IEEE Course Feedback 11/12/2014

Summary of points of clear interest to many students, details below:

- Summer electives – students want more, and want to make sure that their two summers don't have the same electives (scheduling intelligently considering coop).
- Linear Systems: Problems perceived (in approximately this order) are poor teaching, few examples/problems in class, too much material, too much focus on obscure mathematical "tricks." Want to see better teaching and help in problem solving. Recitations/tutors would be very welcome.
- Would like on-line or other material for review of concepts from previous (core) courses when taking subsequent courses. Enthusiastic about the prospect of on-line mini-lectures and problems.
- Want a space for non-class projects. Personal projects, student group projects. Want ECE lab, but also to be able to "drill a hole" and more. Across College.
- Would like to see more use of Piazza or something like it for class discussion. Blackboard has a poor interface that limits use.
- Freshman communication – see immediately below.

Freshman events, how to improve / decide?

- Thoroughly explain differences between CS, CE and EE
- Distinction to other deparments? Enough explained already. But differences within ECE not as clear.
- Describe the skill set / difference of student when leaving CE or EE or CE/CS.

What do you want summer electives

- Want more!!!
- Cycle electives between summer I, and summer II across years to have equal opportunity across AA, BB groups .
- Enjoy courses in Prof's specific research interests – special topics.
- More general: we need an operating systems course:
- We do have joint appointments across CE and CS, but we don't see much benefit of CS faculty teaching in ECE for increasing the spectrum

Challenging course "Linear systems"

- Students chuckle in immediate agreement to discuss
    - Seems to be an issue
- Instructor
    - w/ Dana Brooks: was not too difficult to get, even easy, did a great job teaching it. Different instructors have very different approaches. One problem is who is teaching it.
    - First time teachers have the problems with jumping around, organization
    - Instructors need to spend time to organize it beforehand. Otherwise structure is difficult to see and students confused

    - Should be enthusiastic. Students know research is important, but want attention to teaching. Have difficulty with certain instructors.
    - Currently very difficult: a huge amount is due to teaching style
        - Not pause and solicit feedback
        - Not comfortable asking questions
    - Not enough examples – sometimes all derivations and racing through the material. This makes doing the homework very difficult.
    - 100% busy in writing notes – hard to pay attention to lecture.
    - Homework sometimes not returned promptly – toward the end of the semester.
- Recitation
    - Add recitation: in my class lectures were theroretical and proof based (not problem solving). Not enough guidance in solving problems. Otherwise too much time on HW.
    - Peer tutor? Yes would be good.
    - Regular recitation section desired
    - Good example: Electronics 1 recitation section voluntary, but very very helpful and packed with students
- Unnecessarily hard
    - Focus on math tricks takes away from bigger picture
- Coverage of material in prerequisite courses
    - Diff Eq/Laplace Transform coverage (review) felt too long/slow. Speed for new material was too high – would be better to balance.
    - Review sheet for self study on material from prerequisite courses is useful
    - Would it be useful to have the review material online with tutorial (as refresher)?
        - **Fantastic! Make available before class**
        - Good to have some video and problem and solutions.
- Would like to have video recording of class, helps review and
    - Transfer in, had in previous institution. It was very useful.
    - Book with video links (one Math class)
        - **Video helped understanding the material much better**
- TRACE usefulness?
    - Unanimously gave bad TRACE reviews, yet still Prof is still teaching – doe it make any difference?
    - What is the review procedure?
- Different sections with significantly different challenge level

Noise and Stochastic Processes

- “had it in summer” with grad student, very hard, not really explained.

How is the probability course from math (Math3081)?

- Love the course (3 students, none dissenting)
- Applications to ECE? Not typically. I don’t recall. Typically is classical examples.
- Useful input as prep for “noise & stochastic processes” and “communication systems” (although most students won’t have both).
- There should be an intro to Electromagnetics

    - Combination Physics 2 in application to Electronics.
    - Problem: take it too far away from phys 2 and calc3
        - Loss of connection, review section
        - New curriculum solves it, now as fundamentals
    - Significant disconnect between lecture and lab
        - Lab only procedure but no concept
        - Out of order with lecture; antennas lab before lecture
        - Just punching buttons, following instructions

Sophomore Courses

- We are analyzing, but don't do design problems. (Circuits? Circuits and Signals?)
- Programming experience in GE1111 not enough for Embedded Design
    - Not bogged down with new materials but with C intricacies.
    - Not told which libraries to use?
    - C++ -> C is a detour
- Students who are in both courses: too much time in 009 Hayden!
    - Too long double lectures: can't focus for the double length time slot in lecture. (140 minute time slot!!!) (Circuits and Signals)
- Lab and lecture not well connected: lecture more abstract
    - GE1111 does not train for bread boarding.
    - Don't know how to debug (wiggle hand hope). Would like some discussion.
    - Suggest spending 30 minutes on Thevenin and Norton and then do it.
- Connect theory and practice (lecture + lab interspersed would be better)
    - Mental pause to digest the material
- CS course also
    - Embedded Design
        - Much material is only brushed upon, but would be very difficult if I did not have prior programming experience

Computer architecture

- ARM instead of MIPS
- Undergrad only on single cycle machines, would love to have some part of pipelining in there as well

Networking and Telecommuinication Systems

- Only on paper, but not in real network
- Need some real examples with internet or other; examples to "feel it"

General Comments

Review material for classes on-line would be great:

- Would like videos and problems, ideally, + material

- VERY Enthusiastic about this

Discussion of homework, class

- Piazza is MUCH better than Blackboard at promoting classroom discussion.
    - Piazza easier
        - Anonymous posting
        - Resolved / unresolved flag
        - Modern user interface
    - Professor should endorse it
    - Can make discussion as part of the participation grade portion (5% is OK)
        - OK to get grade as long as pretty liberal

5 Years masters with combined major.

- For someone with lots of incoming credits

Textbooks across multiple courses?

- Embedded design great example of useful textbook

Students come in with more credits.

- Have challenges with concurrent courses, want to take all 3 fundamentals
    - Discrete structures in CS, all CE fundamentals
- Take into account advance credits

Tech Elective Availability

Grad/Ugrad Elective

- 5xxx Only appropriate for senior
- Need more lower level electives
- Suggestion, make entrance survey to gauge interest ahead of time: offer most asked for course

Pride for Northeastern being a “hands on school” yet not a place to work on optional/personal projects.

- Maker space
- Drill a hole:
- WE NEED COMMON SPACE!!!!!!
- Significant need and interest.
- Soldering and other hands on as part of curriculum.
- Love IEEE efforts, soldering, Arduino, want much more