

Environmental Science

Institute of Environmental Science
Faculty of Science

This section presents the requirements for:

- **Environmental Science – B.Sc. Honours with Concentration in**
Biology
Chemistry
Geology

Co-operative Education Option is available in the Environmental Science program.

Graduation Requirements

In addition to the requirements listed below, students must satisfy:

- i) the University regulations (see the *Academic Regulations of the University* section of this Calendar),
- ii) the common regulations applying to all B.Sc. programs including those relating to Science Continuation and Breadth requirements (see *Academic Regulations for the Bachelor of Science Degree*).

Students should consult with the Institute when planning their program and selecting courses.

Program Requirements

Environmental Science B.Sc. Honours (20.0 credits)

A. Credits Included in the Major CGPA (10.5 credits):

1. 3.0 credits in:
ENSC 1500, ENSC 2000, ENSC 3509,
ENSC 3906, ENSC 4906 [1.0],
2. 1.0 credit in: BIOL 2600, CHEM 2800;
3. 0.5 from:
GEOG 3103, GEOG 3104, GEOG 3105, GEOG 3108;
4. 0.5 from:
GEOL 2308, GEOL 2402, GEOL 2403, GEOL 3205;
5. 1.0 credit in: Approved Science for Environmental Science at the 4000-level excluding ENSC 4001;
6. 3.0 credits in Approved Science for Environmental Science;
7. 1.5 credits in Approved Environmental Science Specialization;

B. Credits Not Included in the Major CGPA (9.5 credits):

8. 1.0 credits in MATH 1007, STAT 2507;
9. 3.0 credits in: BIOL 1003, BIOL 1004, CHEM 1000 [1.0], GEOG 2100, GEOL 1006;
10. 0.5 credit in: PHIL 1804;
11. 0.5 credit in: CHEM 2302;
12. 0.5 credit from: BIOL 2104 or BIOL 2200;
13. 0.5 from: GEOG 3103, GEOG 3104, GEOG 3105, GEOG 3108;
14. 0.5 from: GEOL 2308, GEOL 2402, GEOL 2403, GEOL 3205;

15. 2.0 credits in approved Arts or Social Sciences;
16. 1.0 credit in free electives.

Environmental Science B.Sc. Honours (20.0 credits) with Concentration in Biology

A. Credits Included in the Major CGPA (10.5 credits):

1. 3.0 credits in:
ENSC 1500, ENSC 2000, ENSC 3509,
ENSC 3906, ENSC 4906 [1.0];
2. 1.0 credit in BIOL 2600, CHEM 2800;
3. 0.5 from:
GEOG 3103, GEOG 3104, GEOG 3105, GEOG 3108;
4. 0.5 from:
GEOL 2308, GEOL 2402, GEOL 2403, GEOL 3205;
5. 0.5 credit in Approved Science for Environmental Science at the 4000-level, excluding ENSC 4001;
6. a) 1.5 credit in: BIOL 2001, BIOL 2002, BIOL 2200;
b) 0.5 credit from BIOL 2303, BIOL 3004,
BIOL 3101;
c) 2.0 credits in:
i) Ecology focus:
 - BIOL 3604
 - 1.0 from: BIOL 3601, BIOL 3602,
BIOL 3605, BIOL 3606,
 - 0.5 in Biology at the 4000-level

or

- ii) Microbiology/genetics focus:
 - 1.0 credit in: BIOL 3104, BIOL 4103,
 - 0.5 from: BIOL 2303, BIOL 3101,
BIOL 3303,
 - 0.5 in Biology at the 4000-level

7. 1.0 credit in Approved for Environmental Science Specialization;

B. Credits Not Included in the Major CGPA (9.5 credits):

8. 1.0 credit in:
MATH 1007, STAT 2507;
9. 3.0 credits in:
BIOL 1003, BIOL 1004, CHEM 1000 [1.0], GEOG 2100, GEOL 1006;
10. 0.5 in PHIL 1804;
11. 0.5 credit in CHEM 2302;
12. 0.5 credit in BIOL 2104;
13. 0.5 credit from: GEOG 3103, GEOG 3104, GEOG 3105, GEOG 3108;
14. 0.5 credit from GEOL 2308, GEOL 2402, GEOL 2403, GEOL 3205;
15. 2.0 credits in Approved Arts and Social Sciences;
16. 1.0 credit in free electives.

**Environmental Science
B.Sc. Honours (20.0 credits)
with Concentration in Chemistry**

A. Credits Included in the Major CGPA (10.5 credits):

1. 2.5 credits in:
ENSC 1500, ENSC 2000, ENSC 3509, ENSC 4906 [1.0];
2. 0.5 in BIOL 2600;
3. 0.5 from GEOG 3103, GEOG 3104, GEOG 3105, GEOG 3108;
4. 0.5 credit from GEOL 2308, GEOL 2402, GEOL 2403, GEOL 3205;
5. 0.5 credit in Chemistry at the 4000-level;
6. 4.5 credits in CHEM 2101, CHEM 2102, CHEM 2203, CHEM 2204, CHEM 2302, CHEM 3305, CHEM 3503, CHEM 3800, CHEM 4800;
7. 1.5 credits in:
 - a) Organic focus:
 - CHEM 3201, CHEM 3202, CHEM 3205

or
 - b) Inorganic focus:
 - CHEM 3504, CHEM 3505, and
 - 0.5 credit in Chemistry above the 1000-level

or
 - c) Physical focus:
 - CHEM 3101, CHEM 3105, MATH 2007

B. Credits not included in the Major CGPA (9.5 credits):

8. 1.0 credit in MATH 1007, STAT 2507;
9. 3.0 credits in BIOL 1003, BIOL 1004, CHEM 1000 [1.0], GEOG 2100, GEOL 1006;
10. 0.5 credit in PHIL 1804;
11. 1.0 credit in PHYS 1003 and PHYS 1004, or PHYS 1007 and PHYS 1008;
12. 0.5 credit from BIOL 2104 or BIOL 2200;
13. 0.5 credit from GEOG 3103, GEOG 3104, GEOG 3105, GEOG 3108;
14. 0.5 credit from GEOL 2308, GEOL 2402, GEOL 2403, GEOL 3205;
15. 1.5 credits in Approved Arts and Social Sciences;
16. 1.0 credit in free electives.

**Environmental Science
B.Sc. Honours (20.0 credits)
with Concentration in Geology**

A. Credits Included in the Major CGPA (10.5 credits):

1. 3.0 credits in:
ENSC 1500, ENSC 2000, ENSC 3509, ENSC 3906, ENSC 4906 [1.0];
2. 1.0 credit in BIOL 2600, CHEM 2800;
3. 0.5 credit from GEOG 3103, GEOG 3104, GEOG 3105, GEOG 3108;
4. 0.5 credit from GEOL 2308, GEOL 2402, GEOL 2403, GEOL 3205;
5. 1.0 credit from GEOL 4203, GEOL 4205, GEOL 4301, GEOL 4302, GEOL 4804 [1.0], GEOL 4805;

6. a) 3.0 credits in:
GEOL 2203, GEOL 2205, GEOL 2208, GEOL 3201, GEOL 3805, GEOL 3806
- b) 1.0 credit from:
GEOL 2301, GEOL 2306, GEOL 3203, GEOL 3204, GEOL 3205;
7. 0.5 credit in Approved for Environmental Science Specialization;

B. Credits not included in the Major CGPA (9.5 credits):

8. 1.5 credits in MATH 1007, MATH 1107, STAT 2507;
9. 3.0 credits in BIOL 1003, BIOL 1004, CHEM 1000 [1.0], GEOG 2100, GEOL 1006;
10. 1.0 credit in PHIL 1804;
11. 0.5 credit in CHEM 2302;
12. 0.5 credit from BIOL 2104, BIOL 2200;
13. 0.5 credit from GEOG 3103, GEOG 3104, GEOG 3105, GEOG 3108;
14. 0.5 credit from GEOL 2308, GEOL 2402, GEOL 2403, GEOL 3205;
15. 1.5 credits in approved arts or social sciences;
16. 1.0 credit in free electives.

Course Categories

The Environmental Science program description makes use of the following course categories:

- **Approved Arts or Social Sciences**
(approved by the Environmental Science Institute)
- **Approved Environmental Science Specialization**
(Approved by the Environmental Science Institute)
- **Free Electives**
(see Academic Regulations for the Bachelor of Science Degree)
- **Approved Science for Environmental Science** (additional courses may be used with approval of the Environmental Science Institute):

Biology

BIOL 2001, BIOL 2002, BIOL 2200, BIOL 2303, BIOL 3004, BIOL 3101, BIOL 3104, BIOL 3201, BIOL 3205, BIOL 3305, BIOL 3501, BIOL 3601, BIOL 3602, BIOL 3604, BIOL 3605, BIOL 3606, BIOL 3801, BIOL 3802, BIOL 3901, BIOL 4102, BIOL 4103, BIOL 4104, BIOL 4106, BIOL 4109, BIOL 4300, BIOL 4404, BIOL 4603, BIOL 4609, BIOL 4801, BIOL 4901

Chemistry

CHEM 2203, CHEM 2204, CHEM 2207, CHEM 2208, CHEM 3101, CHEM 3102, CHEM 3105, CHEM 3201, CHEM 3202, CHEM 3205, CHEM 3305, CHEM 3503, CHEM 3504, CHEM 3505, CHEM 3700, CHEM 3800, CHEM 4301, CHEM 4302, CHEM 4700, CHEM 4800

Computer Science

COMP 1002, COMP 1004, COMP 1005, COMP 1007

Environmental Science

ENSC 4001, ENSC 4700

Geography

GEOG 2007, GEOG 3002, GEOG 3101, GEOG 3102, GEOG 3103, GEOG 3104, GEOG 3105, GEOG 3108, GEOG 4003, GEOG 4101, GEOG 4104, GEOG 4108, GEOG 4109

Geology

GEOL 2203, GEOL 2205, GEOL 2208, GEOL 2301,
GEOL 2306, GEOL 2401, GEOL 2402, GEOL 2403,
GEOL 3201, GEOL 3203, GEOL 3204, GEOL 3205,
GEOL 3805, GEOL 3806, GEOL 4203, GEOL 4205,
GEOL 4301, GEOL 4302, GEOL 4804, GEOL 4805

Mathematics

MATH 1107, MATH 2007, STAT 2509

Physics

PHYS 1001, PHYS 1002, PHYS 1007, PHYS 1008

Prohibited and Restricted Courses

Technology, Society, Environment Studies (TSES) courses are not accepted as Science Continuation courses in these programs, but may be used as Approved Environmental Science Specialization courses or as free electives.