2009 EBI Senior Exit Survey

Slight change in Select 6

UT-Austin, Northwestern, U of Southern California, Carnegie Mellon U, UC-San Diego, -*Auburn*, +MIT

Ongoing Items: ABET a-k grid

Physics – low (4.0) vs. Chemistry (up to 5.72)
– CoE ongoing issue

Advising - chart

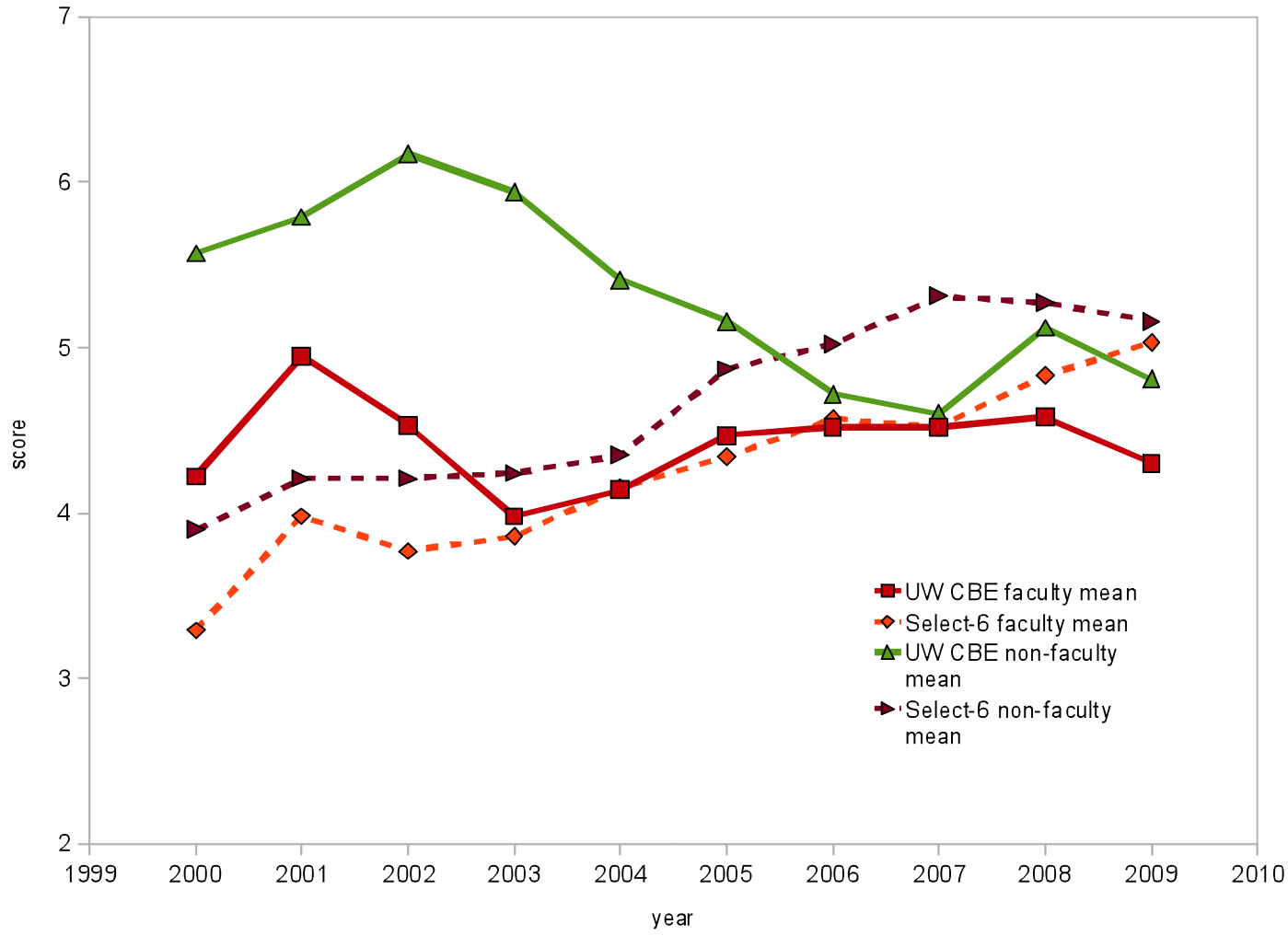
Teamwork – chart

Watch from last year: concern with quality of education, faculty access (lab interaction) + up now

New Items: Societal impact up (to 5.19)

ABET Outcome		EBI Survey Question *To what degree did your engineering education enhance your ability to:*	99-00	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08	2008-09	99 - '08 average	change from average
A) an ability to apply knowledge of mathematics, science, and engineering	45	apply your knowledge of mathematics	N/A	N/A	6.40	6.00	6.22	6.21	6.28	6.17	6.37	6.00	6.24	-0.24
	46	apply your knowledge of science	N/A	N/A	6.03	5.77	6.22	6.10	6.20	6.08	6.34	6.04	6.11	-0.07
	47	apply your knowledge of engineering	N/A	N/A	5.97	5.48	6.14	6.03	6.03	6.15	6.18	6.21	6.00	0.21
B) an ability to design and conduct experiments, as well as to analyze and interpret data	48	design experiments	5.23	5.34	5.23	4.80	5.49	5.59	5.52	5.47	5.55	5.29	5.36	-0.07
	49	conduct experiments	5.76	5.82	5.87	5.30	5.98	6.06	6.06	5.80	5.89	5.92	5.84	0.08
	50	analyze and interpret data	6.07	6.41	6.27	6.11	6.35	6.29	6.23	6.26	6.05	6.19	6.23	-0.04
C) an ability to design a system, component, or process to meet desired needs	51	design a system, component, or process to meet desired needs	5.51	5.39	5.40	5.18	5.60	5.76	5.52	5.71	5.97	5.65	5.57	0.08
D) an ability to function on multi-disciplinary teams	38	satisfaction with characteristics of your fellow students ability to work in teams	5.79	5.75	5.73	5.80	5.71	5.62	5.57	5.73	5.55	5.31	5.66	-0.35
	52	Function in multidisciplinary teams	5.31	5.14	5.17	5.05	5.55	5.42	5.54	5.70	5.18	5.48	5.35	0.13
E) an ability to identify, formulate, and solve engineering problems	55	solve engineering problems	6.02	6.36	6.33	5.86	6.20	6.25	6.06	6.06	6.13	6.27	6.15	0.12
	53	Identify engineering problems	N/A	N/A	5.77	5.55	6.00	6.04	6.05	5.73	5.84	5.69	5.83	-0.14
	54	formulate engineering problems	N/A	N/A	5.47	5.25	5.86	5.74	5.82	5.52	5.70	5.56	5.62	-0.06
F) an understanding of professional and ethical responsibility	56	understand ethical responsibility	4.3	4.55	4.47	3.89	4.76	4.43	4.98	5.05	5.21	4.77	4.64	0.13
G) an ability to communicate effectively	58	communicate using oral progress reports	5.02	5.02	5.03	4.44	5.30	4.99	5.34	4.97	5.19	4.98	5.03	-0.05
	59	communicate using written progress reports	5.67	5.95	5.9	5.23	5.76	5.97	5.89	5.83	5.81	5.98	5.78	0.20
	68	use text materials to support project design	5.45	5.45	5.5	5.09	5.45	5.54	5.70	5.33	5.44	5.62	5.46	0.16
H) the broad education necessary to understand the impact of engineering solutions in a global and societal context	69	understand the impact of engineering solutions in a global/societal context	4.22	4.64	3.87	3.93	4.88	4.61	4.80	4.89	4.97	5.19	4.53	0.66
I) a recognition of the need for, and an ability to engage in life-long learning	60	recognize need to engage in life long learning	5.20	5.81	5.27	5.09	5.73	5.66	5.78	5.70	5.73	5.67	5.55	0.12
J) a knowledge of contemporary issues	61	understand contemporary issues	N/A	N/A	4.67	4.39	5.12	4.75	5.23	5.35	5.35	5.23	4.98	0.25
K) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.	62	use modern engineering tools	5.32	5.39	5.37	4.35	5.39	5.54	5.48	5.44	6.00	5.74	5.36	0.38
												6.27	max	0.66
												4.77	min	-0.35

Advising


7
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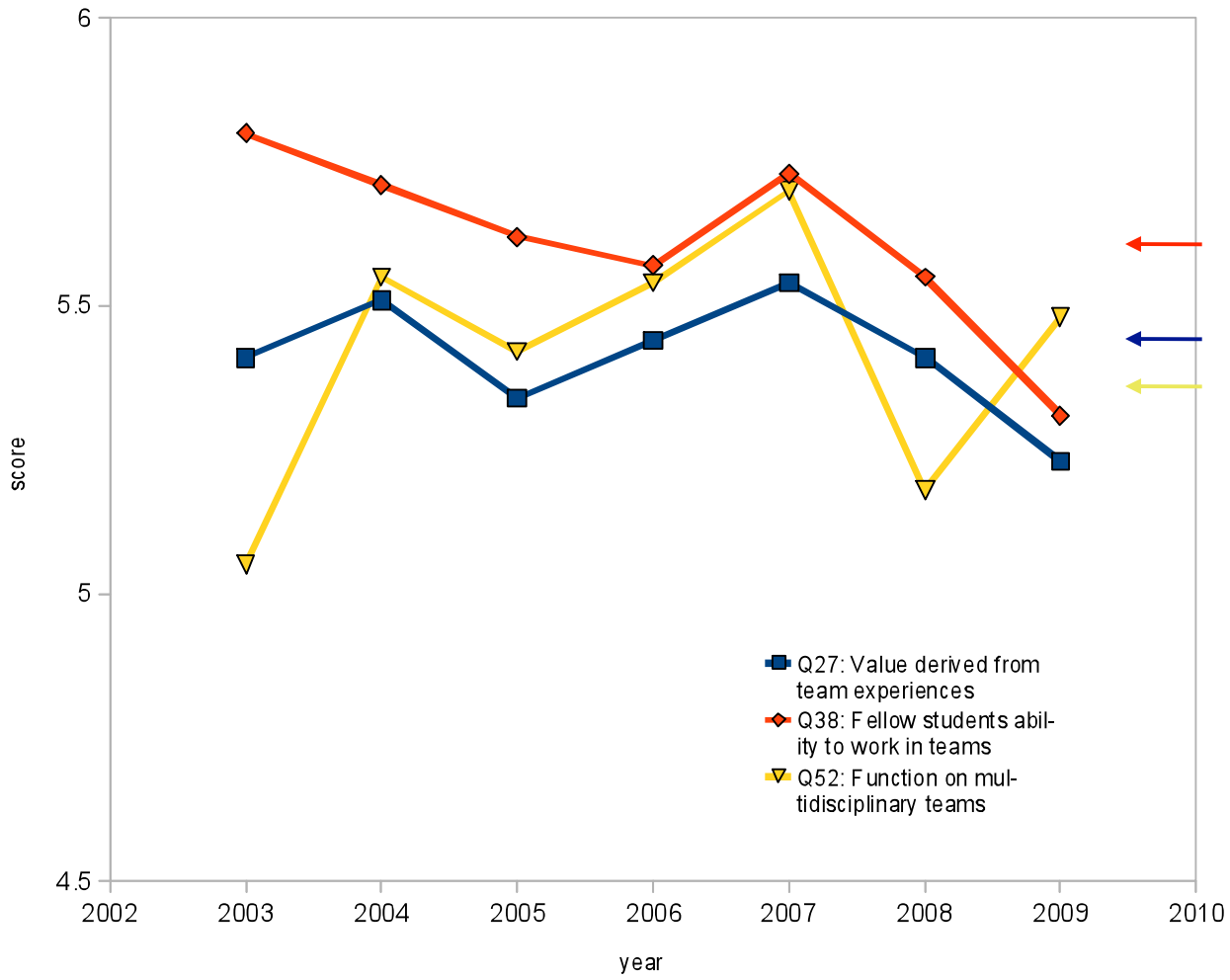
year
UW CBE faculty mean
Select-6 faculty mean
UW CBE non-faculty mean
Select-6 non-faculty mean

Teamwork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Q27: Value derived from team experiences
Q38: Fellow students ability to work in teams
Q52: Function on multidisciplinary teams

University of Wisconsin-Madison

Highest and Lowest Mean Questions for Engineering Major: Chemical/Molecular

This set of questions are the highest mean questions for University of Wisconsin-Madison	# Responses	Mean	Std Dev
Q55. Program Outcomes and Assessment - Skill Development - Degree that engineering education enhanced ability to: Solve engineering problems	48	6.27	0.81
Q47. Program Outcomes and Assessment - Skill Development - Degree that engineering education enhanced ability to: Apply knowledge of engineering	48	6.21	1.08
Q50. Program Outcomes and Assessment - Skill Development - Degree that engineering education enhanced ability to: Analyze and interpret data	48	6.19	0.88
Q31. Satisfaction with: Availability of courses in major	48	6.04	1.29
Q46. Program Outcomes and Assessment - Skill Development - Degree that engineering education enhanced ability to: Apply knowledge of science	48	6.04	0.89
Q45. Program Outcomes and Assessment - Skill Development - Degree that engineering education enhanced ability to: Apply knowledge of mathematics	48	6.00	1.04
Q36. Advising/Computing - Advising/Computing - Satisfaction with: Quality of computing resources	48	6.00	0.87
Q59. Program Outcomes and Assessment - Skill Development - Degree that engineering education enhanced ability to: Communicate using written progress reports	47	5.98	0.89
Q30. Satisfaction with: Average size of major courses	48	5.94	1.09
Q49. Program Outcomes and Assessment - Skill Development - Degree that engineering education enhanced ability to: Conduct experiments	48	5.92	0.91
Q64. Program Outcomes and Assessment - Skill Development - Degree that engineering education enhanced ability to: Built on knowledge from previous course work	48	5.90	0.98
Q37. Classmates - Satisfaction with characteristics of your fellow students': Academic quality	48	5.88	0.93
Q65. Program Outcomes and Assessment - Skill Development - Degree that engineering education enhanced ability to: Built on skills from previous course work	48	5.83	1.07
Q86. How inclined are you to recommend your: How inclined are you to recommend your Undergraduate Engineering School to a close friend	48	5.79	1.26
Q62. Program Outcomes and Assessment - Skill Development - Degree that engineering education enhanced ability to: Use modern engineering tools specific to your	46	5.74	1.24

This set of questions are the lowest mean questions for University of Wisconsin-Madison	# Responses	Mean	Std Dev
Q75. System Design - To what degree did your system design experience address the following: Addressed Political issues	48	3.35	1.59
Q74. System Design - To what degree did your system design experience address the following: Addressed Social issues	48	3.75	1.59
Q14. Instruction and Faculty in your Engineering Major	48	3.85	1.14
Q26. Satisfaction with: Opportunities for interaction with practitioners	37	3.92	1.53
Q76. System Design - To what degree did your system design experience address the following: Addressed Ethical issues	48	3.96	1.65
Q18. Satisfaction with quality of teaching in required course work: (if course not taken on this campus, select "not applicable") Physics	45	4.00	1.70
Q23. Satisfaction with: Amount of work required of in major courses	48	4.04	1.58
Q42. Career Services - Career Services - Satisfaction with: Access to school's alumni to cultivate career opportunities	38	4.24	1.56
Q34. Advising/Computing - Advising/Computing - Satisfaction with: Academic advising by faculty	47	4.30	1.92
Q15. Instruction and Faculty in your Engineering Major	47	4.34	1.29
Q17. Satisfaction with quality of teaching in required course work: (if course not taken on this campus, select "not applicable") Differential Equations	47	4.38	1.74
Q67. Program Outcomes and Assessment - Skill Development - Degree that engineering education enhanced ability to: Pilot test a component prior to implementation	44	4.43	1.36
Q73. System Design - To what degree did your system design experience address the following: Addressed Environmental issues	48	4.58	1.53
Q25. Satisfaction with: Opportunities for practical experiences within Undergraduate curriculum	48	4.71	1.61
Q24. Satisfaction with: Engineering curriculum instructors presentation of technology issues	48	4.73	1.35

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University of Wisconsin-Madison

Question Competitive Analysis: Longitudinal Comparison for Engineering Major: Chemical/Molecular

Greatest Positive Difference Between This Year's Question Means and Last Year's Question Means	2009	2008	Difference
Q81. Laboratory Facilities</b - Laboratory Facilities - Degree that laboratory facilities: Fostered student/faculty interaction	5.50	5.00	0.50
Q84. Comparing the expense to the quality of education, rate the value of the investment made in Undergraduate Engineering program	5.56	5.08	0.48
Q86. How inclined are you to recommend your: How inclined are you to recommend your Undergraduate Engineering School to a close friend	5.79	5.34	0.45
Q80. Laboratory Facilities</b - Laboratory Facilities - Degree that laboratory facilities: Established an atmosphere conducive to learning	5.56	5.18	0.38
Q85. How inclined are you to recommend your: How inclined are you to recommend your Undergraduate Engineering Major to a close friend	5.21	4.89	0.32
Q33. Satisfaction with: Amount of work in relationship to what was learned	4.73	4.42	0.31
Q31. Satisfaction with: Availability of courses in major	6.04	5.74	0.30
Q52. Program Outcomes and Assessment - Skill Development - Degree that engineering education enhanced ability to: Function on multidisciplinary teams	5.48	5.18	0.30
Q39. Classmates - Satisfaction with characteristics of your fellow students': Level of camaraderie	5.73	5.46	0.27
Q83. The Bottom Line - Overall Satisfaction - Extent that the Undergraduate Engineering program experience fulfill expectations	5.25	5.00	0.25
Q67. Program Outcomes and Assessment - Skill Development - Degree that engineering education enhanced ability to: Pilot test a component prior to implementation	4.43	4.19	0.24
Q22. Satisfaction with: Responsiveness to major course instructors to student concerns	5.20	4.97	0.23
Q23. Satisfaction with: Amount of work required of in major courses	4.04	3.82	0.22
Q69. To what degree did your engineering education enhance your ability to understand the impact of engineering solutions in: A global/societal context	5.19	4.97	0.22
Q19. Satisfaction with quality of teaching in required course work: (if course not taken on this campus, select "not applicable") Chemistry	5.72	5.50	0.22

Greatest Negative Difference Between This Year's Question Means and Last Year's Question Means	2009	2008	Difference
Q73. System Design - To what degree did your system design experience address the following: Addressed Environmental issues	4.58	5.53	-0.95
Q76. System Design - To what degree did your system design experience address the following: Addressed Ethical issues	3.96	4.71	-0.75
Q77. System Design - To what degree did your system design experience address the following: Addressed Health and Safety issues	4.83	5.39	-0.56
Q74. System Design - To what degree did your system design experience address the following: Addressed Social issues	3.75	4.27	-0.52
Q24. Satisfaction with: Engineering curriculum instructors presentation of technology issues	4.73	5.21	-0.48
Q72. System Design - To what degree did your system design experience address the following: Addressed Economic issues	5.42	5.89	-0.47
Q56. Program Outcomes and Assessment - Skill Development - Degree that engineering education enhanced ability to: Understand ethical responsibilities	4.77	5.21	-0.44
Q45. Program Outcomes and Assessment - Skill Development - Degree that engineering education enhanced ability to: Apply knowledge of mathematics	6.00	6.37	-0.37
Q40. Career Services - Career Services - Satisfaction with: Assistance in preparation for permanent job search	5.42	5.78	-0.36
Q51. Program Outcomes and Assessment - Skill Development - Degree that engineering education enhanced ability to: Design a system, component, or process to meet desired needs	5.65	5.97	-0.32
Q32. Satisfaction with: Quality of Engineering classrooms	4.94	5.26	-0.32
Q35. Advising/Computing - Advising/Computing - Satisfaction with: Academic advising by non-faculty	4.81	5.12	-0.31
Q46. Program Outcomes and Assessment - Skill Development - Degree that engineering education enhanced ability to: Apply knowledge of science	6.04	6.34	-0.30
Q75. System Design - To what degree did your system design experience address the following: Addressed Political issues	3.35	3.65	-0.30
Q79. System Design - To what degree did your system design experience address the following: Addressed Sustainability issues	5.15	5.45	-0.30

NOTE: If a section is blank, this means that there were no questions that met those conditions.

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University of Wisconsin-Madison

Question Competitive Analysis: Select 6 Comparison for Engineering Major: Chemical/Molecular

Greatest Positive Differences Between Your Data and Your Select 6	UW-Madison	Select 6	Difference
Q84. Comparing the expense to the quality of education, rate the value of the investment made in Undergraduate Engineering program	5.56	4.80	0.76
Q31. Satisfaction with: Availability of courses in major	6.04	5.37	0.67
Q82. Course Comparison - Quality of teaching in your Engineering courses compare to the quality of teaching in Non-Engineering courses on this campus	5.42	4.87	0.55
Q83. The Bottom Line - Overall Satisfaction - Extent that the Undergraduate Engineering program experience fulfill expectations	5.25	4.74	0.51
Q36. Advising/Computing - Advising/Computing - Satisfaction with: Quality of computing resources	6.00	5.51	0.49
Q81. Laboratory Facilities</b - Laboratory Facilities - Degree that laboratory facilities: Fostered student/faculty interaction	5.50	5.03	0.47
Q55. Program Outcomes and Assessment - Skill Development - Degree that engineering education enhanced ability to: Solve engineering problems	6.27	5.85	0.42
Q80. Laboratory Facilities</b - Laboratory Facilities - Degree that laboratory facilities: Established an atmosphere conducive to learning	5.56	5.15	0.41
Q85. How inclined are you to recommend your: How inclined are you to recommend your Undergraduate Engineering Major to a close friend	5.21	4.88	0.33
Q62. Program Outcomes and Assessment - Skill Development - Degree that engineering education enhanced ability to: Use modern engineering tools specific to your primary academic major	5.74	5.43	0.31
Q40. Career Services - Career Services - Satisfaction with: Assistance in preparation for permanent job search	5.42	5.12	0.30
Q13. Instruction and Faculty in your Engineering Major Quality of: Teaching	5.17	4.88	0.29
Q49. Program Outcomes and Assessment - Skill Development - Degree that engineering education enhanced ability to: Conduct experiments	5.92	5.63	0.29
Q86. How inclined are you to recommend your: How inclined are you to recommend your Undergraduate Engineering School to a close friend	5.79	5.51	0.28
Q43. Career Services - Career Services - Satisfaction with: Number of companies recruiting on campus	5.57	5.31	0.26

Greatest Negative Differences Between Your Data and Your Select 6	UW-Madison	Select 6	Difference
Q76. System Design - To what degree did your system design experience address the following: Addressed Ethical issues	3.96	4.94	-0.98
Q34. Advising/Computing - Advising/Computing - Satisfaction with: Academic advising by faculty	4.30	5.03	-0.73
Q56. Program Outcomes and Assessment - Skill Development - Degree that engineering education enhanced ability to: Understand ethical responsibilities	4.77	5.44	-0.67
Q74. System Design - To what degree did your system design experience address the following: Addressed Social issues	3.75	4.41	-0.66
Q73. System Design - To what degree did your system design experience address the following: Addressed Environmental issues	4.58	5.22	-0.64
Q75. System Design - To what degree did your system design experience address the following: Addressed Political issues	3.35	3.97	-0.62
Q17. Satisfaction with quality of teaching in required course work: (if course not taken on this campus, select "not applicable") Differential Equations	4.38	5.00	-0.62
Q23. Satisfaction with: Amount of work required of in major courses	4.04	4.61	-0.57
Q77. System Design - To what degree did your system design experience address the following: Addressed Health and Safety issues	4.83	5.37	-0.54
Q16. Satisfaction with quality of teaching in required course work: (if course not taken on this campus, select "not applicable") Calculus	4.86	5.38	-0.52
Q14. Instruction and Faculty in your Engineering Major Quality of: Feedback on assignments (other than grades)	3.85	4.26	-0.41
Q26. Satisfaction with: Opportunities for interaction with practitioners	3.92	4.33	-0.41
Q58. Program Outcomes and Assessment - Skill Development - Degree that engineering education enhanced ability to: Communicate using oral progress reports	4.98	5.39	-0.41
Q18. Satisfaction with quality of teaching in required course work: (if course not taken on this campus, select "not applicable") Physics	4.00	4.38	-0.38
Q15. Instruction and Faculty in your Engineering Major Quality of: Student/faculty interaction	4.34	4.69	-0.35

Watched Scores

- 50 - analyze and interpret data : back to average
- 38 - satisfaction with fellow students on teams -.5 2nd time

- Lowest absolute
- Decreasing longitudinal comparisons
- Comparisons with Select-6 peer group

- Action needs
  - Advising
  - Teamwork
  - Communications