Report on Alumni Surveys for Academic Year 2019-2020

Survey of 2009, 2013 & 2017 Graduates of Undergraduate Programs

Results for Nuclear Engineering and Radiological Sciences (NERS)

Produced by
The Office of Student Affairs
University of Michigan, College of Engineering

Friday, June 19, 2020

Purpose and Approach

Each year, the College of Engineering conducts an Alumni Survey of recent graduates of 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 alumni survey can help departments identify strengths in their undergraduate programs and opportunities for improvement.

Methods

Identifying Recipients

Recipients of the surveys were identified through an M-Pathways (Business Objects) query of the University of Michigan's Donor Alumni Relationship Tool (DART). DART contains records for all graduates of UM. The query supplied the name, degree title, year of graduation, current email address for all CoE and Computer Science LSA undergraduate alumni who graduated 2, 6, and 10 years prior to the academic year of the survey. From the list of graduates, emailing lists were compiled. The email lists of survey recipients contained only living graduates who had addresses tagged as active in the CoE alumni database. Alum marked as Do Not Contact are excluded.

Distribution and Collection

In early November, the Office of Student Affairs emailed the survey if an e-mail address was available. The email survey offered a $100 Amazon gift card to twenty randomly selected alum who completed the survey. An email reminder was sent late March and early June. 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. 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 alumni's comments for themselves, alumni's comments are listed in the reports. 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 CoE Overall.

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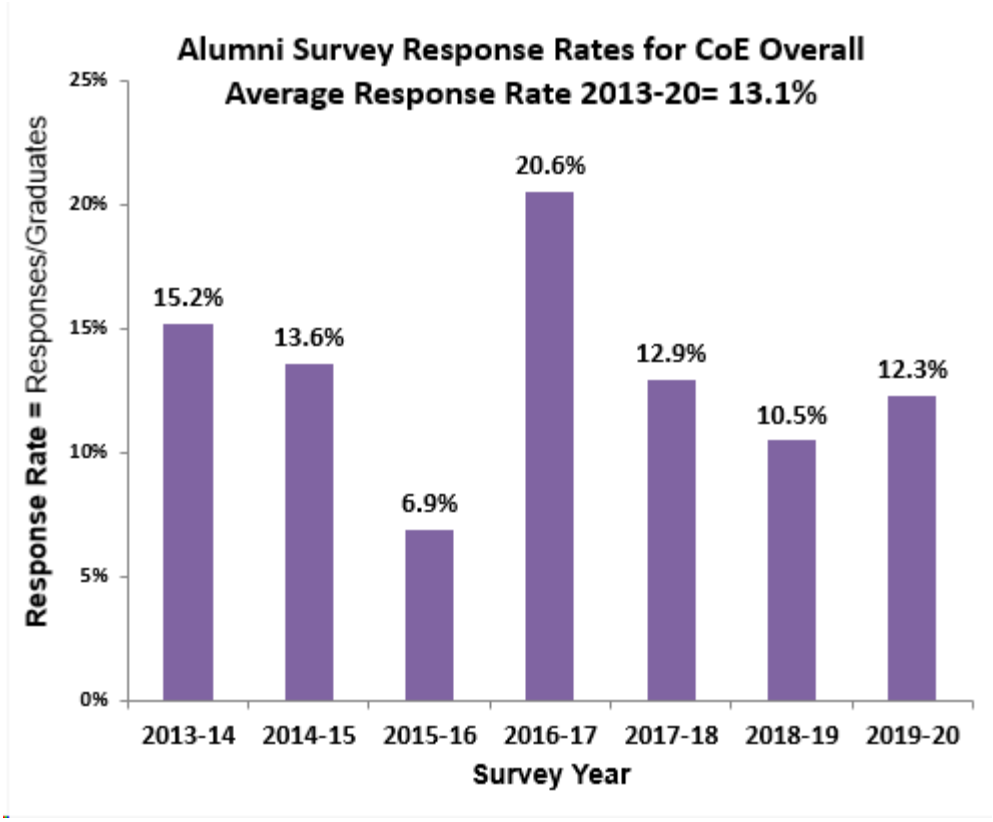

Response Rate = Number of Responses divided by Number of Graduates. Response Rates include CoE and Computer Science Literature Sciences and Arts. Grad rates are computed at the time survey reports are produced. Number of responses count each alum once and number of graduates counts each once, even if alum received multiple degrees.

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Results

Number of Responses from alumni in survey years, graduation years, and program(s) listed above:	16
Number of Graduates from graduation years and program(s) listed above:	91
Response Rate (responses/graduates):	17.6%

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? As a:

	Number of Responses	Response Ratio
First-year student (first time in any college)	16	100%
Transfer student from a two-year college	0	0%
Transfer student from a four-year college	0	0%
Transfer student from another U-M school or college	0	0%
Totals	16	100%

2. What year did you receive your undergraduate degree(s)?

	Number of Responses	Response Ratio
2017	6	38%
2013	7	44%
2009	3	19%
Other (specify):	0	0%
Totals	16	100%

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3. What major(s) did you receive your undergraduate degree in (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%
Interdisciplinary 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	16	100%
Other (specify):	0	0%
Totals	16	100%

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4. What degrees are you pursuing or have you earned, other than those checked in question #3?

	Number of Responses	Response Ratio
No Other Degrees	6	35%
M.B.A.	0	0%
Master's in an engineering field	4	24%
Master's outside of engineering (and not an MBA)	2	12%
J.D. (Law)	0	0%
M.D.	0	0%
Doctorate in an engineering field	4	24%
Doctorate outside of engineering	0	0%
Other (specify degree title):	1	6%
Totals	17	100%

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PART II. UNDERGRADUATE EXPERIENCE

5. What do you consider to be the GREATEST STRENGTH of your undergraduate program?

Number of Responses:	12

6. What do you consider to be the GREATEST WEAKNESS of your undergraduate program?

Number of Responses:	12

7. What one or two specific curriculum changes would you recommend? Why?

Number of Responses:	13

Responses listed on subsequent pages.

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8. 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 = Very Satisfied	4 = Satisfied	3 = Neutral	2 = Dissatisfied	1 = Very Dissatisfied	Response Ratio **Total Responses** **Mean**
Your undergraduate educational experience at the University of Michigan	46% **6**	38% **5**	8% **1**	8% **1**	0% **0**	100% **13** **4.2**
The career services offered to you by the College of Engineering	15% **2**	31% **4**	46% **6**	0% **0**	8% **1**	100% **13** **3.5**

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9. Please rate how IMPORTANT the following competencies and attitudes have been to you in your PROFESSIONAL EXPERIENCE?

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**
An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	69% **9**	15% **2**	15% **2**	0% **0**	0% **0**	100% **13** **4.5**
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	31% **4**	46% **6**	23% **3**	0% **0**	0% **0**	100% **13** **4.1**
An ability to communicate effectively with a range of audiences	69% **9**	31% **4**	0% **0**	0% **0**	0% **0**	100% **13** **4.7**
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	23% **3**	46% **6**	31% **4**	0% **0**	0% **0**	100% **13** **3.9**

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9. Please rate how IMPORTANT the following competencies and attitudes have been to you in your PROFESSIONAL EXPERIENCE? (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**
An 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	62% **8**	38% **5**	0% **0**	0% **0**	0% **0**	100% **13** **4.6**
An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions	62% **8**	31% **4**	0% **0**	8% **1**	0% **0**	100% **13** **4.5**
An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	77% **10**	15% **2**	0% **0**	8% **1**	0% **0**	100% **13** **4.6**

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PART III. WORK EXPERIENCE AFTER UNDERGRADUATE SCHOOLING

10. What is your current employment status? (check all that apply)

	Number of Responses	Response Ratio
Employed or self-employed	10	77%
Student	3	23%
Not currently employed (and not a student)	0	0%
Other (specify):	0	0%
Totals	13	100%

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11. If you are employed or self-employed, what is the industry you work in (check the one that BEST fits)

	Number of Responses	Response Ratio
Aerospace and Defense	0	0%
Automotive and Transport Equipment	0	0%
Banking	0	0%
Chemicals	0	0%
Computer Hardware	0	0%
Computer Software and Services	2	20%
Conglomerates	0	0%
Consulting	0	0%
Consumer Products	0	0%
Education or Academia	0	0%
Electronics	0	0%
Energy	1	10%
Energy and Utilities	1	10%
Engineering Services	0	0%
Entrepreneurial or Start-up	0	0%
Environmental	0	0%
Financial Services	0	0%
Food, Beverage, or Tobacco	0	0%
Government	1	10%
Healthcare Products and Services	0	0%
Insurance	0	0%
International	1	10%
Legal Services	0	0%
Manufacturing	0	0%
Marketing Group	0	0%
Materials and Construction	0	0%

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11. If you are employed or self-employed, what is the industry you work in (check the one that BEST fits) (continued)

	Number of Responses	Response Ratio
Media	0	0%
Medicine	0	0%
Pharmaceutical	0	0%
Research and Development	1	10%
Retail	0	0%
Small Company	0	0%
Social Services	0	0%
Technology	0	0%
Telecommunications	0	0%
Transportation	0	0%
Utilities	2	20%
Other	1	10%
Totals	10	100%

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12. If you are employed or self-employed, is your job in ENGINEERING OR ENGINEERING-RELATED WORK?

	Number of Responses	Response Ratio
Yes	11	100%
No	0	0%
Totals	11	100%

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13. If you are employed or self-employed, which phrase below BEST describes your job function?

	Number of Responses	Response Ratio
Account Management and Planning	0	0%
Accounting and Auditing	0	0%
Analyst	1	10%
Brand Management	0	0%
Business Development	0	0%
Buying or Purchasing	0	0%
Community Service	0	0%
Construction or Contracting	0	0%
Consulting	0	0%
Creative Design	0	0%
Curriculum Development	0	0%
Database Management	0	0%
Distribution	0	0%
Economic or Community Development	0	0%
Engineering	4	40%
Environment or Environmental Policy	0	0%
Finance	0	0%
Health Services or Healthcare	0	0%
Information Management	0	0%
International Business	0	0%
Management	0	0%
Marketing	0	0%
Operations	1	10%
Product Management	0	0%
Production	0	0%
Programming or Software Development	2	20%

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13. If you are employed or self-employed, which phrase below BEST describes your job function? (continued)

	Number of Responses	Response Ratio
Project Management	0	0%
Quality Control	0	0%
Research	0	0%
Risk Management and Assessment	0	0%
Sales	0	0%
Supply Chain Management and Logistics	0	0%
Teaching or Education	0	0%
Technical Writing	1	10%
Technician	0	0%
Training	0	0%
Translation	0	0%
Urban and Regional Planning	0	0%
Warehousing or Materials Management	0	0%
Other	1	10%
Totals	10	100%

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14. What work-related skills or subjects have you learned SINCE COMPLETING YOUR LAST DEGREE? Why did you start that learning? How did you learn each skill or subject (trial-and-error, self-guided study, working under a mentor, formal courses, etc.)?

Number of Responses:	10

Responses listed on subsequent pages.

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15. Are you a registered professional engineer?

	Number of Responses	Response Ratio
Yes	1	8%
No	10	83%
If Yes, please specify the branch of engineering:	1	8%
Totals	12	100%