- **MATH 100/101** (or equivalent)
- **STAT 200 -** can be replaced with STAT 241 or BIOL 300 in program
- *Note:* BIOL 300 will not count as a life science elective.
- **SCIE 300** (Communicating Science)
- **Computing Requirement:** one of: CPSC 110 (or 111), CPSC 301, EOSC 211, MATH 210, PHYS 210
- **Generalist Requirement**: One course (at least 3 cr) from:
  Life Science: BIOL 121, 343, 345, 346, 438
  Mathematical Sciences: MATH 200-level, MATH 360 or 300-level MATH

## GRADUATION CHECKLIST TABLE FOR CMS

| 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, 112 (recommended), 120, 121; SCIE 113; SCIE 300 or CHEM 300; APSC 176; ASTU 100, 150; or WRDS 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. | | | | **30 – 38*** |

* Number of credits will depend on selection of lab requirement.

**Review CMS information in Calendar:**
http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,215,410,1474