

# EECS Faculty Retreat ECE Assessment Report

August 22, 2014

# Components of Assessment

- Student Coursework Samples
- Senior Exit Survey
- Professional Skills Discussion
- Junior Writing Portfolio
- Teaching Excellence Committee Report
- Executive Council Discussion
- Faculty Retreat Discussion

# Course Assessment Cycle

- Two-year cycle
  - Odd years (e.g., 2013-14 AY), assess ABET outcomes A, B, C, E, H, K
    - EE 214 (ABCEK)
    - EE 321 (ABEK)
    - EE 416 (ACHK)
  - Even years (e.g., 2014-15 AY), assess ABET outcomes D, F, G, I, J
    - EE 234 (G)
    - EE 415 (DFGIJ)
    - EE 416 (DFGIJ)

# Course Assessment

- Assessment Committee: Nominally EE and CptE curriculum committee chairs, course instructor. Volunteers welcome!
- Instructor collects student samples corresponding to few course deliverables (e.g., Final exam, Quiz, Lab report) suitable for assessment of targeted outcome(s).
  - Eight student samples for each deliverable.
- Meet week after finals weeks; day or two after grade submission.

# Coursework assessment: Observations

- EE 416: Teams seem to implement designs that largely met the stated goals. Teams appeared to have done solid engineering work; final reports do not necessarily document that work as fully as might be hoped.
- Better coordination between EE 321 and EE 352 would be helpful.
- Average (all courses) assessment scores

Unsatisfactory = 1, Needs Improvement = 2, Capable = 3, Exemplary = 4

	Outcome					
	A	B	C	E	H	K
Score	3.28	3.45	3.04	3.35	3.13	3.34

# EE214

- Students present labs/projects; TA asks questions based on the design. Feedback is done in an verbal form.
- Large number of students
  - 97 Fall '13 and 63 Spring '14
- Projects/labs are important components in our assessment.
  - “Real time” assessment of the course.

# EE 415/416

- 4 out of 8 teams were chosen
- All teams implemented designs that largely met the stated goals.
- All the teams appeared to have done solid engineering work.
- There was no concern in terms of the technical abilities of the students

# Coursework assessment: Discussion

- Scribe to take notes.

# Suggestion from Prof. Tom Fischer

- Beginning of each semester, provide each student ABET criteria A through K (relevant to a course) and the respective performance indicators.
- Each student must then verify their individual successful accomplishment of each listed indicator, with the date of accomplishment submitted as part of the course record. This could be done on-line.
- Accomplishment must be verified by the TA or Instructor. Accomplishment could include such things as acceptable score on a test problem or project.
- The goal would be to better connect the criteria and performance indicators with student work and accomplishment.

# 2014-15 AY: Courses Targeted

- EE 234 (G)
- EE 415-416 (DFGIJ)

# Implementation of Tom's suggestion??

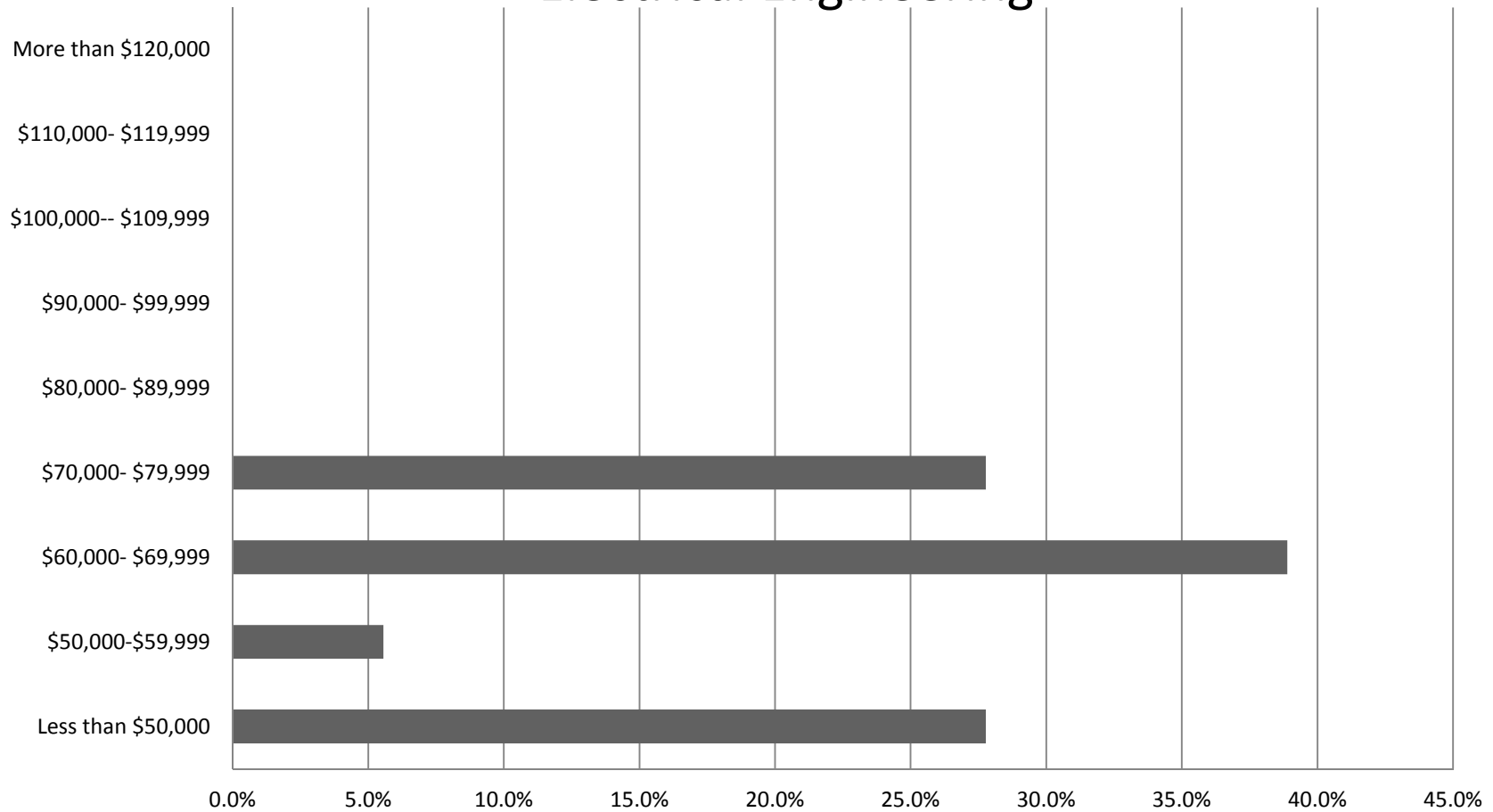
- Scribe to take notes.

# Senior Exit Survey: Jobs, grad. school

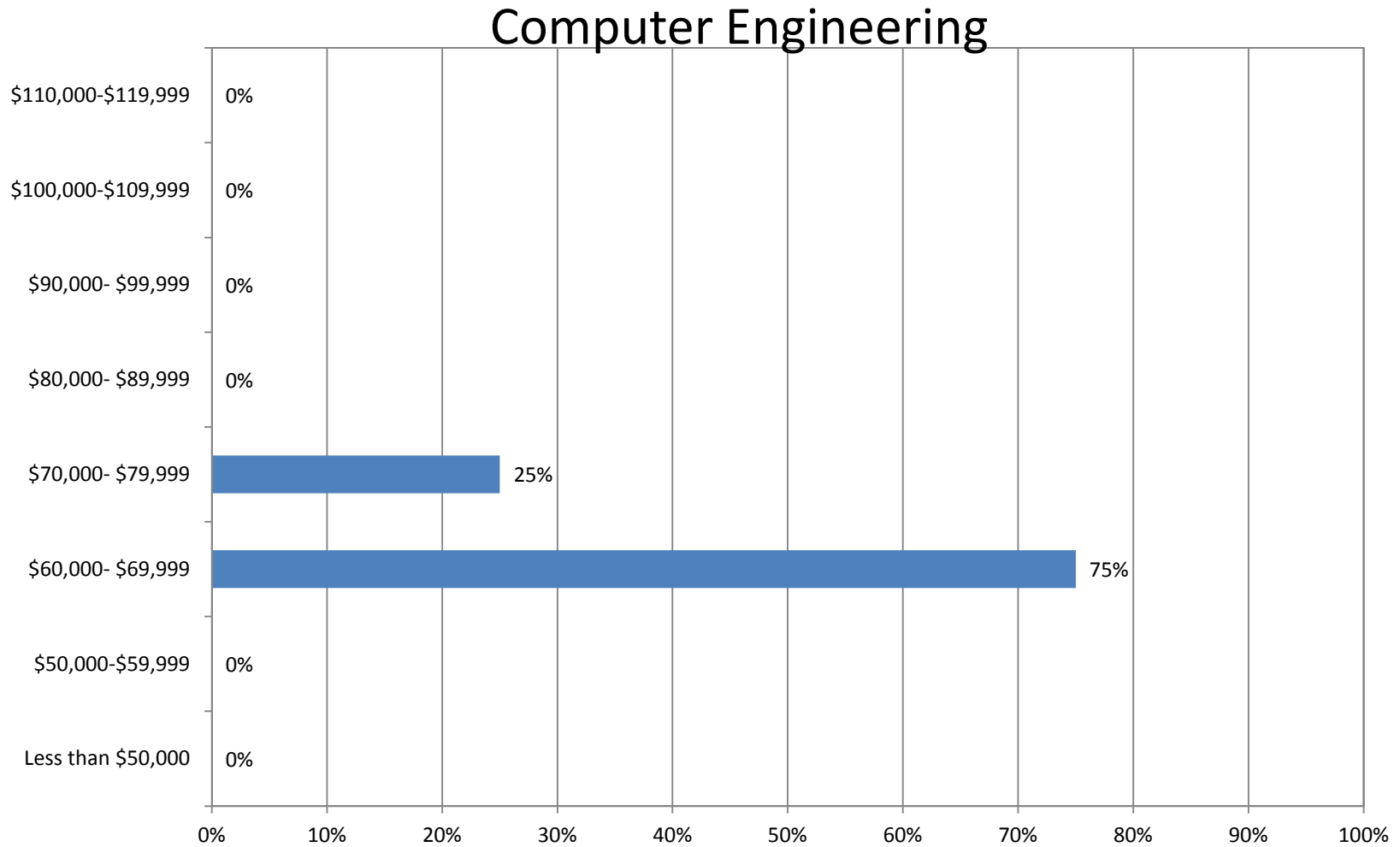
- 85% of graduating seniors had sought employment. Of those, 80% had participated in at least one interview, 35% had received at least one job offer, and 27% had actually accepted an offer.
- Seven respondents out of 65 (11%) applied to graduate school. Three of them were accepted.
- 94% of graduating seniors had sought employment. Of those, 82% had participated in at least one interview, 47% had received at least one job offer, and 41% had actually accepted an offer.
- One respondent out of 18 (5.5%) applied to graduate school. Three of them were accepted.

# Salary range reported (18 students)

## Electrical Engineering



# Salary range reported (8 students)



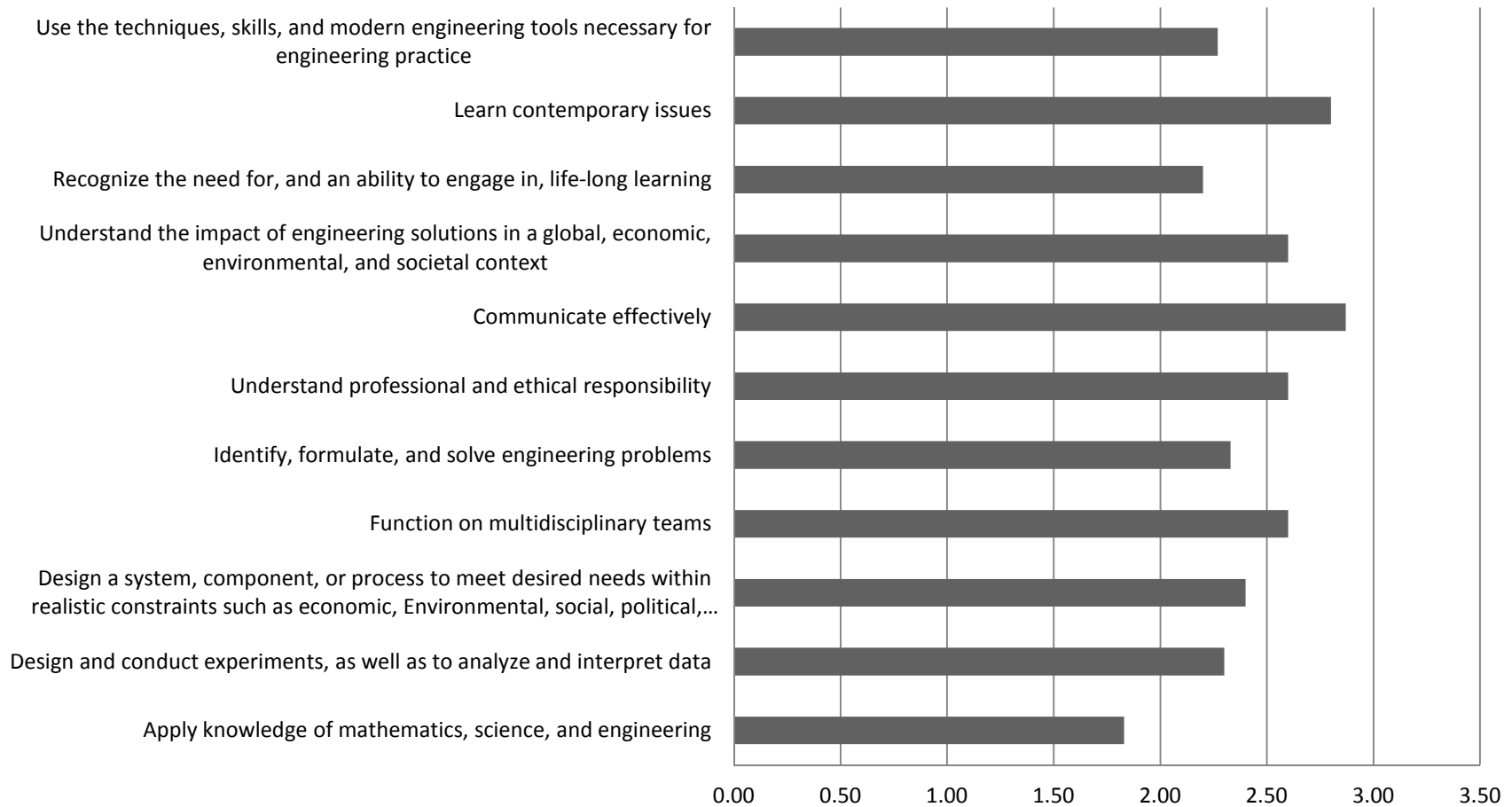
# Senior Exit Survey: Jobs, grad. school

- Nominal goal: 80 percent of our graduating seniors either obtain a job in the field, or are accepted into graduate school.
- Is this goal realistic? Job offers last year were far less than this goal.
- Suggested goals
  - Expect 80% of students seeking jobs having had at least one interview.
  - Expect 80% of our top graduates (A-level students) to have been offered a job at the time of graduation.

# Senior Exit Survey: Jobs, grad. School Discussion

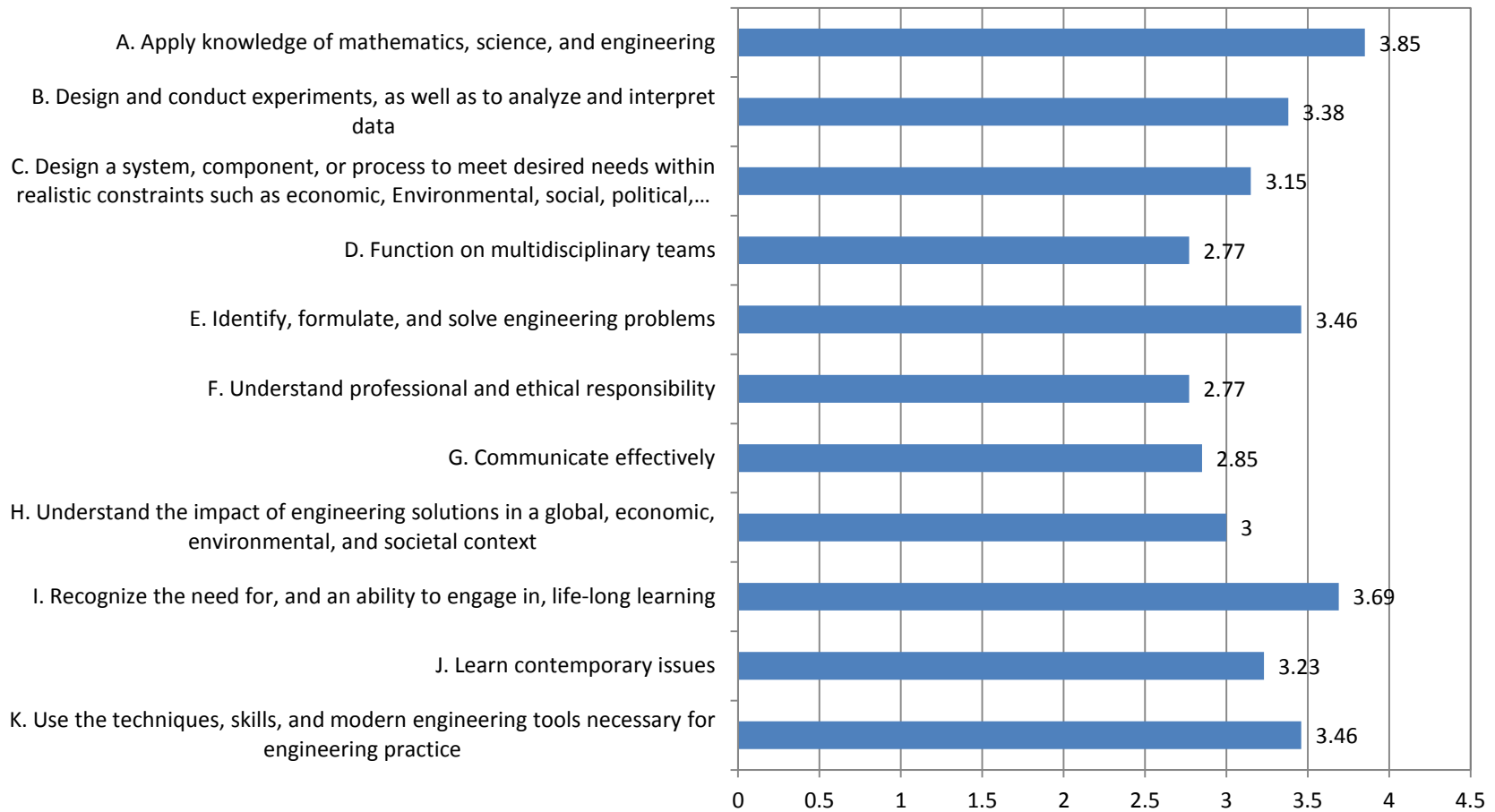
- Scribe to take notes

# Senior Exit Survey: Student Perceptions of Achievement of ABET Outcomes Electrical Engineering



Based on 5-point scale, with 1 being “Excellent” and 5 being “Poor”

# Senior Exit Survey: Student Perceptions of Achievement of ABET Outcomes Computer Engineering



Based on 5-point scale, with 5 being “Excellent” and 1 being “Poor”

# Senior Exit Survey: Student Perceptions of Achievement of ABET Outcomes

- Nominal Goal: Average response of 4 or higher in a 5-point scale. In the inverted scale of survey monkey, where 1=Excellent and 5=Poor, this corresponds to a target of 2 or lower.
- Student perception is lower than targeted.
  - Perhaps this is due misalignment of scale.
  - Consider adjusting the wording of scale items in survey to align more closely with our expectations:
    - 1 =“exemplary,” 2 =“capable,” 3 =“needs improvement,” and 4 =“unsatisfactory.”
  - Nominal goal of “capable” or better.

# Senior Exit Survey: Student Perceptions of Achievement of ABET Outcomes Discussion

- Scribe to take notes.

# Senior Exit Survey: Some Comments

- Better facilities: lab equipment, computer lab, chairs, furniture, IEEE lounge etc.
- Classes have adopted a myriad of social media-like interfaces: Angel, Zussis, office 265, Zimbra, EECS dept, Facebook, Socialcast, OSBLE, independent websites. Choose one, nine is ridiculous.
- Mix of comments about good and bad professors.
- Some concerns about advising.
- Need to better advertize Fall/Spring only offering of electives.
- More tech electives (CptE only)

# Senior Exit Survey: Additional Discussion

- Scribe to take notes.

# Professional skills

- Professional skills assessment is done in even years.
- Next assessment is in 2014-15 AY

# Junior Writing Portfolio

- Period: 2005 to 2013

Program	Pass	Pass with distinction	Needs work	Total
BSEE	504 (79.6%)	30 (4.7%)	99 (15.6%)	633 (100%)
BSCptE	92 (80.7%)	5(4.4%)	17 (14.9%)	114 (100%)

- Pass (including with distinction) percentage:
  - EE 84.3%, CptE 85.1% (better than 80% target).
- Do we needs a target for “pass with distinction”?

# Junior Writing Portfolio Discussion

- Scribe to take notes.

# Teaching Excellence Report

- The last report for the calendar year 2013
- An observation related to BSEE & BSCptE programs
  - “In EE 416 there were concerns about its structure. A few students mentioned it has soured their experiences/image with/of the EECS program.”

# Teaching Excellence Report Discussion

- Scribe to take notes.

# Executive Council Discussions

- EECS Executive Council met on April 24, 2014
- Revised ABET assessment process was presented.
- One feedback from the Council was to focus on teaching students the soft skills; e.g., how to work as a team and resolve issues within the team.
- EE 415/416 address this currently. Integrate explicit training on soft skills in CptS/EE 302.

# Executive Council Discussions

## Faculty discussion

- Scribe to take notes.

# Additional discussion

- Scribe to take notes.