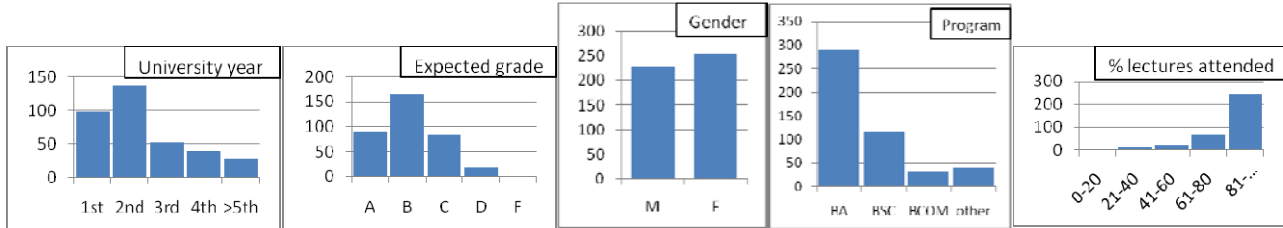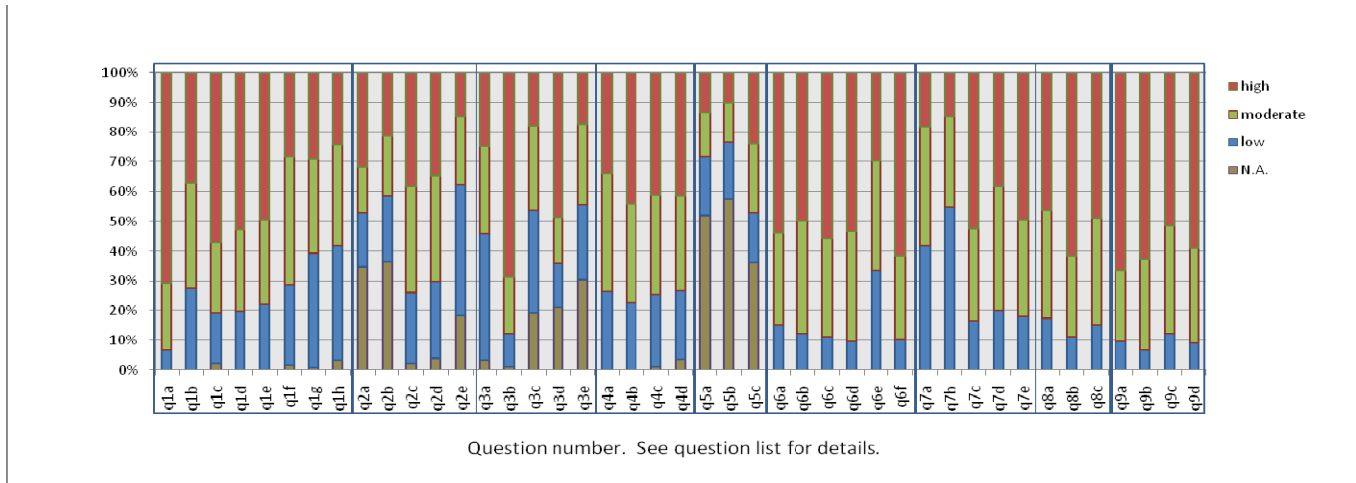# EOSC114 Fall 2007 End of Term & midterm Survey Results

A total of 358 students out of 484 registered in two sections of the course completed the EOT survey. Questions themselves are summarized on the next page.

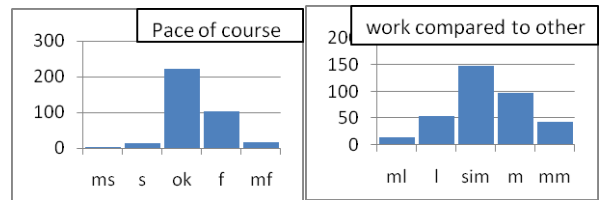- The following five small graphs inform us about demographics of students. Vertical axis is number of students.



- Data from Likert scale questions are summarized in the following graph. Each bar shows 0-100% of respondents for one question. The five point scale was compressed into high / moderat / low, with N.A. indicating "not applicable" responses.
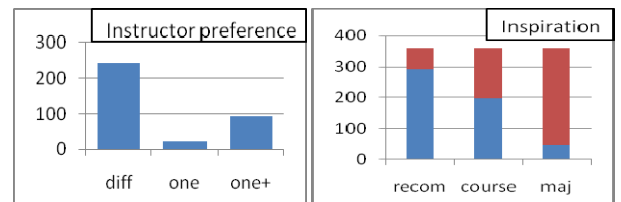


- For the six remaining questions four graphs summarize results. Vertical axis indicate number of students.

  - *Pace of course was*: much too slow; too slow, ok, too fast, much too fast.

  - *Work compared to other courses was*: much less, less, similar, more, much more.



  - *Instructor preference:* Would you prefer i) A different instructor for each module, ii) one instructor only, (iii) one instructor with guest speakers?

  - *Inspiration:* Three questions summarized in this graph have yes/no responses summarized in red/blue respectively:

    - Would you recommend this course to others?
    - Would you take another course in EOS?
    - Would you consider switching to major in EOS?

# *Likert Scale Question list for eosc114 EOT survey, Fall2007*

**1. How much did these aspects of class time help your learning?**
 a. Lectures by the instructors.
 b. Video clips used in class.
 c. Having a different instructor for each module.
 d. Spending the first few lectures reviewing some basic background information about the sciences.
 e. Questions involving clickers.
 f. Questions instructors asked which did NOT involve clickers.
 g. Opportunities to discuss questions or issues with other students.
 h. Time given in class to consider questions or issues silently.

**2. How much did the following aspects of testing and grading help your learning?**
 a. Instructor-lead review sessions prior to tests.
 b. Video review sessions prior to tests.
 c. The number and spacing of tests.
 d. The grading system.
 e. The feedback you received about tests.

**3. How much did resources help your learning?**
 a. The text book.
 b. Notes provided on the course website.
 c. Optional information about disasters on the course website.
 d. The optional package of course materials purchased at the bookstore.
 e. Information you found for yourself.

**4. How much did the following information given to you help your learning?**
 a. Overall learning goals expressed for the course.
 b. Goals learning expressed for each module.
 c. Discussions about how modules related to one another.
 d. Information on the web about course news, schedules, and other logistical matters.

**5. How much did these types of individual support help your learning?**
 a. Individual contact with any of the instructors.
 b. Contact with a teaching assistant at the ECAC drop-in centre.
 c. Working on this course with peers outside class.

**6. How much do you think this course has helped you understand each of the following?**
 a. Time scales involved in physical processes that underlie the natural hazards we discussed.
 b. How scientists analyze "risk".
 c. The scientific factors contributing to decisions about natural hazard spending priorities.
 d. The societal factors contributing to decisions about natural hazard spending priorities.
 e. The ways that equations contribute to understanding about physical processes.
 f. Ways that energy storage and release contribute to causes of natural hazards.

**7. How much has this course added to your skills in each of the following?**
 a. Using scientific information presented as graphs.
 b. Using equations to help work out a problem.
 c. Relating the various physical process that occur on our planet to each other.
 d. Recognizing both well established principles and assumptions when considering a scientific argument.
 e. Thinking logically about issues in the physical sciences.

**8. To what extent did you make gains in the following as a result of what you did in this course?**
 a. Recognition of fundamental scientific concepts that underlie natural physical processes.
 b. Ability to see evidence of natural physical processes in the world around you.
 c. Capacity to consider a question about natural processes in a logical, organized way.

**9. How much of the following do you think you will remember and carry with you into other courses or aspects of your life?**
 a. Appreciation for the dynamic nature of our planet.
 b. How risk analysis contributes towards making choices about where you live, work or play.
 c. The usefulness of applying scientific reasoning when setting priorities about natural hazards.
 d. Appreciation for the relevance of this discipline to real world issues.

## *Some conclusions from eosc114 end of term survey, Fall 2007*

1. 236 of 358 students (66%) are in 1st +2nd   year.
2. 34% say "pace too fast".
3. 40% say "more work than other courses".
4. Many would recommend this course, half would take another EOS course, and 14.7% might change major to EOS
5. Instructor preferences: (i) 68% would keep it as is, (ii) 6% would prefer one instructor only, (iii) 26% would prefer one instructor with guests.
   HOWEVER, literature suggest that "liking" and "truly effective for learning" are two different things, and not testable without expensive experimenting. Recommend relying on literature for directions related to whether many instructors are a good thing.

The following are interesting from the figure summarizing 43 ranking questions (in summary-report.doc):
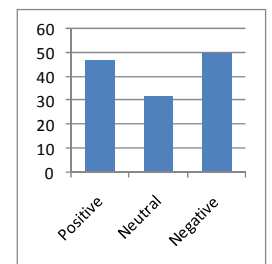
- Perceived as not useful:
  - Opportunities to discuss questions or issues with other students
  - Time given in class to consider questions or issues silently were ranked
  - Instructor-lead review sessions prior to tests.
  - Video review sessions prior to tests.
  - The number and spacing of tests.
  - The feedback you received about tests.
  - Optional information about disasters on the course website.
  - Information you found for yourself.
  - 35% did not get or did not like the optional course package.
  - Very low access to "individual help"
- Perceived as positive:
  - Lectures by the instructors.
  - Having a different instructor for each module.
  - Spending the first few lectures reviewing some basic background information about the sciences.
  - Questions involving clickers.
  - Notes provided on course website.
  - Some content areas which express "goals"

## *Open ended questions*

These were summarized very effectively by Brendan Smithyman. See files *eot-survey-comments.xls* for a spreadsheet summarizing the data, and *eot-survey-comments.pdf*  for Brendan's written summary.

**Important points are:**
- 130 / ~358 (36%) students added comments.
- Tone spread approximately evenly; see graph to the right.
- Most positive remarks were about   content & multiple instructors. (14, 19)
- Most negative remarks were about tests & material & organization. (28, 24,14)
- About instructors: 28 positive, 11 negative comments.
- About text & notes: 1 positive, 19 negative comments.
- About arts/science: 3 positive, 11 negative comments.
- 37 very negative comments about exams, especially midterm1.
- More feedback about learning is needed.

## Summary of midterm survey results, Fall 2007 version of eosc114

A detailed summary of outcomes from the midterm survey of October 2007, with all the numbers, is in the file *EOSC114_MidTermSurveySummary.doc*, prepared by Sara H. or Roland S. There were 490 students enrolled, and 201 students responded to the survey.

Salient points are summarized as follows:

1) "The learning goals for this course are clear to me.": 5.50% - 51.20% - 29.90% - 9.00% - 2.50%.      (From "strongly agree" to "strongly disagree".)

2) "...Was useful for my learning" can be ranked **in descending order** as follows: The range of scores for these 5 items is 3.22 to 3.99, where 1=disagree and 5=agree.

   a) Instructors' lectures are useful for my learning.

   b) The course notes (bookstore or on line) are useful ...

   c) The other (non-clicker) demonstrations and activities in class are useful ...

   d) Clicker questions were generally useful ...

   e) The textbook by Abbott is useful ....

3) Loved it (greater than 10 students, out of 201 respondants.):

   a) Interesting topics        53

   b) Energy, enthusiasm, quality of professors        49

   c) The videos        34

   d) Real world        32

4) Hated it (greater than 10 students):

   a) Exam issues        72

   b) Too much material, pace too fast        21

   c) PRS (the system, technical issues)        19

   d) Don't hate anything        19

   e) Math    12

   f) Textbook        11

5) Should change it (greater than 10 students):

   a) Fewer or no clicker questions        12

   b) Easier/better exams        39

   c) Better exam prep        14

   d) Improve use of textbook        16

   e) Better or different notes (and approach to notes)        14

   f) Less material        14

   g) Organization, classroom and course logistics        13

6) Doing what to help your learning? (greater than 10 students)

   a) Reading (textbook and/or notes)            78

   b) Attending class, paying attention          58

   c) Studying            53

   d) Taking notes/rewriting notes     23

   e) Drawing connections, watching news, staying engaged, seeking outside information, teaching myself      16

   f) Study group, discuss w/others   13

   g) Nothing, not much, not enough 12

## Some conclusions:

- Text is not liked, notes are liked, and "content" generally considered too much (which could equate to lack of clarity - see goals, next point).

- Learning goals are clear to only 56%, although exactly what "clear to me" means is debatable.

- Exam issues are significantly negative.

- Clickers are NOT hated, but are recognized as "useful" by only 60%.

- Liked: topics, instructor enthusiasm, & videos.

- BUT, since lectures are the primary pedagogy, "liked lectures" or "found them useful" is not particularly useful information.