

Report on Senior Surveys for Academic Year 2019-2020

Survey of Undergraduate Degree Applications for
Aug 2019, Dec 2019 & May 2020 Graduation Dates

Results for Electrical Engineering (EE)

Produced by
The Office of Student Affairs
University of Michigan, College of Engineering
Tuesday, July 14, 2020

Purpose and Approach

Each year, the College of Engineering (CoE) conducts a Senior Survey of degree applicants in our undergraduate programs. The Office of Student Affairs distributes, collects, and processes the surveys on behalf of the undergraduate programs. The survey's purpose is to provide departments with assessment data from recent graduates. When combined with other types of assessment data, results from the annual senior survey can help departments identify strengths in their undergraduate programs and opportunities for improvement.

Methods

Identifying Recipients

Queries into U-M's online system for submission of degree applications identified CoE and Computer Science in Literature, Sciences, and Arts degree applications. Each semester, a query identified the degree applicants for the current term, which became the list of survey recipients for the semester. Each degree applicant's official U-M email address was compiled into the address list.

Distribution and Collection

The Office of Student Affairs sent email invitations to every CoE degree applicant about four to six weeks before the end of the semester. An email reminder was sent once, a week before closing the survey. As an incentive to complete the survey, respondents who completed the survey were entered in a drawing to win several \$500 gift cards to U-M Computer Showcase. Response rates by survey year are in the graph on the next page.

Analysis

Analysis has been completed only for fixed-response items. Fixed-response items are questions on which respondents were forced to choose from fixed, existing alternatives similar to a multiple-choice test.

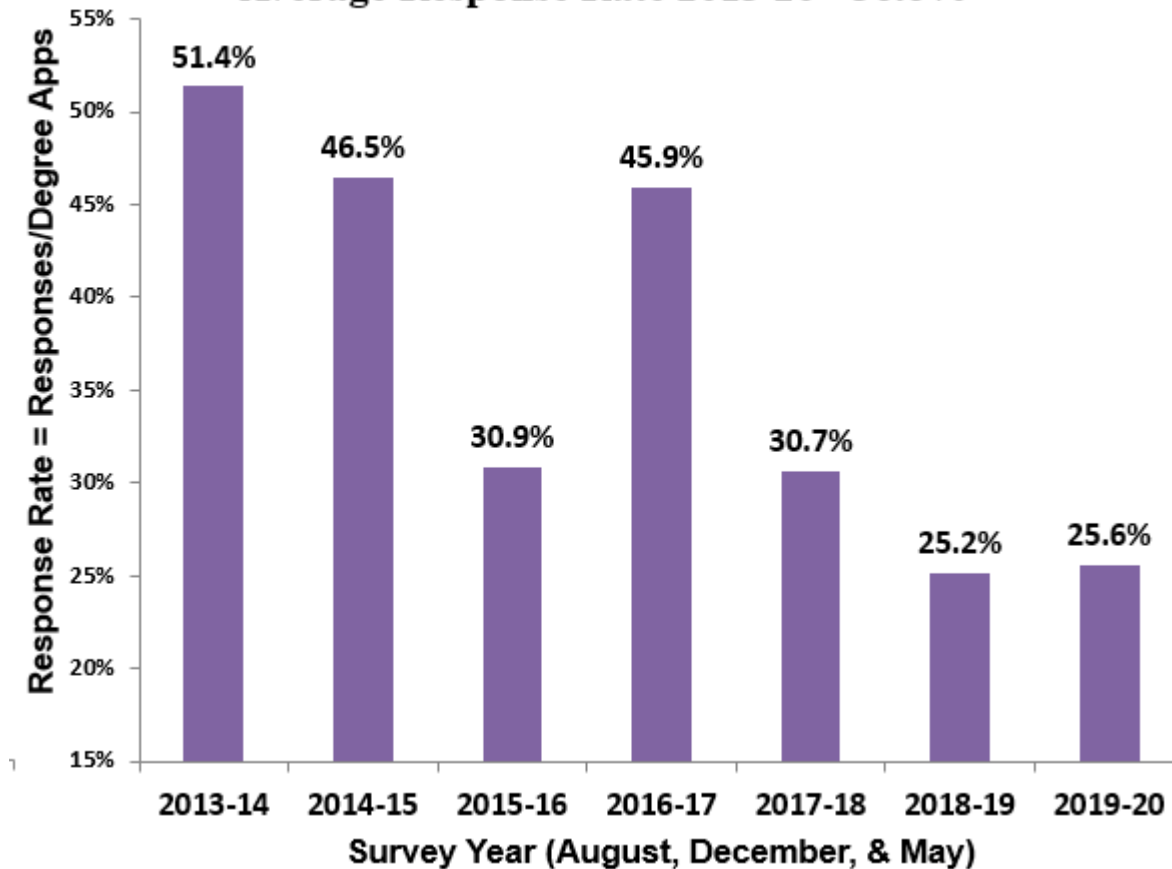
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Analysis (continued)

Free-response items are questions that allow the recipient to compose their own response, similar to a short-answer test. To allow each reader of this report to interpret degree applicants' comments for themselves, comments are listed in the reports in alphabetical order by question. The comments are verbatim, with the exception of replacing the names of individuals with dashes (e.g., "Dr. John Smith" is listed as "Dr. ---- ----"). Comments are listed in the reports for specific programs, but not in the report for the College of Engineering Overall.

**Senior Survey Response Rates
by Survey Year (CoE Overall)**
Average Response Rate 2013-20= 36.6%



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Results

Responses from degree applications in the semester(s) and program(s) listed above 35

Degree applications from students in the semester(s) and program(s) listed above: 98

Response Rate (responses/ degree applications): 35.7%

Degrees granted to undergraduates in the semester(s) and program(s) listed above: 99

Note: Response Ratios (below) are calculated for respondents to that particular question.

PART I. EDUCATIONAL BACKGROUND

1. How did you enter the U-M College of Engineering or CSLSA? As a:		
	Number of Responses	Response Ratio
First year student (freshman), first time in college	27	77%
Transfer student from a two-year college	2	6%
Transfer student from a four-year college	5	14%
Transfer student from another U-M school or college	1	3%
Totals	35	100%

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2. What is your undergraduate major? (Check all that apply)		
	Number of Responses	Response Ratio
Aerospace Engineering	0	0%
Biomedical Engineering	0	0%
Chemical Engineering	0	0%
Civil Engineering	0	0%
Climate and Space Sciences and Engin	0	0%
Computer Engineering	0	0%
Computer Science Engineering	0	0%
Computer Science LSA	0	0%
Data Science	0	0%
Electrical Engineering	35	100%
Engineering Physics	0	0%
Environmental Engineering	0	0%
Industrial and Operations Engineering	0	0%
Materials Science and Engineering	0	0%
Mechanical Engineering	0	0%
Naval Architecture and Marine Engineering	0	0%
Nuclear Engineering and Radiological Sciences	0	0%
Other (please specify):	0	0%
Totals	35	100%

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3. When did you decide on your engineering major?

	Number of Responses	Response Ratio
Prior to first year (=0)	5	14%
First year (=1)	18	51%
Second year (=2)	11	31%
Third year (=3)	1	3%
Mean = 1.2	Totals	35 100%

4. Will you complete a minor from the College of Engineering or from the College of Literature, Science, and the Arts?

	Number of Responses	Response Ratio
No	24	69%
Yes (please specify):	11	31%
Totals	35	100%

5. How many credits did you take in an average semester?

	Number of Responses	Response Ratio
Less than 12 credits/semester	1	3%
12-14 credits/semester	9	26%
15-17 credits/semester	23	68%
18+ credits/semester	1	3%
Totals	34	100%

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PART II. CURRICULUM

6. How well did your high school science and math courses prepare you for your studies at U-M?

	Number of Responses	Response Ratio
Excellent Preparation (=5)	13	39%
Good Preparation (=4)	18	55%
Adequate Preparation (=3)	2	6%
Unsatisfactory Preparation (=2)	0	0%
No Preparation (=1)	0	0%
Mean = 4.3	Totals 33	100%

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7. How well did the following courses at U-M prepare you for your courses in engineering? (Select "N/A" (Not Applicable) for any categories in which you did not take classes at U-M.)

The percentage is the fraction of respondents giving the specific response to the given question. In bold is number of respondents.	5 =	4 =	3 =	2 =	1 =	N/A =	Response Ratio
	Excellent Preparation	Good Preparation	Adequate Preparation	Unsatisfactory Preparation	No Preparation	Not Applicable	Total Responses Mean
First Year Math (e.g., 105, 115/116)	6% 2	28% 9	9% 3	0% 0	0% 0	56% 18	100% 32 3.9
Sophomore Math (e.g., 214/215/216)	9% 3	34% 11	22% 7	13% 4	0% 0	22% 7	100% 32 3.5
Chemistry (e.g., 125/126/130 or 210/211)	0% 0	0% 0	0% 0	0% 0	0% 0	0% 0	100% 0
Physics (e.g., 140/240)	0% 0	0% 0	0% 0	0% 0	0% 0	0% 0	100% 0
Intro to Computers and Programming (ENG 101)	34% 11	31% 10	9% 3	6% 2	0% 0	19% 6	100% 32 4.2
Intro to Engineering (ENG 100)	31% 10	19% 6	25% 8	6% 2	0% 0	19% 6	100% 32 3.9
College Writing (English 125)	3% 1	19% 6	0% 0	3% 1	3% 1	72% 23	100% 32 3.6

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8. Please rate how important you predict the following competencies and attitudes will be to you in your PROFESSIONAL CAREER.						
The percentage is the fraction of respondents giving the specific response to the given question. In bold is number of respondents.	5 = Extremely Important	4 = Quite Important	3 = Somewhat Important	2 = Slightly Important	1 = Not at all Important	Response Ratio Total Responses Mean
Math, science and engineering skills	47% 15	34% 11	13% 4	6% 2	0% 0	100% 32 4.2
Ability to design and conduct experiments	53% 17	28% 9	9% 3	6% 2	3% 1	100% 32 4.2
Ability to analyze and interpret data	72% 23	19% 6	9% 3	0% 0	0% 0	100% 32 4.6
Ability to design a system, component or process	59% 19	34% 11	6% 2	0% 0	0% 0	100% 32 4.5
Ability to function on a team	91% 29	9% 3	0% 0	0% 0	0% 0	100% 32 4.9
Engineering problem solving skills	84% 27	13% 4	0% 0	0% 0	3% 1	100% 32 4.8
Understanding of professional and ethical responsibility	63% 20	19% 6	19% 6	0% 0	0% 0	100% 32 4.4
Written communication skills	53% 17	38% 12	9% 3	0% 0	0% 0	100% 32 4.4
Oral communication skills	72% 23	25% 8	3% 1	0% 0	0% 0	100% 32 4.7

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8. Please rate how important you predict the following competencies and attitudes will be to you in your PROFESSIONAL CAREER. (continued)						
The percentage is the fraction of respondents giving the specific response to the given question. In bold is number of respondents.	5 = Extremely Important	4 = Quite Important	3 = Somewhat Important	2 = Slightly Important	1 = Not at all Important	Response Ratio Total Responses Mean
Understanding of the social, economic and environmental impact of my work	44% 14	19% 6	28% 9	6% 2	3% 1	100% 32 3.9
Ability to continue formal or informal learning	59% 19	22% 7	16% 5	3% 1	0% 0	100% 32 4.4
Knowledge of contemporary issues that affect my work	34% 11	41% 13	13% 4	9% 3	3% 1	100% 32 3.9
Ability to use modern engineering techniques, skills & tools	56% 18	38% 12	3% 1	3% 1	0% 0	100% 32 4.5

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9. Please rate how well you feel your UNDERGRADUATE PROGRAM at the University of Michigan prepared you in the following competencies and attitudes.						
The percentage is the fraction of respondents giving the specific response to the given question. In bold is number of respondents.	5 = Excellent Preparation	4 = Good Preparation	3 = Adequate Preparation	2 = Unsatisfactory Preparation	1 = Poor Preparation	Response Ratio Total Responses Mean
An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	32% 10	58% 18	10% 3	0% 0	0% 0	100% 31 4.2
An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors	16% 5	26% 8	39% 12	16% 5	3% 1	100% 31 3.4
An ability to communicate effectively with a range of audiences	32% 10	35% 11	16% 5	13% 4	3% 1	100% 31 3.8
An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental and societal contexts	19% 6	35% 11	26% 8	16% 5	3% 1	100% 31 3.5

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9. Please rate how well you feel your UNDERGRADUATE PROGRAM at the University of Michigan prepared you in the following competencies and attitudes.						
The percentage is the fraction of respondents giving the specific response to the given question. In bold is number of respondents.	5 = Excellent Preparation	4 = Good Preparation	3 = Adequate Preparation	2 = Unsatisfactory Preparation	1 = Poor Preparation	Response Ratio Total Responses Mean
Ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives	55% 17	32% 10	10% 3	3% 1	0% 0	100% 31 4.4
An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions	39% 12	45% 14	13% 4	3% 1	0% 0	100% 31 4.2
An ability to acquire and apply new knowledge as needed, using appropriate learning strategies	42% 13	52% 16	6% 2	0% 0	0% 0	100% 31 4.4

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10. How well were the courses in your curriculum integrated with each other (e.g., how well did prerequisites prepare you for subsequent courses)?

	Number of Responses	Response Ratio
Excellent Integration (=5)	6	19%
Good Integration (=4)	17	53%
Adequate Integration (=3)	8	25%
Unsatisfactory Integration (=2)	1	3%
No Integration (=1)	0	0%
Mean = 3.9	Totals	32 100%

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11. How important do you feel the following elements are for your learning in an engineering course?

The percentage is the fraction of respondents giving the specific response to the given question. In bold is number of respondents.	5 =	4 =	3 =	2 =	1 =	Response Ratio
	Extremely Important	Quite Important	Somewhat Important	Slightly Important	Not at all Important	Total Responses
						Mean
Small class size	22% 7	31% 10	31% 10	9% 3	6% 2	100% 32 3.5
Taught by a professor	47% 15	31% 10	9% 3	3% 1	9% 3	100% 32 4
Quality of the lecture	84% 26	13% 4	3% 1	0% 0	0% 0	100% 31 4.8
Quality of the discussions	47% 15	13% 4	19% 6	19% 6	3% 1	100% 32 3.8
Quality of the homework and exams	44% 14	41% 13	13% 4	3% 1	0% 0	100% 32 4.2
Accessibility of the professor	47% 15	31% 10	16% 5	3% 1	3% 1	100% 32 4.2
Accessibility of the GSI	53% 17	16% 5	28% 9	0% 0	3% 1	100% 32 4.2

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12. What was your best course in engineering? Why?

Number of Responses:	29
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Responses listed on subsequent pages.

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PART III. CO-CURRICULAR ACTIVITIES

13. Which of the following activities/programs did you participate in during your time at U-M? (Check all that apply.)

	Number of Responses	Response Ratio
No participation in programs/activities outside of the requirements for my academic degree(s)	2	2%
Professional Societies (e.g., ASME, AIAA)	2	2%
Honor Societies (e.g., Eta Kappa Nu, Tau Beta Pi)	7	5%
Project Teams (e.g., Solar Car, Steel Bridge)	15	12%
Community Service	11	9%
Student Government (e.g., UMEC, MSA)	2	2%
Sports (Intercollegiate or Club)	14	11%
Music Performance (e.g., Marching Band, Glee Club)	5	4%
Religious Organizations	0	0%
Undergraduate Research Project	15	12%
Study Abroad	8	6%
Co-Op	1	1%
Internship	25	20%
Months or years experience in Co-op/Internship:	18	14%
Other	3	2%
Totals	128	100%

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14. Indicate below how many hours, on average, you worked (including work study) during the terms in which you were taking classes.

	Number of Responses	Response Ratio
No job	13	39%
0-10 hours/week	16	48%
10-20 hours/week	1	3%
20+ hours/week	3	9%
Totals	33	100%

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PART IV. SUPPORT SERVICES AND ENVIRONMENT

15. How satisfied were you with the following aspects of the DEPARTMENT in which you did your primary major?

The percentage is the fraction of respondents giving the specific response to the given question. In bold is number of respondents.	5 = Extremely Satisfied	4 = Satisfied	3 = Neutral	2 = Dissatisfied	1 = Extremely Dissatisfied	Response Ratio Total Responses Mean
Academic advising	9% 3	44% 14	25% 8	19% 6	3% 1	100% 32 3.4
Career guidance from faculty	16% 5	25% 8	41% 13	9% 3	9% 3	100% 32 3.3
Instruction by faculty	31% 10	47% 15	13% 4	9% 3	0% 0	100% 32 4
Accessibility of faculty	22% 7	53% 17	19% 6	6% 2	0% 0	100% 32 3.9
Contact with faculty	25% 8	44% 14	25% 8	6% 2	0% 0	100% 32 3.9
Instruction by graduate students (GSI's)	25% 8	47% 15	19% 6	9% 3	0% 0	100% 32 3.9
Accessibility of GSI's	41% 13	34% 11	25% 8	0% 0	0% 0	100% 32 4.2
Percentage of teaching by faculty	44% 14	41% 13	16% 5	0% 0	0% 0	100% 32 4.3
Contact with staff	19% 6	53% 17	28% 9	0% 0	0% 0	100% 32 3.9
Sense of community among students	28% 9	34% 11	19% 6	16% 5	3% 1	100% 32 3.7

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PART IV. SUPPORT SERVICES AND ENVIRONMENT

15. How satisfied were you with the following aspects of the DEPARTMENT in which you did your primary major? (continued)

The percentage is the fraction of respondents giving the specific response to the given question. In bold is number of respondents.	5 = Extremely Satisfied	4 = Satisfied	3 = Neutral	2 = Dissatisfied	1 = Extremely Dissatisfied	Response Ratio Total Responses Mean
Research opportunities	19% 6	25% 8	44% 14	13% 4	0% 0	100% 32 3.5
Classroom facilities	25% 8	53% 17	13% 4	6% 2	3% 1	100% 32 3.9
Lab facilities	31% 10	59% 19	6% 2	0% 0	3% 1	100% 32 4.2
Computing facilities	25% 8	66% 21	6% 2	3% 1	0% 0	100% 32 4.1
Overall experience with your department	28% 9	50% 16	19% 6	3% 1	0% 0	100% 32 4

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16. How satisfied were you with the CENTRAL student services in the College of Engineering? (Select "N/A" (Not Applicable) for any categories with which you had no experience while at U-M.)

The percentage is the fraction of respondents giving the specific response to the given question. In bold is number of respondents.	5 = Extremely Satisfied	4 = Satisfied	3 = Neutral	2 = Dissatisfied	1 = Extremely Dissatisfied	N/A = Not Applicable	Response Ratio
							Total Responses Mean
Academic advising in the Engineering Advising Center (EAC)	9% 3	38% 12	13% 4	3% 1	13% 4	25% 8	100% 32 3.4
Tutoring or academic assistance	6% 2	22% 7	16% 5	6% 2	0% 0	50% 16	100% 32 3.6
Information provided to support you in choosing an engineering major	13% 4	34% 11	13% 4	16% 5	0% 0	25% 8	100% 32 3.6
Engineering Scholarship Office services	6% 2	3% 1	13% 4	9% 3	3% 1	66% 21	100% 32 3
Career services (e.g. co-op, internship, permanent job)	16% 5	47% 15	19% 6	9% 3	0% 0	9% 3	100% 32 3.8
Personal counseling services	6% 2	19% 6	16% 5	9% 3	3% 1	47% 15	100% 32 3.3
Contact with student services staff	6% 2	25% 8	16% 5	3% 1	0% 0	50% 16	100% 32 3.7
Sense of community in the College	6% 2	47% 15	22% 7	16% 5	3% 1	6% 2	100% 32 3.4
Computing facilities	25% 8	53% 17	16% 5	3% 1	0% 0	3% 1	100% 32 4

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17. Did you have a mentor (official or unofficial) who took a personal interest in your educational development? (Check all that apply.)

	Number of Responses	Response Ratio
Professor	10	24%
Graduate Student Instructor (GSI)	3	7%
Staff member	2	5%
Peer	5	12%
Alumna or alumnus	3	7%
No mentor	19	45%
Other (please specify):	0	0%
Totals	42	100%

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18. To what extent do you think the College is a supportive climate for:					
The percentage is the fraction of respondents giving the specific response to the given question. In bold is number of respondents.	3 = Very Supportive	2 = Supportive	1 = Not Supportive	Not Applicable	Response Ratio Total Responses Mean
Women	31% 10	50% 16	6% 2	13% 4	100% 32 2.3
Students of color	31% 10	38% 12	13% 4	19% 6	100% 32 2.2
Diverse religious views	28% 9	38% 12	13% 4	22% 7	100% 32 2.2
Students from lower income families	16% 5	31% 10	25% 8	28% 9	100% 32 1.9
Gay, lesbian, bisexual students	22% 7	44% 14	9% 3	25% 8	100% 32 2.2
International students	0% 0	0% 0	0% 0	0% 0	100% 0
Students with disabilities	0% 0	0% 0	0% 0	0% 0	100% 0

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PART V. FUTURE PLANS AND INTERESTS

19. What are your EDUCATIONAL plans after graduation?		
	Number of Responses	Response Ratio
No plans for further formal education	6	18%
Military	0	0%
Graduate School (select the educational plan below)	14	42%
Professional School (select the educational plan below)	1	3%
Master's outside of engineering (and not an MBA)	2	6%
J.D.(Law)	0	0%
M.D.(Medicine)	1	3%
Doctorate in an engineering field	5	15%
Doctorate outside of engineering	1	3%
School attending &/or other formal degree pursuing	3	9%
Totals	33	100%

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20. What are your **EMPLOYMENT** plans after graduation? (Check all that apply.)

	Number of Responses	Response Ratio
No plans for employment after graduation	7	21%
Entrepreneurial ventures/self employed business owner	0	0%
Military	0	0%
Volunteer Experience	0	0%
Accepted full-time employment (select the employment plan below)	17	52%
Accepted part-time employment (select the employment plan below)	0	0%
Still seeking employment	8	24%
Other (please specify):	1	3%
Totals	33	100%

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21. What is the name of the employer you accepted a position with after graduation? Please also list additional offers you received.

Number of Responses: 15

For additional employer information, such as location, starting salary, and other salary offers, contact UM CoE's Engineering Career Resource Center (ECRC).

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22. How did you learn about the employment position you accepted?		
	Number of Responses	Response Ratio
Career fair	4	20%
Classified ad	0	0%
Company Day	0	0%
Departmental career fair	0	0%
Direct inquiry	1	5%
Faculty	1	5%
Family/friends	0	0%
ENGenius.Jobs	1	5%
ENGenius.Jobs on-campus recruiting	0	0%
Internship Fair	0	0%
Job posting	0	0%
Networking	1	5%
Online	4	20%
Organization/club	0	0%
Previous internship/co-op	5	25%
Other, please specify	3	15%
Totals	20	100%

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23. If you plan to be employed in ENGINEERING OR ENGINEERING-RELATED WORK after graduation, which phrase(s) BEST describe the work you plan to do? (Check all that apply.)

	Number of Responses	Response Ratio
Consulting engineer	3	7%
Design engineer	13	29%
Faculty member	2	4%
Manager of engineers	2	4%
Process or industrial engineer	0	0%
Product engineer	3	7%
Project manager/project leader	3	7%
Quality engineer	1	2%
Researcher	8	18%
Sales engineer/technical sales	1	2%
Software developer/programmer	1	2%
Systems analyst/systems engineer	4	9%
Test engineer/field engineer	3	7%
If not listed above, provide the title of position	1	2%
Totals	45	100%

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PART VI. PERSONAL BACKGROUND

24. What is your approximate Grade Point Average (GPA)?		
	Number of Responses	Response Ratio
3.51-4.0	20	61%
3.01-3.5	11	33%
2.51-3.0	1	3%
2.01-2.5	1	3%
2.0 or below	0	0%
Totals	33	100%

25. Did you receive financial aid and/or scholarships while a student in the College of Engineering? (Check all that apply.)		
	Number of Responses	Response Ratio
Financial aid	9	41%
Scholarships	13	59%
Totals	22	100%

26. What is your Gender?		
	Number of Responses	Response Ratio
Female	12	39%
Male	18	58%
Other	1	3%
Totals	31	100%

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27. Race/Ethnicity: Choose which best describes you (optional)

	Number of Responses	Response Ratio
2 or more	2	6%
Hispanic or Latino (including Spain)	0	0%
American Indian or Alaska Native (including all Original Peoples of the Americas)	0	0%
Asian (including Indian subcontinent and Philippines)	13	39%
Black or African American (including Africa and Caribbean)	0	0%
Native Hawaiian or Other Pacific Islander (Original Peoples)	0	0%
White (including Middle Eastern)	18	55%
Totals	33	100%

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PART VII. EVALUATION OF YOUR ENTIRE UNDERGRADUATE PROGRAM

28. Overall, how satisfied are you with:

The percentage is the fraction of respondents giving the specific response to the given question. In bold is number of respondents.	5 =	4 =	3 =	2 =	1 =	N/A =	Response Ratio
	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied	Not Applicable	Total Responses Mean
Your undergraduate educational experience at the University of Michigan	41% 13	50% 16	9% 3	0% 0	0% 0	0% 0	100% 32 4.3
The career services offered to you by the College of Engineering	22% 7	44% 14	19% 6	13% 4	3% 1	0% 0	100% 32 3.7

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29. Overall, what aspects of your experience in the College of Engineering have you found to be MOST VALUABLE and LEAST VALUABLE? Please be specific. Share any other comments you would like to make, such as recommendations for specific changes, comments about quality of life as a CoE student, or descriptions of significant challenges you faced.

Number of Responses:	22
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Responses listed on subsequent pages.

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4. Will you complete a minor from the College of Engineering or from the College of Literature, Science, and the Arts?

Number of Responses:	11
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Asian Language and Culture (Japanese)

Asian Languages, Chinese

Business, I completed the courses even though they didn't officially admit me to the program

CLaSP

Economics

Electrical Engineering

Electrical Engineering

International Minor

LSA Music Minor

Multidisciplinary Project

physics

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12. What was your best course in engineering? Why?

Number of Responses:	29
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419,460,351,461,Great Professors and well planned out courses. Always knew what was required of me

BIOMEDE 474, The discussions integrated into lecture made for a very unique and interactive learning environment. Adding the lab component second half of the semester ensured we had the foundations necessary to do good work.

EECS 216 - learned a lot and changed understanding of signals, and the homeworks were interesting (despite being long)

EECS 216 because I learned fundamentally different ways of approaching engineering problems that have proven vital in following classes (i.e. Fourier Transform, Laplace Transform, linear systems)

EECS 216. Professor ---- teaches very clearly and made a challenging topic that I did not expect to enjoy both interesting and understandable

EECS 216. Enjoyed the class, respected and enjoyed the Professor, had a good discussion section. Felt adequately prepared for every exam, homeworks made sense

EECS 311 with Professor ----. This is my best course because it was my first exposure to a well-taught engineering course that made me feel that1. I am learning2. The professor and GSI cares about the students and puts them first3. Lecture was very well organized and taughtThe only other class that also made me feel this was was EECS 312 with Professor ----. Otherwise, unfortunately, no other engineering class was as excellent as EECS 311 and 312.

EECS 311. The professor I had for this course was the best I've ever had. He actually understood and connected with us. He walked us through the material at a responsible pace and was conscious of the workload he assigned. The professor was ----. Most other professors I had were harsh and distant and piled on work for us to learn on our own rather than teach effectively and give insightful and productive coursework.

EECS 311. The prerequisites prepared me well and the course was very well taught. I took it with Professor ----, and he focused on making sure we understood the material, rather than prioritizing sticking to a schedule. The labs were well integrated with the course material, and the homework was good at reinforcing concepts. I also found the material interesting, and I only wish I had taken it earlier than my second to last semester so I could have taken 413 and 511/522.

EECS 312 - Digital ICsIt was the first course I took that focused on developing an intuition for otherwise complex material.

EECS 351. The teacher (professor ----) really cared about your learning, and pushed you to make your project as best as it could be. I felt like I became more of an engineer in that class than any other class I've taken.

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12. What was your best course in engineering? Why?

EECS 417/BIOMEDE 417. Because Prof. ---- was really passionate and tried his best to teach complicated concepts in an easy-to-understand way and lay out derivations as clear as possible. Projects and homework are directly related to what we learned during class, and the course really sparks my interest in the field of electrical biophysics.

EECS 423 - the cleanroom experience was unique and exciting

eecs 425 - open ended course that was relatively small in size, interaction with a team and engaging project.

EECS 429. The course was loaded with information, the professor was well prepared and truly cared about how well the students were understanding topics. Unlike other EECS courses, this wasn't a 4-cred that just crammed as much work into my schedule as possible. It was just two lectures and a discussion (no 3hr lab with hours of pre/post labs). I loved the topics and felt rewarded with the level of challenge.

EECS 452, digital signal processing design lab. I learned many important and contemporary concepts in this class, and also got to use what I learned in this and other class in implementing a really cool project.

EECS 461 - Perfect mix of theoretical learning and hands-on application in the lab. Much lab-heavier than other EECS courses but kept workload fair for a 4-credit class. Great staff and their methods for teaching the class remain consistent and are always being slightly improved.

EECS 461. The material in this class is super interesting and useful. The labs worked in really well with the lectures, and the GSI's leading the labs were really helpful. The class was not as difficult as other classes, but I still learned a ton from it. Everything I learned in EECS 461 I can directly apply in my career.

EECS 482 - great lectures and really cool projects

EECS351 because it was my first design class where I worked in a team and spent majority/half of the class term preparing for the project.

ENG100 blimp section- still use skills from that class today and was perfect introduction to engineering

ENGR101. It was fun and was taught well.

I would say the best course I took in engineering would have been either TechLab at Mcity or ENGR 100. I think the blimp course the best approximation of a real engineering project, the presentation and teamwork skills. However, TechLab was incredibly unique and taught me about relying on teammates with different specialties and what it is like to work for real companies.

Medical Imaging Systems (eecs 516) was really well taught, had really interesting problems and projects, and the prof was very accessible.

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12. What was your best course in engineering? Why?

My best course in engineering was EECS 452 because it was a class where I was allowed to design something without much direction and instruction which I felt like taught me a lot and encouraged me to learn outside of the class. I motivated myself to make a good project with my team which is much better than trying to get a good grade on an exam.

My best course in engineering was the wind turbine section (section 450, I believe) of Engineering 100. This course was my favorite because it had very accessible and hard-working professors (Prof ---- and Prof ----), and the content related to what I want to do with my career (work in renewables). I enjoyed collaborating with my team to create a wind turbine, and the lab in which we built the turbine (in the CSRB) had all of the tools necessary to complete the job. The class was enjoyable and organized clearly, and the homework/exams were adequate for the difficulty of the course. Plenty of office hours were given. It was a great experience.

My best course was EECS 417. The class was very well taught in that the material was explained well and understandable. The homeworks and exams served to reinforce and test material that was explained in class, and while it was challenging, I was sufficiently prepared. The class also involved a group project and we had the freedom to choose our topic. I was exposed to a number of different ways to learn and given the ability to apply the material in a way that I chose.

The best course in engineering I took was EECS 311 with ----. Professor ---- made learning in the course seem accessible while still challenging our knowledge of the material. The lab of this course was some of my first experience with analog circuit design and made me want to keep building circuits.

The best course I took in my engineering degree was EECS 215. Professor ---- was kind and nonjudgmental towards students, gave clear lectures with examples and thorough explanations, and was available through office hours. The information was applicable to later classes.

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13. Which of the following activities/programs did you participate in during your time at U-M? (Check all that apply.)

Number of Responses: 3

gaming club, birding club

Hong Kong Student Association

Phi Sigma Rho (engineering sorority), Michigan Ballroom Dance Team

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19. What are your EDUCATIONAL plans after graduation?

Number of Responses: 3

I plan to return to grad school for a Masters in EE in 1-3 years

In several years, planning to do a degree in urban planning, urban design, or urban sustainability

Umich SUGS masters

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20. What are your EMPLOYMENT plans after graduation? (Check all that apply.)

Number of Responses: 1

Grad Schoo;l

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22. How did you learn about the employment position you accepted?

Number of Responses: 3

Academic conference

Had a connection through student build and pitched a project. Ultimately was matched with division doing similar project

N/A

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26. What is your Gender?

Number of Responses: 1

Non-binary

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Number of Responses: 22

Design projects working in a team were valuable

I am on Michigan Electric Racing (MER), one of the project teams in the Wilson Center, and that has been by far the most valuable experience. MER was a place where I could apply what I learned in my classes, and actually experience the engineering process where I couldn't in classes. On the team, I also learned and applied engineering in a much more fun way than in my classes. The learning I did on MER is much more practical engineering knowledge where the learning from classes is much more theoretical. The team also opened the door to all of my job offers by giving the experience that employers were looking for. I went to career fair and other college recruiting opportunities, but nothing came out of them. All of my job opportunities came out of events from MER, and MER gave me lots of experiences to talk about in my job interviews. The least valuable experience for me was the career fairs. I went to the career fair looking for internships and full time jobs, and nothing came out of them. This is somewhat surprising to me since I'd say I have one of the best resumes from looking at the job offers I received eventually. I don't think the career fair is an effective medium to help students find jobs.

I appreciated all of the resources that are available at the university. They are extremely helpful and valuable. I think that the least valuable aspects of my experience were instances that seemed as though they were checking boxes for equality instead of actually caring about it

I found it was valuable when professors would mention how material we were learning is used in industry. It helped to give me a sense of what I wanted to look for in a job. It was hard for me to find what I was interested in. I took classes in lots of different EE subject areas, thinking I was interested in them, only to find out I didn't like the subject as much as I thought. I finally found an area I was interested in (analog, from EECS311) during the Fall semester of my senior year, but the MDEs on that track are only offered in the Fall, and I had to do my MDE in the Winter. So I was very restricted in choosing my MDE, and I was frustrated that the ones I wanted to take were Fall-only. If I had found this area of interest sooner, of course I could have planned ahead so I could take the MDEs I wanted (EECS413), but it took me a long time to find this path. I understand that there may not be enough students to offer all the EE MDEs both semesters, but I also wish that they were offered both semesters.

I'll be honest, the only value of going to U-M is the name recognition. Even with that name recognition, I'll still need to use the connections of my family members if I want any chance at getting a good job soon. I've seen the coursework of other universities, I am aware that I have learned a lot more at U-M, but networking still holds so much more weight. I'm still a firm believer that EECS 280 is useless to EE majors that want to focus on hardware. 101 is invaluable because Matlab is incredibly useful, but the additional knowledge acquired from 280 just hasn't been needed outside the class.

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I've loved a lot of the classes that had hands on design work. That is where I've felt like I've learned the most and worked with material that I will actually use when I am working full time. I've felt like the technical communication classes and professionalism classes that I've had to take with my senior design are outdated and not applicable to students of my major. Some of the material is very useful but some of it I will not use at my place of employment. The professionalism class could be very interesting but it is tailored to CS students and so a lot of the topics we are covering are not going through the application for EEs.

Michigan Electric Racing (MER) was an integral part of my college experience and I found funding and the Wilson Center extremely valuable to my learning.

Most valuable: group projects & conversations w/ profs in office hours

Most valuable- research and internship opportunities, quality course instruction

Most Valuable In general, the GSIs for courses have been very good. They are often more helpful than the professors in office hours (for EE courses). For CS courses, the professors tend to be more helpful. Least Valuable I would suggest relaxing some of the prereqs for 300-400 level classes in other engineering disciplines outside of your major that can have classes taken as upper level electives. I would also lowering the prereqs enforcement for classes inside your major. It should be up to the student to decide whether they can survive and handle the course. Research labs in EE doesn't seem too accessible in general.

Most valuable: abundance of resources for students to use Least valuable: N/A

Most Valuable: All the opportunity that CoE provides such as the research opportunities, career fairs, tutoring, etc. The quality of classes offered, the value that the education at CoE embeds into the students such as hard-work, determination, the critical problem solving mindset, etc. Least Valuable: Nothing really, even if something is not valuable to me, it might be useful for someone else.

Most Valuable: the professors, the GSIs, the community of students, and the facilities Least Valuable: everyone in general advising, all the career help

Most valuable: the lovely friends I've made, a large variety of majors to pick from, study abroad programs through IPE, and general career services through EAC. Least valuable: professors who care more about their research than teaching their students well, a career fair with very similar companies (lots of tech and manufacturing companies), minimal resources for mental health help, not enough guidance with picking a major.

Most valuable: Difficult classes that encourage collaboration Least valuable: Lack of interaction between majors through classes Recommendations: Redistribute some of the weighting in grades from exams to homeworks, labs, etc.

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Most valuable: 100% Student engineering build team on UM::Autonomy. The relationships with sponsors, the working on a real project, the managing a large team. Experiential learning is what set our members apart from other students at Michigan and from other Universities across the country.

Least Valuable: Shanghai Jiao Tong Joint Institute. There was rampant cheating that was entirely ignored by the faculty of both the JI, and the people managing the exchange program. Students and GSIs over there were dismissive of foreign students and only used it as a path into Michigan. I left with an extremely poor view of China and that U of M did not care about students well being abroad or the quality of education we received.

The college of engineering has a lot of work to do in creating a welcoming environment for women, queer and trans people. Also the college of engineering is one of the most diverse colleges in the school, but racism still exists in the form of colorism and disregard for certain identities. Many professors don't seem to have an understanding of marginalized identities, which carries down into the attitude of the student body. A lot of the language used by professors and attitude carried by professors is bro-y and misogynistic, which affects how some of the students can learn.

The most valuable experiences have been through student orgs where I found I was able to build a community with the other members. The resources available to the students including CAEN labs, remote access to CAEN computers, office hours, advising, etc. has also been very valuable, but sometimes hard to access since there are so many students. The least valuable experiences have been in disorganized classes or classes that weight exams and individual work too much. In my experience classes are more enjoyable and easier to learn in when there is collaborative work, and the stress is on the applications and not exams. Take home exams I always found to be the best because I felt they showcased my knowledge the best and I felt much less competitive because I knew I was turning in my best work, no matter how other people performed.

The most valuable experience is CoE's overall strength in nearly all fields, which allows students to explore different fields of engineering freely and look for their interest. The least valuable comes at the experience from CSE division, which I feel to be hostile and exclusive in nature, and the atmosphere in class is fierce and inhumane. What a bunch of terrible people!

The most valuable aspect has been the world class professors and connections made in the university. The least valuable aspect is the lack of a sense of community for which to help foster these connections.

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The most valuable aspects of my experience were specific classes that had lots of office hours (especially the GSIs that really put in effort to be available), computer labs in the EECS building that always had an empty seat, advisors and employees in the ECE advising office that fixed my audit and made sure I had the right credits, and professors like ---- that made me feel like I belonged in the department as a female and simply as an individual. The least valuable aspects were final grades that were turned in weeks late (the college should have a policy of checking on each professor to make sure grades are turned in on time once the semester is over...I had to wait all of Christmas break this year to get my EECS 418 grade), courses like EECS 216 that were rooting for people to get B- averages and then offering unhelpful office hours, and professors that make exams so difficult that the averages are in the 40%s, which doesn't allow the kids to learn anything useful besides the feeling of failure. EECS classes that have exam averages around 40% is a reflection of the quality of education by the professor, not the intelligence of the students. The university needs to pay attention to the quality of education presented by the professors and not simply keep them around for research purposes if they are not properly lecturing their students.

The project work in my senior year was very valuable. It was the first time we learned how to design and create an EE project from start to finish. I think there is room for this type of coursework even earlier in college. The least valuable parts had to do with workload and lack of professor understanding. Most engineering students know that by pursuing an engineering degree (especially EE) they will be required to do a lot of hard work. However, the workload that we received sophomore-senior year bordered on the absurd. I knew students who dropped out and changed majors strictly because of the workload, which to me seems to defeat the purpose of learning. The engineering department can be very off-putting because of the stress and work involved. In my opinion, in addition to be challenging, the engineering school should be fun and should foster further interaction and engagement with the students, not push them away. More project interaction early on would allow students to see the kind of cool stuff they can achieve before they decide whether to pursue the degree further. I also think that exams in engineering are a bit ridiculous. They enforce the old way of learning, where memorization and 'playing the game' are the best, which is not the case in real life. I think that project work quite adequately covers any void in learning that the absence of exams would leave. You get to learn through application and trial and error rather than banking your grade and education on 3 days of the semester in which there are exams. I know that many other engineering students share this sentiment with me. I have never seen so many people suffering from stress and anxiety as I have seen in the engineering department. It is not a healthy lifestyle to foster. I am not proposing that the curriculum become trivial, but I think it would be helpful for everyone's health to reevaluate the workload and structure of engineering courses.