Exit Survey of Graduating EOS Students: Goals and Results

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Exit survey goals:
A. Determine student perspectives on our programs.
B. Establish “baseline” for future surveys.
   • EOS SEI started 2 years ago.
   • 2009 grad class least affected by EOS-SEI
   • Potential alumni survey sometime in future

Survey Response:
• 58 student respondents out of 80 graduating students
  • 73% = decent response!
Survey Overview

• 55 questions
• Survey was up for 3 weeks (June-July 2009)
• Most questions are Likert scale
  • 2 kinds of Likert scale:
    • (1) strongly agree, agree, neutral, disagree, strongly disagree or
    • (2) very much, quite a bit, some, a little, not at all
• Lots of space for student comments/feedback.
• See the online survey as it appeared to students:

http://www.eos.ubc.ca/scripts/courses/eosexit/eos-exitsurvey.html
Results Summary

- 83% of students enjoyed their time at EOS
- >80% of students value field experiences
- 88% of students want to get jobs in EOS-related fields or go to grad school in an EOS-related field
- >50% of students want more timely and effective feedback on their assignments and exams
- >50% of students want more explicit connections between their coursework and their program

Students were asked their thoughts on: Careers, Courses, Electives, Program options, Skills learned, Teaching, and Demographics.
Q1: My goal after getting my degree is to:

- EOS Job: 50
- Grad School (EOS-related): 30
- Professional Program (Eng, Law, MBA, etc.): 20
- Non-EOS Job: 10
- Grad School (Non-EOS-related): 5
Q2: "I had a clear career goal when entering my program."
Q3. My choice to declare EOS as my major was influenced by:

- a. EOS Faculty Member
- b. A Non-EOS Faculty Member
- c. An official academic advisor
- d. Friends/Peers
- e. Parents/Siblings
- f. High School Counselor

- quite a bit/very much
- some
- not at all/a little
- no answer
- no answer
Q4. Taking EOS at UBC helped me to:

- a. Confirm my career decision
- b. Change my career decision
- c. Make a career decision

The graph shows the distribution of responses among students. The bars are divided into sections indicating how much each group of students were helped: quite a bit/very much, some, not at all/a little.
Q5. My choice to declare EOS as my major was influenced by:

- Interests
- Career
- Friends/Peers
- Parents/Siblings/Family
- University course
- Faculty member
- High school course
- University academic advisor
- High school counselor

Students

<table>
<thead>
<tr>
<th></th>
<th>quite a bit/very much</th>
<th>some</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interests</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>Career</td>
<td>40</td>
<td>0</td>
</tr>
<tr>
<td>Friends/Peers</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>Parents/Siblings</td>
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<td>0</td>
</tr>
<tr>
<td>University course</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Faculty member</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>High school course</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>University academic advisor</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>High school counselor</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Q6a: What is your primary degree program?

- EOS Major: 13 students
- Atm. Sci.: 3 students
- Envr. Sci.: 17 students
- Geol. Eng.: 16 students
- Geol. Sci. (HON): 6 students
- Other (HON): 3 students
Q6b: Are you planning on registering as a professional in any of the following professional organizations?

- APEGBC: 30 students
- R.P. Bio.: 5 students
- Meteorology: 2 students
- P.Ag.: 0 students
- None of these: 21 students
Q6c: Did you complete the CO-OP program?
Q6d: Are you planning to apply for graduate school any time after graduation?
Q7. Would you have preferred to choose a DIFFERENT program?

Q8. If you answered YES to Q7, what program would you have preferred, why?

(A few other programs were not categorized)
Q9 – Suggestions for other EOS program options?

- Environmental Program (e.g. like University of Calgary)
- Geology Major
- Geophysics Major
- Hydrogeology Major
- Resource Management
- Environmental Engineering
- Dual Geologic Engineering – Geology degree: should cover requirements for P.Eng. and P.Geo.
- Expanded and focused Envr. Sci. program.
- More 4th year Geotech classes with a wider range of topics.
- Bring in more “arts/social science” material when discussing global warming. Look at course ASIC 200, try to incorporate these ideas into geology stream.
Q10: My program or program option allowed me to choose electives that matched my interests.
Q11: I usually chose course electives based on the following factors:
Q12: I obtained information on course electives from the following sources:

<table>
<thead>
<tr>
<th>Source</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Course Calendar</td>
<td>50</td>
</tr>
<tr>
<td>b. EOS Website</td>
<td>40</td>
</tr>
<tr>
<td>c. Academic advisor</td>
<td>20</td>
</tr>
<tr>
<td>d. Professor(s)</td>
<td>10</td>
</tr>
<tr>
<td>e. Friends / peers</td>
<td>20</td>
</tr>
<tr>
<td>f. Parents / family</td>
<td>10</td>
</tr>
<tr>
<td>Other sources:</td>
<td></td>
</tr>
<tr>
<td>-Course website</td>
<td></td>
</tr>
</tbody>
</table>

- quite a bit/very much
- some
Q13. How much has EOS coursework emphasized memorizing facts, ideas, or methods?

![Bar chart showing the percentage of students in different years of ENVR and EOS (GEO-ENG) courses who have found EOS coursework to emphasize memorizing facts, ideas, or methods. The chart is color-coded to indicate the percentage of students who found it quite a bit/very much, some, or very little/a little.]

# of Students
ENVR – 18
EOS – 19
GEO-ENG - 16
Q14. How much has EOS coursework emphasized development of lab skills?

- The chart shows the percentage of students in different years and programs indicating their level of agreement with the statement.

- The categories of agreement are:
  - quite a bit/very much
  - some
  - very little/a little

- The number of students in each category is indicated in the legend:
  - ENVR – 18
  - EOS – 19
  - GEO-ENG - 16
Q15. How much has EOS coursework emphasized development of writing skills?

### Graph Details:
- **X-axis**: Semester and Course
- **Y-axis**: Percentage of Students
- **Legend**:
  - Green: quite a bit/very much
  - Red: some
  - Blue: very little/a little

### Data Points:
- **1st year (ENVR)**: 80%
- **1st year (EOS)**: 90%
- **1st year (GEO-ENG)**: 90%
- **2nd year (ENVR)**: 80%
- **2nd year (EOS)**: 80%
- **2nd year (GEO-ENG)**: 80%
- **3rd year (ENVR)**: 90%
- **3rd year (EOS)**: 90%
- **3rd year (GEO-ENG)**: 90%
- **4th year (ENVR)**: 100%
- **4th year (EOS)**: 100%
- **4th year (GEO-ENG)**: 100%

### Additional Information:
- ENVR – 18
- EOS – 19
- GEO-ENG - 16
Q16. How much has EOS coursework emphasized development of teamwork skills?

- ENVR – 18
- EOS – 19
- GEO-ENG - 16

- 1st year (ENVR)
- 1st year (EOS)
- 1st year (GEO-ENG)
- 2nd year (ENVR)
- 2nd year (EOS)
- 2nd year (GEO-ENG)
- 3rd year (ENVR)
- 3rd year (EOS)
- 3rd year (GEO-ENG)
- 4th year (ENVR)
- 4th year (EOS)
- 4th year (GEO-ENG)
Q17. How much has EOS coursework emphasized development of oral presentation skills?

<table>
<thead>
<tr>
<th>Year</th>
<th>ENVR</th>
<th>EOS</th>
<th>GEO-ENG</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>18</td>
<td>19</td>
<td>16</td>
</tr>
<tr>
<td>2nd</td>
<td></td>
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<td></td>
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<td>3rd</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>4th</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Legend:
- Green bar: quite a bit/very much
- Red bar: some
- Blue bar: very little/a little

# of Students
ENVR – 18
EOS – 19
GEO-ENG - 16
Q18. How much have EOS courses emphasized development of observation skills?
Q19. How much have EOS courses helped you become better at formulating hypotheses?

<table>
<thead>
<tr>
<th>Year (ENVR)</th>
<th>Year (EOS)</th>
<th>Year (GEO-ENG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st year</td>
<td>1st year</td>
<td>1st year</td>
</tr>
<tr>
<td>2nd year</td>
<td>2nd year</td>
<td>2nd year</td>
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<tr>
<td>3rd year</td>
<td>3rd year</td>
<td>3rd year</td>
</tr>
<tr>
<td>4th year</td>
<td>4th year</td>
<td>4th year</td>
</tr>
</tbody>
</table>

- # of Students
  - ENVR – 18
  - EOS – 19
  - GEO-ENG - 16
Q20. How much have EOS courses helped you get better at making inferences from incomplete data?

<table>
<thead>
<tr>
<th>Year</th>
<th>ENVR</th>
<th>EOS</th>
<th>GEO-ENG</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st year</td>
<td>18</td>
<td>19</td>
<td>16</td>
</tr>
<tr>
<td>2nd year</td>
<td></td>
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<td></td>
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<tr>
<td>3rd year</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>4th year</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Graph Details

- **Y-axis**: Number of Students
- **X-axis**: Year of Study (ENVR, EOS, GEO-ENG)
- **Legend**:
  - Green: quite a bit/very much
  - Red: some
  - Blue: very little/a little

# of Students
- ENVR – 18
- EOS – 19
- GEO-ENG - 16
Q21. How much have EOS courses helped you get better at critically evaluating scientific literature?

<table>
<thead>
<tr>
<th>Year</th>
<th># of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVR</td>
<td>18</td>
</tr>
<tr>
<td>EOS</td>
<td>19</td>
</tr>
<tr>
<td>GEO-ENG</td>
<td>16</td>
</tr>
</tbody>
</table>

- **ENVR**: 1st year - 18 students, 2nd year - 19 students
- **EOS**: 1st year - 19 students, 2nd year - 16 students
- **GEO-ENG**: 1st year - 16 students, 2nd year - 19 students

- **1st year (ENVR)**: 70% quite a bit/very much, 30% very little/a little
- **1st year (EOS)**: 80% quite a bit/very much, 20% very little/a little
- **1st year (GEO-ENG)**: 90% quite a bit/very much, 10% very little/a little
- **2nd year (ENVR)**: 90% quite a bit/very much, 10% very little/a little
- **2nd year (EOS)**: 80% quite a bit/very much, 20% very little/a little
- **2nd year (GEO-ENG)**: 100% quite a bit/very much
- **3rd year (ENVR)**: 90% quite a bit/very much, 10% very little/a little
- **3rd year (EOS)**: 80% quite a bit/very much, 20% very little/a little
- **3rd year (GEO-ENG)**: 100% quite a bit/very much
- **4th year (ENVR)**: 80% quite a bit/very much, 20% very little/a little
- **4th year (EOS)**: 70% quite a bit/very much, 30% very little/a little
- **4th year (GEO-ENG)**: 100% quite a bit/very much
Q22. How much have EOS courses helped you get better at choosing appropriate analysis methods?

![Bar chart showing the percentage of students from different years and programs who have found EOS courses helpful.]

Legend:
- Green: quite a bit/very much
- Red: some
- Blue: very little/a little

# of Students
- ENVR – 18
- EOS – 19
- GEO-ENG - 16
Q23. How much have EOS courses helped you get better at identifying problems in the real world which can be studied scientifically and asking an appropriate scientific question?
Q24. What other skills should be learned in the EOS program?

- Business (3 votes)
- GIS/ArcGIS/AutoCAD (2 votes)
- Economics (2 votes)
- Instrumentation (e.g. electron microprobe) (2 votes)
- Environmental Law (1 vote)
Q25: The practical/technical skills I learned in the EOS courses seem like they will be useful for my career goals.
Q26: I felt that the pre-requisites I took adequately prepared me for upper level courses

- Disagree: 3
- Neutral: 17
- Agree: 38
Q27: I felt that the pre-requisites were adequately enforced by my instructors
Q28: I felt that there was a “flow” to the EOS curriculum for my particular program and that the curriculum made sense.
Q29: Generally, I received adequate feedback on my written assignments in EOS courses.
Q30a: How often did you experience the following types of assignments in your EOS courses?

- Short Answer Tests
- Lab Reports
- Multiple Choice Tests
- In Class Quizzes
- Group Assignments
- Written Essays
- Research Proposals/Reports
- Oral Presentations
- Online Quizzes
- Poster Presentations
- "Clicker" Questions

Students
Q30b: How useful were these assignment types?

- a. Written Essays
- b. Individual Research Proposals/Reports
- c. Group Research Proposals/Reports
- d. Lab Reports
- e. Oral Presentations
- f. Poster Presentations
- g. In Class Quizzes
- h. Online Quizzes
- i. "Clicker" Questions
- j. Group Assignments
- k. Multiple Choice Tests
- l. Short Answer Tests
- m. Long Answer Tests (e.g., discussing journal article)
- n. Literature Reviews (e.g., discussing journal article)

Legend:
- Very useful
- Useful
- Not very useful
- no answer
Q31: What are **three courses** that you feel were **most useful to your degree**? (most popular)

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Students</th>
<th>(of Total)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EOSC 433</td>
<td>10</td>
<td>(of 35)</td>
</tr>
<tr>
<td>EOSC 221</td>
<td>8</td>
<td>(of 90)</td>
</tr>
<tr>
<td>ENVR 300</td>
<td>7</td>
<td>(of 49)</td>
</tr>
<tr>
<td>EOSC 328</td>
<td>7</td>
<td>(of 60)</td>
</tr>
<tr>
<td>CIVL 311</td>
<td>6</td>
<td>(of ?)</td>
</tr>
<tr>
<td>ENVR 200</td>
<td>5</td>
<td>(of 42)</td>
</tr>
<tr>
<td>EOSC 329</td>
<td>5</td>
<td>(of 150)</td>
</tr>
<tr>
<td>EOSC 331</td>
<td>5</td>
<td>(of 46)</td>
</tr>
<tr>
<td>EOSC 434</td>
<td>5</td>
<td>(of 45)</td>
</tr>
<tr>
<td>EOSC 220</td>
<td>4</td>
<td>(of 110)</td>
</tr>
<tr>
<td>EOSC 223</td>
<td>4</td>
<td>(of 56)</td>
</tr>
</tbody>
</table>
Q31: What is it about these courses that made them so useful?

- Applied/Practical experience: 26
- Job/Career-oriented: 11
- Fundamentals to field: 11
- Excellent instructor(s): 7
- Connection to other courses: 6
- Big Picture/Synthesis: 5
- Research skills: 4
- Critical thinking: 2

Students
Q32: What are three courses that you feel were should be improved, changed or omitted as a requirement?
Q32: What is it about these courses that needs to be improved?

- Irrelevant to degree program: 14
- Memorization: 8
- Information overload: 5
- Poor teaching: 5
- Poor connect to program: 5
- Redundancy in Program: 4
- Too simplistic: 2
- No structure: 2
Q33: For me, the purpose of 1st year EOS courses seemed to be:

d. to provide an overview of concepts in EOS

c. to learn a lot of facts

f. to help generate interest in EOS as a degree program

b. to help me transition to university

e. to help me connect with other students and instructors

g. to be a filter for who stays or who will leave

h. to have nothing to do with anything

a. to scare me
Q34: When I had a question about the EOS program, I approached:

h. Online resources
b. a department advisor
c. a course instructor
d. one preferred professor or instructor
g. friends or family
e. a graduate student or teaching assistant
f. an EOS office staff person
a. a faculty of Science advisor

Legend:
- often/always
- sometimes
- rarely/never
• Q34: When I had a question about the EOS program, I approached (other):
  – Students from previous years
  – Current students
  – Front office staff was great
  – I found the advising staff to be unhelpful
Q35: I am generally the kind of student that...

- f. finds small classes more engaging.
- e. connects easily with other students.
- b. approaches instructors with questions after lectures.
- c. asks questions in small classes (less than 40 students).
- d. connects easily with the instructor.
- a. often asks questions in classes large lecture classes.
Q36. Regarding teaching assistants (TAs), I feel they would benefit from more training / practice in ...

- c. providing good feedback on assignments
- a. leading discussions
- b. helping with labs
- d. marking
- e. preparing course material.

[Bar chart showing student responses]
• **Q36 TAs would benefit from (comments for other):**
  – TAs should have recently studied the subject matter.
  – TAs should develop a good rapport with students.
  – General Communication skills, importance of clarity when explaining concepts.
Q37. Regarding professors in EOS, I feel the program would would benefit if they...

- f. provided more effective feedback on work and tests
- a. could present more effective lectures
- g. provided feedback more rapidly following work or tests
- d. made more explicit connections between prerequisite material or skills
- e. used a wider variety of testing mechanisms
- b. run group activities more effectively
- c. worked more closely together when more than one was teaching a course
Q37 Professors would benefit from (comments):

– Have more quizzes during the semester to stimulate thinking.

– Overall, I found that EOS professors were more than qualified and knowledgeable, and most of them taught very effectively.

– Stop using PowerPoint as a crutch. Lectures based on recycled powerpoints frequently evolve into unorganized rambling.
Q38. My experiences in the following field courses were a valuable part of my degree:

- a. EOSC 223 "Field Techniques" (Saltspring)
- b. EOSC 328 "Field Geology" (Oliver)
- c. EOSC 428 "Field Techniques in Groundwater Hydrology" (Richmond)

Of the students who took the survey:
- 74% of students who took EOSC 223 (Saltspring field school), felt that it was valuable.
- 88% of students who took EOSC 328 (Oliver field school) felt that it was valuable.
- 71% of students who took EOSC 428 (Richmond field school) felt that it was valuable.
Q38. Field Experiences

Of the students who took the survey:

72% of students felt that other field experiences (e.g. not at field school) were valuable

77% of students would have appreciated MORE field experiences during their degree
Q38 – Other Valuable Field Experiences (values indicate number of responses):

- BIOL 402 Aquatic Ecology - 1
- BIOL 404 Ecological Methodology - 1
- BIOL 405 Marine Ecology - 1
- BIOL 406 Plant Ecology - 1
- BIOL 409 Ecology Field Course - 3
- BIOL 427 Terrestrial Vertebrate Zoology - 1
- CIVL 235 Plane Surveying - 5
- ENVR 200 Env. Sci. I - 1
- ENVR 300 Env. Sci. II - 1
- EOSC 221 Petrology - 1
- EOSC 320 Sedimentology - 1
- EOSC 420 Volcanology - 5
- EOSC 421 Adv. Sed - 1
- EOSC 422 Structural Geol. - 1
- EOSC 424 Adv. Ore Deposits - 2
- EOSC 430 Aqueous Geochemistry - 1
- EOSC 473 Methods in Oceanography - 1
- GEOG 306 Hydrology - 1
- GEOG 308 Quaternary and Applied Geomorphology - 1
- GEOG 309 Geographical Biogeosciences Field Course - 1
Q39. I enjoyed studying EOS at UBC
Q40. I experienced a strong sense of community in the EOS program

- Disagree: 8 students
- Neutral: 7 students
- Agree: 37 students
• Q41 – How might community be enhanced within the EOS program?
  – Coding glitch occurred, no data collected for this question.
Q42. The most positive learning experience I had within EOS was:

- Field Experiences: 13 students
- Working with peers: 7 students
- Connecting with Professors: 5 students
- Thesis: 5 students
- ENVR 200/300: 5 students
- Critical thinking: 2 students

(Coded Responses)
Q43 and Q44. If I could change one thing about my learning experience in EOS it would be:

- Need more flow for entire program: 10
- More practical courses/industry exposure: 10
- Get more involved/more community: 6

...and a number of other items

(Coded Responses)
Q45. What was the most significant learning situation RELATED TO YOUR DEGREE that you experienced OUTSIDE OF UBC?

Responses were coded. Items below are most frequently noted responses.

- Working (EOS related): 24 students
- Working (non-EOS related): 5 students
- Co-op: 5 students
- Exchange Program: 4 students
- Courses or coursework: 2 students
46. Which was the first language spoken in your household while growing up?

- **English**: 42 students
- **Not English**: 16 students
47. How would you rate your ability to read and write in English?
48. What gender are you?

- Male: 33 students
- Female: 25 students
49. What is your age?

- 20-21: 8
- 22-23: 28
- 24-25: 12
- 25-30: 5
- Over 30: 5
50. I was a transfer student to UBC

- Yes: 14 students
- No: 44 students

Total: 58 students
51. I have had to work in order to pay for my education

Yes: 38
No: 20
52. I provided some financial support for my children/spouse/family members in addition to going to UBC
53. What was the longest commute (in km) you had to make regularly (for at least 1 term) while at UBC?
54. Roughly how long did you spend working on this survey?

Most common student comment: “Survey is too long!”

- 16-20 min: 12 students
- 21-40 min: 35 students
- 41-50 min: 9 students
- 51-60 min: 0 students
- > 60 min: 2 students