

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 Mechanical Engineering (ME)

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.

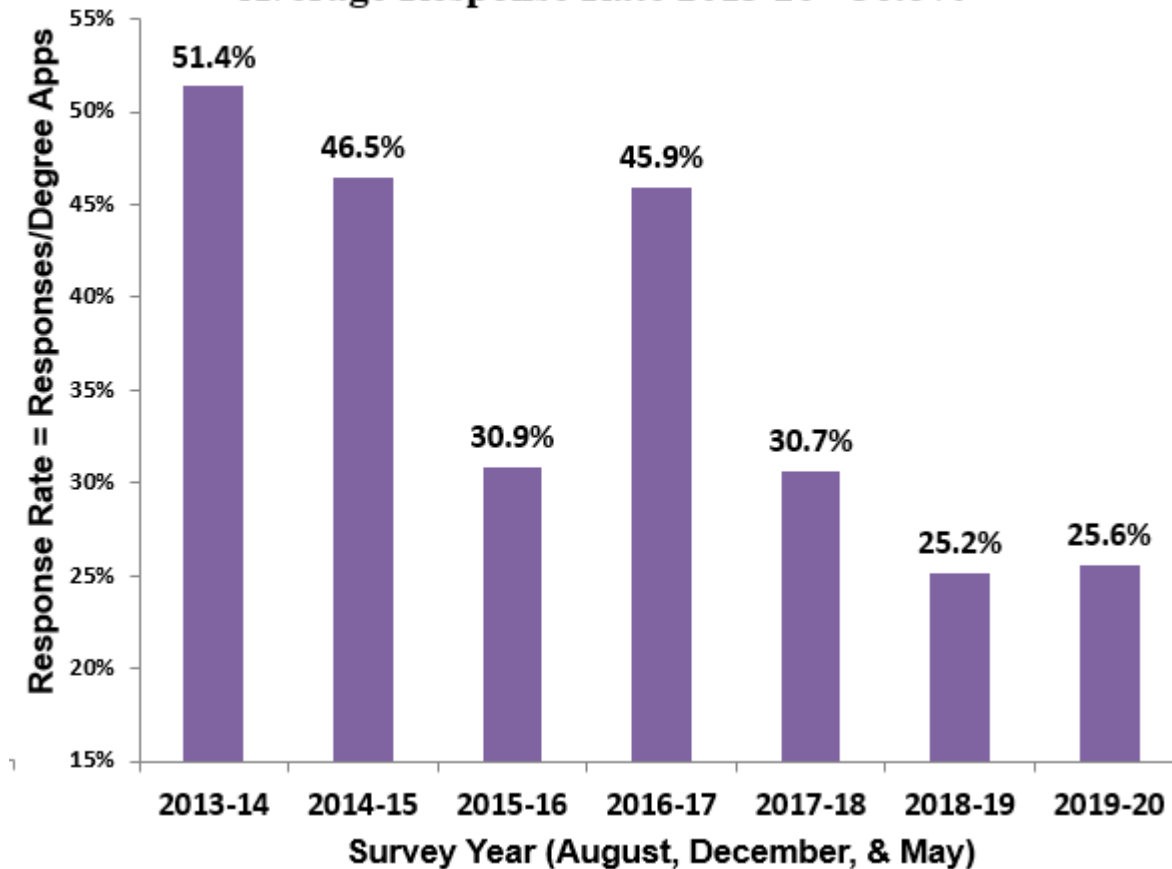
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Analysis (continued)

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 75

Degree applications from students in the semester(s) and program(s) listed above: 284

Response Rate (responses/ degree applications): 26.4%

Degrees granted to undergraduates in the semester(s) and program(s) listed above: 288

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	58	77%
Transfer student from a two-year college	7	9%
Transfer student from a four-year college	5	7%
Transfer student from another U-M school or college	5	7%
Totals	75	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	0	0%
Engineering Physics	0	0%
Environmental Engineering	0	0%
Industrial and Operations Engineering	0	0%
Materials Science and Engineering	0	0%
Mechanical Engineering	75	100%
Naval Architecture and Marine Engineering	0	0%
Nuclear Engineering and Radiological Sciences	0	0%
Other (please specify):	0	0%
Totals	75	100%

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3. When did you decide on your engineering major?

	Number of Responses	Response Ratio
Prior to first year (=0)	19	25%
First year (=1)	30	40%
Second year (=2)	25	33%
Third year (=3)	1	1%
Mean = 1.1	Totals	75
		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	52	69%
Yes (please specify):	23	31%
	Totals	75
		100%

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

	Number of Responses	Response Ratio
Less than 12 credits/semester	0	0%
12-14 credits/semester	33	45%
15-17 credits/semester	39	53%
18+ credits/semester	2	3%
	Totals	74
		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)	22	31%
Good Preparation (=4)	30	42%
Adequate Preparation (=3)	9	13%
Unsatisfactory Preparation (=2)	10	14%
No Preparation (=1)	0	0%
Mean = 3.9	Totals 71	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)	7% 5	20% 14	17% 12	7% 5	3% 2	46% 33	100% 71 3.4
Sophomore Math (e.g., 214/215/216)	10% 7	35% 25	23% 16	17% 12	1% 1	14% 10	100% 71 3.4
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)	24% 17	39% 28	15% 11	8% 6	3% 2	10% 7	100% 71 3.8
Intro to Engineering (ENG 100)	23% 16	28% 20	25% 18	6% 4	3% 2	15% 11	100% 71 3.7
College Writing (English 125)	4% 3	6% 4	3% 2	3% 2	1% 1	83% 59	100% 71 3.5

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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	61% 43	23% 16	15% 11	1% 1	0% 0	100% 71 4.4
Ability to design and conduct experiments	38% 27	35% 25	17% 12	7% 5	3% 2	100% 71 4
Ability to analyze and interpret data	70% 50	25% 18	4% 3	0% 0	0% 0	100% 71 4.7
Ability to design a system, component or process	61% 43	28% 20	10% 7	1% 1	0% 0	100% 71 4.5
Ability to function on a team	92% 65	8% 6	0% 0	0% 0	0% 0	100% 71 4.9
Engineering problem solving skills	86% 61	14% 10	0% 0	0% 0	0% 0	100% 71 4.9
Understanding of professional and ethical responsibility	68% 48	23% 16	10% 7	0% 0	0% 0	100% 71 4.6
Written communication skills	61% 43	35% 25	4% 3	0% 0	0% 0	100% 71 4.6
Oral communication skills	68% 48	32% 23	0% 0	0% 0	0% 0	100% 71 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	48% 34	31% 22	17% 12	4% 3	0% 0	100% 71 4.2
Ability to continue formal or informal learning	51% 36	32% 23	14% 10	3% 2	0% 0	100% 71 4.3
Knowledge of contemporary issues that affect my work	41% 29	37% 26	17% 12	6% 4	0% 0	100% 71 4.1
Ability to use modern engineering techniques, skills & tools	72% 51	21% 15	6% 4	1% 1	0% 0	100% 71 4.6

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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	43% 29	37% 25	15% 10	4% 3	0% 0	100% 67 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	39% 26	31% 21	27% 18	3% 2	0% 0	100% 67 4.1
An ability to communicate effectively with a range of audiences	43% 29	40% 27	16% 11	0% 0	0% 0	100% 67 4.3
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	30% 20	39% 26	21% 14	7% 5	3% 2	100% 67 3.9

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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	57% 38	30% 20	10% 7	3% 2	0% 0	100% 67 4.4
An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions	46% 31	34% 23	15% 10	4% 3	0% 0	100% 67 4.2
An ability to acquire and apply new knowledge as needed, using appropriate learning strategies	52% 35	33% 22	10% 7	4% 3	0% 0	100% 67 4.3

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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)	13	18%
Good Integration (=4)	39	55%
Adequate Integration (=3)	15	21%
Unsatisfactory Integration (=2)	4	6%
No Integration (=1)	0	0%
Mean = 3.9	Totals 71	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 = Extremely Important	4 = Quite Important	3 = Somewhat Important	2 = Slightly Important	1 = Not at all Important	Response Ratio Total Responses Mean
Small class size	14% 10	23% 16	28% 20	23% 16	13% 9	100% 71 3
Taught by a professor	37% 26	39% 28	10% 7	7% 5	7% 5	100% 71 3.9
Quality of the lecture	82% 58	18% 13	0% 0	0% 0	0% 0	100% 71 4.8
Quality of the discussions	13% 9	27% 19	43% 30	16% 11	1% 1	100% 70 3.3
Quality of the homework and exams	51% 36	32% 23	15% 11	1% 1	0% 0	100% 71 4.3
Accessibility of the professor	48% 34	25% 18	25% 18	1% 1	0% 0	100% 71 4.2
Accessibility of the GSI	56% 40	25% 18	18% 13	0% 0	0% 0	100% 71 4.4

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

Number of Responses:	59
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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)	4	1%
Professional Societies (e.g., ASME, AIAA)	13	5%
Honor Societies (e.g., Eta Kappa Nu, Tau Beta Pi)	9	3%
Project Teams (e.g., Solar Car, Steel Bridge)	38	14%
Community Service	16	6%
Student Government (e.g., UMEC, MSA)	2	1%
Sports (Intercollegiate or Club)	28	10%
Music Performance (e.g., Marching Band, Glee Club)	9	3%
Religious Organizations	7	3%
Undergraduate Research Project	22	8%
Study Abroad	18	6%
Co-Op	7	3%
Internship	57	20%
Months or years experience in Co-op/Internship:	45	16%
Other	5	2%
Totals	280	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	31	44%
0-10 hours/week	27	38%
10-20 hours/week	10	14%
20+ hours/week	3	4%
Totals	71	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	40% 28	49% 34	10% 7	1% 1	0% 0	100% 70 4.3
Career guidance from faculty	16% 11	20% 14	50% 35	10% 7	4% 3	100% 70 3.3
Instruction by faculty	24% 17	47% 33	24% 17	4% 3	0% 0	100% 70 3.9
Accessibility of faculty	23% 16	59% 41	16% 11	3% 2	0% 0	100% 70 4
Contact with faculty	26% 18	49% 34	21% 15	4% 3	0% 0	100% 70 4
Instruction by graduate students (GSI's)	23% 16	54% 38	17% 12	4% 3	1% 1	100% 70 3.9
Accessibility of GSI's	42% 29	48% 33	9% 6	1% 1	0% 0	100% 69 4.3
Percentage of teaching by faculty	27% 19	56% 39	14% 10	3% 2	0% 0	100% 70 4.1
Contact with staff	21% 15	54% 38	23% 16	1% 1	0% 0	100% 70 4
Sense of community among students	33% 23	34% 24	19% 13	13% 9	1% 1	100% 70 3.8

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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	21% 15	34% 24	33% 23	10% 7	1% 1	100% 70 3.6
Classroom facilities	46% 32	44% 31	9% 6	1% 1	0% 0	100% 70 4.3
Lab facilities	49% 34	36% 25	13% 9	3% 2	0% 0	100% 70 4.3
Computing facilities	46% 32	37% 26	13% 9	4% 3	0% 0	100% 70 4.2
Overall experience with your department	36% 25	54% 38	9% 6	1% 1	0% 0	100% 70 4.2

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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)	14% 10	29% 20	28% 19	6% 4	4% 3	19% 13	100% 69 3.5
Tutoring or academic assistance	9% 6	14% 10	23% 16	4% 3	1% 1	48% 33	100% 69 3.5
Information provided to support you in choosing an engineering major	9% 6	32% 22	28% 19	12% 8	1% 1	19% 13	100% 69 3.4
Engineering Scholarship Office services	7% 5	12% 8	17% 12	9% 6	0% 0	55% 38	100% 69 3.4
Career services (e.g. co-op, internship, permanent job)	19% 13	42% 29	13% 9	6% 4	6% 4	14% 10	100% 69 3.7
Personal counseling services	10% 7	10% 7	19% 13	0% 0	1% 1	59% 41	100% 69 3.7
Contact with student services staff	12% 8	17% 12	17% 12	3% 2	0% 0	51% 35	100% 69 3.8
Sense of community in the College	13% 9	42% 29	23% 16	9% 6	3% 2	10% 7	100% 69 3.6

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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	16	18%
Graduate Student Instructor (GSI)	8	9%
Staff member	6	7%
Peer	11	13%
Alumna or alumnus	6	7%
No mentor	40	46%
Other (please specify):	0	0%
Totals	87	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	41% 28	55% 38	1% 1	3% 2	100% 69 2.4
Students of color	38% 26	52% 36	3% 2	7% 5	100% 69 2.4
Diverse religious views	36% 25	54% 37	3% 2	7% 5	100% 69 2.4
Students from lower income families	28% 19	49% 34	16% 11	7% 5	100% 69 2.1
Gay, lesbian, bisexual students	36% 25	52% 36	0% 0	12% 8	100% 69 2.4
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	30	43%
Military	0	0%
Graduate School (select the educational plan below)	21	30%
Professional School (select the educational plan below)	2	3%
Master's outside of engineering (and not an MBA)	3	4%
J.D.(Law)	1	1%
M.D.(Medicine)	0	0%
Doctorate in an engineering field	2	3%
Doctorate outside of engineering	0	0%
School attending &/or other formal degree pursuing	11	16%
Totals	70	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	11	16%
Entrepreneurial ventures/self employed business owner	2	3%
Military	0	0%
Volunteer Experience	0	0%
Accepted full-time employment (select the employment plan below)	39	57%
Accepted part-time employment (select the employment plan below)	1	1%
Still seeking employment	13	19%
Other (please specify):	3	4%
Totals	69	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: 41

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	10	21%
Classified ad	0	0%
Company Day	4	8%
Departmental career fair	0	0%
Direct inquiry	1	2%
Faculty	0	0%
Family/friends	7	15%
ENGenius.Jobs	0	0%
ENGenius.Jobs on-campus recruiting	0	0%
Internship Fair	0	0%
Job posting	3	6%
Networking	4	8%
Online	4	8%
Organization/club	2	4%
Previous internship/co-op	12	25%
Other, please specify	1	2%
	Totals	48 100%

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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	5	5%
Design engineer	25	27%
Faculty member	0	0%
Manager of engineers	3	3%
Process or industrial engineer	9	10%
Product engineer	19	21%
Project manager/project leader	5	5%
Quality engineer	3	3%
Researcher	5	5%
Sales engineer/technical sales	0	0%
Software developer/programmer	1	1%
Systems analyst/systems engineer	10	11%
Test engineer/field engineer	5	5%
If not listed above, provide the title of position	2	2%
Totals	92	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	36	51%
3.01-3.5	24	34%
2.51-3.0	10	14%
2.01-2.5	0	0%
2.0 or below	0	0%
Totals	70	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	23	35%
Scholarships	42	65%
Totals	65	100%

26. What is your Gender?		
	Number of Responses	Response Ratio
Female	19	28%
Male	48	71%
Other	1	1%
Totals	68	100%

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

	Number of Responses	Response Ratio
2 or more	5	7%
Hispanic or Latino (including Spain)	5	7%
American Indian or Alaska Native (including all Original Peoples of the Americas)	0	0%
Asian (including Indian subcontinent and Philippines)	11	16%
Black or African American (including Africa and Caribbean)	0	0%
Native Hawaiian or Other Pacific Islander (Original Peoples)	0	0%
White (including Middle Eastern)	48	70%
Totals	69	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	51% 36	41% 29	6% 4	1% 1	0% 0	0% 0	100% 70 4.4
The career services offered to you by the College of Engineering	21% 15	47% 33	16% 11	9% 6	3% 2	4% 3	100% 70 3.8

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Survey of Undergraduate Degree Applications for
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Results for Mechanical Engineering (ME)

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:	41
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Responses listed on subsequent pages.

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Results for Mechanical Engineering (ME)

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

Number of Responses:	23
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Computer Science

Computer Science

Computer science

CS

EE

Electrical Engineering

Electrical Engineering

Energy Science and Policy

German

International Engineering

International Minor for Engineers

International minor for engineers

International Minor for Engineers

Mathematics

Mathematics

Mathematics

MDP Minor

Multidisciplinary Design

Multidisciplinary Design

Multidisciplinary Design

Music

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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?

Naval Architecture and Marine Engineering

Space Sciences & Engineering

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Results for Mechanical Engineering (ME)

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

Number of Responses:

59

How do you define "best"? My best grade was in EECS314 but that is distorted by the grading distribution. I had good performances in classes like ME382 and ME360. However I think the most important class to me was ME395, especially as I am finishing an academic paper right now and want to get a PhD.

I enjoyed 382 because it was the best taught class I took. The most useful classes were the lab classes (x50s). I've talked to a few engineering students that go to other colleges, and they never had these types of classes and felt that their curriculum was severely lacking in the hands-on department

I enjoyed ME 320 (Fluid Mechanics 1). I had professor ----, who was extremely good at creating an environment where it was easy to see Fluids as an interesting and useful subject. He engaged with the class even in a large lecture setting, was receptive to questions and feedback, and kept material exciting and fresh. Very few engineering professors came close to matching that level of quality.

I guess it depends what you mean by "best." I would say my top two were ME 240 and ME 360. This is only because my professors were amazing. They made the class enjoyable and actually "taught." They also made sure people actually understood the material instead of just presenting to present. In my opinion, the teaching quality is such a big component of learning.

I loved both courses that I took with Prof. ---- (ME489 and ME499). Both classes aligned closely with my own interests, I wasn't able to truly learn about these topics in any other course, and Prof. ---- is an amazing teacher!

I really enjoyed Engineering 101. I made lasting friendships that continued to graduation and was able to experience all the steps of the engineering process for the first time.

I really liked ISD 599B. I took this course as a specialization elective. I really liked the course because it taught me very useful skills like how to develop large scale models in Simulink.

I really liked ME 382 with ----. I thought her lectures made the course material interesting to me and it was a well organized course. These two factors made it easier for me to study and I was able to study effectively. When I heard other students talk about this course with other instructors they did not seem to like it at all so I was glad I had a good experience.

I thought senior design, ME 450, was the most rewarding class and most like what it will be like in a job.

ME 211. Great intro to Mech E and great prof.

ME 240- ---- is the best professor I've had at UM hands down. Nobody else comes close to his ability to explain concepts concisely and clearly.

ME 240 because Professor ---- was an incredible lecturer and taught in a way that I was able to really learn the material. In class he worked through problems and told his thought process, which was very helpful when I was doing homework.

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

ME 240- Professor ---- was the most engaged, dedicated professor I interacted with throughout my college experience. He made students feel comfortable with asking questions and worked to ensure that everyone understood what was going on in the course.

ME 250. ---- is an outstanding teacher and encourages his students to do the best they can in an overwhelming class.

ME 250. It's the foundation of mechanical engineering. Learned a ton and really confirmed it's the major I want to do.

ME 311. Topics connected to one another, good balance of theory/derivations and application, clear expectations for exams, homework related to exams, prof and gsi held office hours, neat handwriting from professor (----). I also think ME 382 with ---- was one of the most useful ME classes.

ME 336 with Professor ----. The level of knowledge he has within the field of thermodynamics and its applications really showed while taking the class, plus his ability to explain content in a clear manner made the content taught easier to comprehend which overall led to my fantastic experience in the course.

ME 360 - Lectures were recorded online which allowed me to learn at my own pace.

ME 360 because it was taught in an easy-to-follow manner, and controls theory adds mathematics and physics to engineering in a way that I could follow very well.

ME 360, I had a great group of professors and GSIs who were willing to help and teach students outside of lecture. I also enjoyed how this course connected a few different prior engineering and math courses. This is also a very important course for any engineering related industry.

ME 382 because Prof. ---- was the first (and only) professor I had that actually tried to be a better teacher and listened to the feedback that her students gave her. It actually felt like she cared about the success of her students.

ME 382 with ----, because it was content that I found interesting and the teacher was passionate about teaching well and did a good job. I also thought ME 305 was a good course for the same reasons.

ME 395 (junior laboratory) - very heavy workload, but I learned a lot about how to analyze data and communicate results through reports.

ME 433 - the ONLY course in Mechanical Engineering that I feel effectively applied engineering skills and problem solving to the real world. Everything else was often too theoretical. Wooldrich was the best professor I have had as well.

ME 450 because it was the culmination of all my course work applied to the real world. It tested all the skills I had as an engineering student from problem solving to working with a group.

ME 450 taught me a wide variety of skills that will be used in the work force

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Results for Mechanical Engineering (ME)

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

ME 450 was the best course for me. I was able to communicate well with my team and we did work that was relevant to the real world which was also interesting to me.

ME 450, because it was a balance between theoretical and technical /practical engineering. Teams were left to their devices to create a tangible end product which is ultimately more satisfying than typical course goals.

ME 450. Was by far the hardest and most involved course of my time at UofM, but I also learned the most from it. The project I got assigned to was very interesting and motivating to me, and it challenged me in many ways: Technical knowledge, interpersonal communication and project management. The class demanded so much time and work, but I left feeling far more confident in my abilities as an engineer and as a professional.

ME240 - The professor was thorough about explaining the motivation behind the work before going into examples/applications

ME250 - Design & Manufacturing III was an excellent course for mechanical engineering students. In this course, students are given opportunities to work on a randomly selected team and build a robot that will compete in the class-wide competition. For many students, it's their first time building a robot using engineering knowledge and this class really strengthens many students' interests in continuing their engineering paths.

ME250 provided a compelling team challenge, that tied well into the lecture. I also had a highly effective group and an excellent GSI (----). ME 350 followed with another great lab, however the lectures usually felt disconnected, and the exams were needlessly challenging (primarily due to time constraint). ME489 with professor ---- was also an excellent class that balanced its lectures, exams, homework's, and project very well. No other class I have taken has had each of those aspects contribute to each other that well.

ME382 (under ----) - taught me everything I needed to know to apply the topic to the real world, truly helped prepare me to apply the knowledge in industry.

ME395. Full practice in technical writing.

ME433 due to its structure and content

ME450 was the best course in engineering. It was by far the most fun class, which is dependent on the project you get. However, it was awesome to be able to apply the engineering skills learned throughout college to an open ended real world problem. Also, Professor ---- was outstanding.

ME481 Manufacturing Processes. Not as much emphasis on course work but more emphasis on learning the content and how it's applied

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

MECHENG 382 was taught by a fantastic LECTURER (----) who had experience in the industry (which is where most undergraduates go) and applied said experience to the content. It is so important to teach with the intention of helping students who pay hundreds of thousands of dollars actually learn what they need even though they are not going into academia. Please hire more experienced professionals with great communication skills like Prof. ----.

Mecheng 450 was the best because it was the accumulation of knowledge taught in all the prior courses. It was a lot of fun to tackle real problems and be accountable for progress from external stakeholders to the university.

MFG 599 (six sigma) and IOE 461 by ----. These courses deal with real world working improvements. Most engineer jobs are about the bottom line and it would have been good to include some business/industrial related courses.

My best course in engineering was probably ME 250 because I enjoyed every part of the class, learned a lot about CAD, design, and manufacturing, and it applies most to what I hope to do in my future.

My best course in engineering was ME499, Front End Design. The course was structured in a way to support students needs and I found the material very engaging. This led to me enjoying my learning experience and succeeding with good grades.

My best course in engineering was MechEng 250. This was due to the extreme breadth of topics covered in conjunction with the open design aspects and emphasis on regular updates and applications of in-class material to the semester-long project. It was an excellent overview of everything that went into being a mechanical engineer, and provided ample opportunity for learning and growth across a wide range of brand new topics which then got covered in greater detail later down the line.

My best course in engineering was ME 450, Senior Design. This class incorporated all of the skills that I've been building throughout undergrad and had a real-work context. Using technical engineering analysis to solve problems in a team, while also considering factors such as culture, economic disparities, and the human experience is crucial for our professional careers.

My Best course in engineering was ME 451 because Professor ---- was an amazing lecturer, the material of the course was cool, he was always available for additional help, and the homework was challenging yet possible.

My best course was ME 382 here at Umich. The reason it was my best course is that I had the best professor I've ever had. ---- was incredible and I found the material interesting which also helped. My best grade in a class here was ME 320- heat transfer and that's because the material was easy.

My best course was ME 250 because I appreciated how hands on it was and the lay out of the course. It was like the professors and GSI's worked to teach us different skills and how to use certain tools, and the rest of the course was a little more free range with us practicing the newly taught skills and tools.

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

My best course(s) would be the x50 courses in the ME department. They most prepared me for what to expect of engineering problems in a professional setting, and also combined technical skills from many different prerequisite classes.

My favorite course in Engineering was ME 350. The project integrates aspects of mechanical engineering, electrical engineering, and computer science. The instructors are fantastic, and the lectures cover interesting aspects of engineering. The homeworks do not feel unnecessary. However, the exams are quite challenging because overall the students do well on the project and the exams make the difference in the grade a student receives. The X50 courses are also the best courses for cooperating with a GSI that I have seen in an engineering course.

My favorite course in undergraduate engineering was ME 382. The professor ---- was an amazing professor who integrated examples and props into his lectures to demonstrate the abstract concepts he was teaching. He also prepared you for the exams and homework really well.

NA 270, which was taken as an elective and in preparation for a planned minor/now graduate study in Naval Architecture. This class introduced the general subject material very well, and was effective in giving everyone a basic understanding of the engineering and naval architecture principles. Projects in the class also were fun and helped in building confidence and understanding of said principles.

Navarch 310. This class was the perfect balance of difficulty and learning. I never felt completely lost on a homework or exam but I use the information from this class all the time. ME382 was also up there. I commonly say to my friends that you pay for your tuition so that you can take that one class. The material science and structures material is so well integrated that I feel like I am getting a complete degree in one course.

Physics 240 and ME 350. Physics 240 I think was the best-taught prerequisite class, I think it was well structured and that really helped my learning. ME 350 was my favorite ME course, mostly because of the wide range of subjects it covers, and the project was very rewarding.

Physics 240, ME 250, ME 382, ME 451 I feel with these courses, I was able to absorb so much more knowledge, concepts, mathematical skills/way of thinking, etc. that I still remembered and still applied in later courses or in internships, as opposed to other courses.

The best course was ME 382. I was really able to engage with the material and the professor and GSIs encouraged engagement over interaction.

The best course was ME 382. The class time was never wasted, lectures were given well, gsi was always available and helpful. The exams were adequate. The material was presented in a fun way and demonstrations were used when they could be.

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

The course I enjoyed the most (and subsequently performed the best in as well) was ME490. Working in the SMS lab with Prof. ----, Prof. ---- and the rest of the SMS lab staff provided me with an experience that is very similar to the engineering position in which I currently work. It combined creativity, systematic experimentation and results analysis, along with written and oral presentations to provide a truly robust experience that mirrors the real world of work. I would HIGHLY recommend this course to anyone who feels ill prepared for an engineering position. It will be very similar to the real world, other than the countless meetings I sit in now on a daily basis.

Thermodynamics 1 (ME 235), Professor ---- was one of the best teachers I've ever had in my 16 years of schooling, he really just connected with the classes and always held so many office hours and was so willing to help with anything related to the class.

Thermodynamics, enjoyed the topic the most

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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: 5

8 months research experience

Greek Life

PELLE program, hall multicultural clubs for two years.

Social Organizations (Greek Life)

Student Athlete Advisory Committee

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19. What are your EDUCATIONAL plans after graduation?

Number of Responses: 11

Masters in ME at UM

MBA

MSE in Mechanical Engineering, UMICH

MSE Mechanical Engineering at University of Michigan

MSE Mechanical Engineering University of Michigan

MSE SUGS Mechanical Engineering, University of Michigan

UM ISD Systems Engineering and Design

University of Michigan

University of Michigan, Masters of Design Science

University of Pennsylvania

UNM masters of engineering

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

Number of Responses: 3

Had accepted full time employment, but was rescinded due to pandemic

Internship during MS degree

Internship with GM

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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: 2

Manufacturing/Assembly Process Engineer

Patent Engineer

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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:

41

'- ME450 should be a full year long, not 1 semester- Reduce needless amounts of Arithmetic in ME courses, focus more on the concepts and their applications- Research opportunities have been very valuable to me- Classroom instruction varied wildly in quality. I had some god-tier professo-----) but also had some professors that I could tell were only showing up to class because they were forced to.- Some courses seemed to spend too much lecture time on abstract theory and deriving equations. I don't care how the equation is proved, I care how I can use it to solve problems as an engineer.- Some courses seemed to put too much emphasis on solving things by hand that could be solved in seconds on Wolfram Alpha. I wish there was more focus on preparing us to use the concepts to solve problems in the "real world", with all the tools of the "real world" at our disposal.- Sometimes I felt like success in my courses was won by whomever could attend the most office hours. Office hours were incredibly valuable to my learning, but when I had recurring conflicts with office hours, it became nearly impossible to understand the homework.- Some of my GSIs were incredible. There were a few ME courses where everything that I understood came from awesome GSIs, and I'm very thankful for their efforts.- Please lessen workload in ME. It's hard to gain deeper understanding of the topics when all I'm doing is trying to frantically get the assignments done; sometimes a bit less homework can lead to greater learning. This connects to my next point:- The biggest challenge I faced was a lack of time. I know I took on more stuff outside of class than many of my peers, so maybe to them the time pressure wasn't that bad - but I personally felt very frequently that I could have done better on a homework/project/exam if I had just had more time.

After having a variety of internships, I began to realize how ineffective engineering exams are at preparing you for the actual challenges faced in the corporate engineering world. I understand these exams are meant to test your understanding of the basic principles of engineering, but I rarely, if ever, used skills I required to pass a class or an exam in my internship positions. Honestly, this needs to change about the educational system when it comes to engineering. More classes should be based around projects and providing a deliverable result instead of an exam as the end goal. More classes should emphasize how to actually use the knowledge they teach in a way that meets the college of engineering's mission statement: "...developing intellectually curious and socially conscious minds, creating collaborative solutions to societal problems, and promoting an inclusive and innovative community of service for the common good." I don't think any class I took outside ME450 actually touched on creating collaborative solutions to societal problems, and I don't think my engineering degree prepared me to know what the "common good" really is and how to meet the needs of the common good in my engineering career going forward. The overly repetitive process of lecture, homework, and exam didn't promote my creative thinking, didn't promote intellectual curiosity, and didn't make me more socially conscious. Only those projects or assignments where the path to the solution was unclear and the method in which the solution was reached wasn't predetermined did I develop and use the skills and thought processes outlined in the college of engineering's mission statement. For the sake of future engineers and the ability for future engineers to have a better platform for solving the complex problems that are present in the world today, please try to improve this aspect of the engineering curriculum.

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As a freshman, all the resources I used were helpful in determining what I wanted to do with my major. Engr 110 was helpful in this respect as well as faculty I talked to, then I heard about SUGS and decided that was a good path for me. Career fair was also extremely valuable in talking to companies to pursue internship opportunities. Nothing comes to mind for least valuable

By far the most valuable aspect of my experience was my time with the SAE Baja team. Skills and lessons on the team were leaps and bounds ahead of what I learned and practiced in the classroom. The least valuable aspect of my experience was ME 335 (Heat Transfer) wit----. Every lecture for that class serves only to kill any interest in what should be a really exciting subject.

Design and physical engineering experience have been the most valuable in my undergraduate studies. In particular, working on a Student Team has given me a higher level of confidence in engineering, as well as broadened my network of industry contacts for employment.

Eecs 314 was the least valuable experience of my education. I love the idea of ME lab classes (395/495) but I think they can be better instructed to engage students more without unnecessary work. I LOVE the extracurricular opportunities, especially project teams. My project team (Baja race car) completely defined my experience here and was the most important part of my education to me.

for the future, with the present situation at hand, i would suggest to encourage more professors to upload recordings of lectures online. Prior to this situation, very few professors posted lectures, which caused the need for overly crowded buses, lecture halls and studying areas on campus.

'-Had a few very bad professors but most where decent-I really liked the design and lab courses in Mechanical Engineering-I think the Mechanical Engineering department could do a better job offering tech electives that are interesting to the majority of students. A lot of students are currently interested in robotics, mehantronics, and controls so making more sections for these types of classes would be a good idea. Also, ME 552 and ME 461 should be offered in Fall and Winter semesters and should have enough sections to accommodate more students.-I really enjoyed the MDP program and found it helped me develop industry specific skills employers are looking for-The advisers for Mechanical Engineering are very nice and helpful

I appreciate that the instruction of all of our classes felt truly oriented towards us having a deep and authentic knowledge of the subject being taught, even if the methods of teaching were occasionally quite weak. I do however wish I had more agency over my own education. I took a lot of courses that didn't suit my interests or went to a significantly deeper level of knowledge than I feel I will use (for example fluids is a field I never intend to involve myself in). I have found myself somewhat jealous of the quarter system used by west coast schools where students can pursue a broader variety of courses, with the option to take follow ups if they desire to go deeper if they want.

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I had a hard time transitioning from high school to undergrad, but I think making friends really helped with that. In hindsight, I probably could have used CAPs, but it is very difficult to actually reach out and seek help when you barely have enough energy to do school and you've grown up where your mental health comes after school. I'm not sure what the school could have done to help that, but the community that I found in my student org really helped me. I also really needed to not live with my parents anymore, but I honestly had no idea how to do that other than become an RA, and I couldn't figure out how to do that.

I think the best aspect was the ME department academic advising office. They were always on top of their stuff and constantly reaching out to me to keep me in check (ie grades etc)

Joining a project team was most valuable. Each student should be required to be on one, so invest in that.

Most valuable- involvement with CSED. Please, please, please involve more social impact and socially engaged design frameworks and teachings into all of the engineering major curriculums. This is not universally stressed enough and only available to those who seek it out themselves- this isn't good enough. Engineers have the potential to have a tremendous impact in their professions beyond what they currently learn about in school and this needs to be given more weight.

Most valuable - project team
Least valuable - ME fluids, heat transfer, and thermo. They could probably be combined into one required class, and additional classes can be offered as electives. Almost no mechanical engineering student uses the information offered in these classes unless they have special research interests. Most ME positions in industry are for design, structures, simulation, manufacturing, quality, and testing.

MOST VALUABLE - Career Fair, Career Fair Preparation, Access to Information about each Engineering Discipline
LEAST VALUABLE - Grade Distributions in Prerequisite Courses (automatically allows anyone who was privileged enough to have all of the AP classes offered at his or her high school to be given a leg up in finding jobs because their GPA is starting with classes that are easier to achieve success)

Most valuable are all of the personal connections I've made with the people I've come across with and the added inspiration I now have knowing the amazing things everything is doing or will do.

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Most Valuable for me was definitely career fair. This was a real game-changer over my peers at other universities. I had opportunities for employment that I know other schools don't offer, and even if one doesn't get any offers, the practice of speaking with representatives was so helpful. I am a far better job-interviewee at this point because of those experiences. The least valuable to me was the class advising at the beginning of my career here. I feel the first year advising was not very effective in helping students actually do what is best to accomplish their selected degree. I understand the university has an interest in keeping students around, but I still think it would be better for the university to be more clear with students what EXACTLY needs to be accomplished to graduate, and how they can do that the quickest way possible. For example, I am in ME: Had I started my X50/X95 courses right at the beginning of sophomore year, I would have been able to graduate a semester early. Instead, I ended up taking an entire 4 years to complete my degree. I only discovered this looking back, and my advisors never pointed this out to me back during my first year at the university. If some students want to take their time, they should feel free to explore, but if a student expresses a need/want to graduate ASAP, it would be great if the advising team could take that into account.

Most valuable in my education have been the other students in my communities. The sense of camaraderie throughout my years have been the best resource available and I wouldn't have been able to get through my time here without it. The least valuable resource through my time have been my GSIs. They were often unapproachable and not representative demographically of the overall college, which was very frustrating to me as a student.

Most valuable would be the quality and difficulty of education. We attend this prestigious university to push ourselves to be as competent with the subject matter as possible. The education does not need to be more difficult more the students, but increasing the difficulty level of lectures and assignments is the way I would like to see the university go forward. I appreciate all aspects that the College of Engineering has provided. Thank you.

Most valuable was the community. Least valuable was the career services. For me, it felt like I was competing against the entire college in order to succeed.

Most Valuable: Interaction with faculty. It's something that the school can't push on you, you just need to do it yourself but it's incredibly useful to have a professor that you can go to and talk about your engineering future with. Least Valuable: I think big lecture halls were a less efficient method of teaching

Most valuable: Student project teams. Partnering with a Wilson Center student project team gave me real-world, hands-on experience in the engineering field. I applied what I have learned in the classroom to my project and was able to impress some employers with the experience I had with the project team. Least valuable: N/A Other comments: CoE truly provides a platform for every single student to succeed. If he/she has ambition and wants to be successful, there are always so many opportunities provided by CoE to make their experience at the University of Michigan great.

Most valuable: quality of instruction Least valuable: career advising and career opportunities are lacking

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Most Valuable: The peers I worked with, the Umich name that has respect. Design experiences within ME and STAMPS classes. Least valuable: The offerings of electives within the Mechanical Engineering department. Especially in winter this was always really disappointing.

Most valuable: the extremely detailed and high-quality coursework of the classes I took and their connection to top experts in their fields. Least valuable: mental health support services specifically within the CoE were difficult to work with and often felt less present as compared to those in the University as a whole.

Most Valuable: 1) the courses I've already listed 2) career fairs Least Valuable: 1) supportive climate for female students amongst male peers. I've had this issue happen to me multiple times whenever I had team projects. I was always put into teams where I was the only woman in the group. There needs to be online courses or interactive in-person events like UMix during freshmen year for men to learn how to interact and equally work with women engineers. 2) sense of community among students (I feel students at CoE are less social and less friendly; I don't know how the college can address this issue since the students came in this way and are basically adults, but maybe more social events during freshmen/sophomore year within each major to get to know people that includes activities of interaction) 3) Engineering 101 - this class did not help me to understand computer programming at all. I dislike coding and I think after this course I hated it more. I think they should teach us programs that are most commonly used in later courses; they did this with Matlab, but they made projects that were useless and should have made projects taught us lessons about Matlab that will be used in later courses (data analysis for X95 courses, etc). I also think they should teach us about programs that are highly used in all aspects of industry that would be good to know going into the work force. 4) I think there should be elective courses that fully teach how to use highly-used, important programs in industry until we are at a professional level to use the programs, like a course only on CAD programs like SolidWorks, a course on advanced EXCEL or Minitab, etc. This would prepare those who are going into the work force after undergrad.

Most valuable: As I have spent the last year going through the process of applying for a PhD in engineering (specifically biomechanics), the Michigan name and network have proven very valuable to me. A lot of people in the field I want to go into did some of their education at Michigan and my connects here (research mentor, other close professional connections) have been able to connect me with other professionals in the field. Least valuable: I can't think of anything too in particular that was of least value. I didn't enjoy very much taking the thermodynamics-fluid mechanics-heat transfer branch of courses in my major (mechanical engineering) but they are probably important to the major. One thing I do feel strongly about that I would like to see the university incorporate in the future as I didn't have this opportunity is making engineers take a whole ethics course. After meeting students from other universities and learning they all take an entire ethics course within engineering made me wonder why we don't, and I think it is something possibly more important to Michigan engineers than some others. Coming out of school with the name "Michigan" on our engineering degree is a powerful attribute to have and also a social responsibility, and that really hasn't been conveyed to us. The only experience I have had with ethics is a singular, sorry lecture in my senior design class, which should be unacceptable for engineers of our quality.

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Survey of Undergraduate Degree Applications for
Aug 2019, Dec 2019 & May 2020 Graduation Dates
Results for Mechanical Engineering (ME)

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.

Most Valuable: Learning opportunities outside of class and within CoE - If you want to do research you can probably find a research position here. There are also tons of project teams and organizations so you can find your passion. Least Valuable: The outdated engineering curriculum. Michigan is lucky that outside employers still see our program as being very practical and hands-on, because it's not. There is a very high percentage of classes that require only one thing - for the student to memorize a specific method and a set of equations and to execute that method perfectly on exams. This is nothing like the real world. I do not say any of this out of spite, as you may notice that I had a poor GPA in school. However, I have had three internships in college, including one at my dream company. In all of these, I excelled. I had important impacts on the projects I worked on, I made connections within the company, I learned about where the industries are now and where they are headed, and I learned how to solve problems using the wealth of resources available to me. These are the things that should be taught, not how to calculate the moment at the end of a ridiculously complex shape that nobody would ever see in the real world. I typically found 95% of my classwork meaningless in each and every one of my positions so far, and I can say with absolute certainty that while I learned a lot in college, most of what I learned was outside of class. I learned how to work with teams in project groups and student government, how to solve problems through internships, and how to lead through volunteering. I have grown immensely as a person throughout my time in school, and yet school itself did not have a large impact on that. I think that's problematic. Specifically, here are a few problem areas: 1. Support of Students. There is no better example of this than when I contacted someone in my department about my poor performance, unsure of what to do next. I wanted resources to help me in a class that I was struggling to understand, and there seemed to be none available. I was asked to have meetings with the department chair, and I believe somebody in student affairs. Instead of getting me help on the class that was causing me distress, I'm quite sure I was placed on some sort of departmental mental health watch list, and all of help I received was everyone making sure I was mentally okay. I was, with the exception of my classes, in which I did not ever get any assistance. I have never felt so failed by my school than I did after I did a co-op in 2018. Four months into the job I had to resign from my position fearing for my own safety, as coworkers had threatened my life. I had gone to both the police and the company's HR department with texts that showed three other co-ops threatening bodily harm, and my own accounts of them repeatedly threatening to shoot me. The police did the right thing - they filed a report and a harassment claim, and even went so far as to escort me around the city while I gathered my things to flee the state. The company's HR department on the other hand suspended me and the three other co-ops for texting during work, letting these people keep their jobs while I had no other choice but to resign. This company is BorgWarner, and thus I understand the departments hesitancy to do anything about it after I emailed them with my story. However, I would have appreciated a meeting with somebody, as I wanted to warn my fellow students of working there. 2. Quality of Life. You seem to have three choices here, of which you can pick at most one or two: sleep, a social life, and good grades. Some classes require a disproportional amount of time to succeed in, and thus detract from other learning opportunities available. 3. Teaching. A lot of the professors have decades of teaching experience, which could be fantastic. Often though, these decades of experience translate to outdated knowledge on the things employers expect (this is true for everything from graph formatting to presentations to methodology). I think that the teaching prepares you well for a career in research, but

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not for a career in industry. Perhaps more young professors (or professors that have a passion for teaching and not only research) would help alleviate this. Sorry if any of this seems overly critical, I thought it was important to share my anecdotes. I am nonetheless a huge Michigan fan and grateful for the many opportunities I have because of school.

Most valuable: engineering design experiences, curriculum, professor office hours, academic advising
Least valuable: Scholarship resources are not well advertised

Most valuable: meeting classmates who are equally motivated, working in design and manufacturing classes on project teams, getting 3 opportunities to do senior design type work (ME 250, 350, 450).
Least valuable: I think we need to do a better job with career services. Schools like Ross are far ahead of us (I have utilized some of their resources). There are companies that are dying for our graduates but outside of career fairs there is no way to network with these companies. Take advantage of the engineering alumni more

My best experiences involved professors who were passionate about the subject matter and about teaching an understanding. Professors ----, ----, and ---- are outstanding examples of this. My worst experiences were with professors who were only here for research projects and had no real interest in helping me learn. Focus on hiring professors who want to teach. It costs too much to go here to receive a professor who hates to lecture.

The challenging workload and hands on experience is extremely valuable but some of the classes (ME X95) Have so much unnecessary/excessive busy work or unreasonable workloads.

The coursework expectations are freaking ridiculous. There's no way to be successful in school while having a positive social life and meaningful extracurriculars. I'm a shell of the person I use to be because of the education here. You can do all the mental health campaigns you want, but it's not going to do anything unless to you address the root cause of why people are depressed and riddled with anxiety. You're asking too much of your students.

The curriculum seems very disconnected from the real world in the sense that ethical and environmental concerns rarely, if ever, come up when discussing solutions to problems. I would have really enjoyed to have taken a class where these topics were highlighted with respect to engineering design and solutions.

The curriculum has really prepared me better than other colleges with real-world experience and how to handle myself in a professional setting. I do think the university needs to do a better job instructing new students that there are resources that can help with getting jobs because I did not know this until Sophomore year where I was already behind the ball.

The most valuable experience has been in my design classes where I've had to work in groups. I've found these classes prepared me the most for industry. The least valuable was taking math/science courses in LSA. I think that the College of Engineering should try to create their own classes for this.

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The most valuable thing to me has been contact with people in INDUSTRY, not ACADEMIA. UM CoE focuses way too much on research to provide the value to undergraduates that \$100k+ should command. Please hire lecturers with industry experience and create new courses revolving around skills needed in industry (i.e. Product Management, Data Analysis for MechEs) as these are things I learned by putting in a lot of effort during internships. Research should be an option for undergraduates to engage in and I fully support undergraduate research (this has also been very important to my learning), but UM has so much of this that it diminishes the value of undergraduate education for students going into industry.

The most valuable aspects of my undergraduate experience were definitely building a community with my peers and my technical elective courses. I felt that I had to take so many courses that I was not interested in and did not find valuable, so when I got to choose my tech electives, it felt like I was finally learning what I needed to, just a little too late. Having more specified tracks within ME would be extremely helpful. I feel that only 4 of the courses I took I will actually help me directly in industry, so it would have been nice to have some room in my schedule to take more of those courses. Also, I had an extremely hard time deciding on a major. I took ENG110, made my own counseling appointments, and still was not confident in my decision. More support in choosing a major would have been nice, perhaps having a way to find a mentor with similar interests.

The most valuable experience was the professor's I had. I knew all of them were extremely smart and at the top of their field, which allowed me to know I was getting the best education. The least valuable was the career guidance. I often think my potential is not fully being maximized because I was not able to find the right career resources. A few times I would go to the career office and they would be very supportive even though I needed someone to be brutally honest. I often felt lost at the career fair, and if I did get an interview after the fair I was wildly unprepared. For how successful I was in the classroom, I am not sure that success translated into more career opportunities.

The networking opportunities available through the UM community and alumni base is incredible. The UM network allowed me to get 3 of my 4 job opportunities. I wasn't involved much in engineering community. This was primarily due to my involvement in athletics. It didn't allow for much time to be committed to the engineering community, though I had many friends who were heavily involved and therefor connected to many of the student body and faculty

too much to write about this topic.