ANNUAL SALARY REPORT

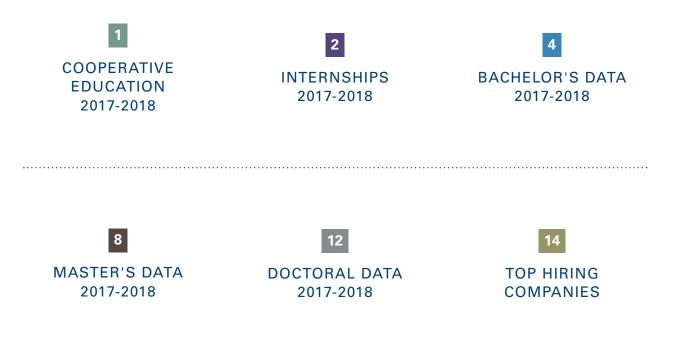
≻ DATA FROM 2017-2018 <

Engineering Career Resource Center





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Engineering Career Resource Center

230 Chrysler Center 2121 Bonisteel Boulevard Ann Arbor, Michigan 48109-2092 <u>career.engin.umich.edu</u> General Questions: (734) 647-7160 ecrc-ocr@umich.edu





COOPERATIVE EDUCATION

The optional non-credit Cooperative Education (Co-op) Program enables undergraduate students to alternate school and work terms and apply their skills to the work setting. In addition to providing a source of valuable talent, co-op students offer employers an opportunity to identify qualified candidates prior to graduation. Ideally, co-op is eight months of hands-on engineering experience, occurring either May through December or January through August.

> TOTAL REGISTERED CO-OP STUDENTS

Adam MS Material Science

The ECRC helped in every step of the career search process. It helped me define the types of jobs I would enjoy as well as the top industries I would like to work in. Further, advice from the ECRC helped me move beyond a polished resume and elevator pitch, to where I was actually developing a professional identity and sense of confidence that was truly desirable to employers.

Full-time employees recruited + hired through co-op have HIGHER RETENTION RATES.

Hires ²	Median Monthly Salary	Average Monthly Salary
15	\$3,200	\$3,445
6	\$3,510	\$3,626
22	\$3,683	\$3,750
11	\$3,467	\$4,471
65	\$5,373	\$5,563
6	\$3,987	\$4,383
9	\$3,683	\$3,658
25	\$3,600	\$3,529
44	\$3,650	\$3,875
	15 6 22 11 65 6 9 25	15 \$3,200 6 \$3,510 22 \$3,683 11 \$3,467 65 \$5,373 6 \$3,987 9 \$3,683 25 \$3,600

1 Majors with fewer than four reported salaries were not listed. For a complete list of majors, see page 11.

2 Hires include the number of students who enrolled in ENGR 400 and provided their salary.



INTERNSHIPS

Non-credit internships are popular among U-M engineering and computer science students. Students have the opportunity to gain valuable work experience in an engineering environment. The assignments typically occur May through August and may be in locations all over the world. Many students at the College participate in internships. **The internships in this publication only include those that were reported to the ECRC.**

Nicole Sparrow Health System

Sparrow Health has hired a number of Michigan Engineering students as analysts and interns working to help our clinicians and other caregivers leverage technology to provide excellent patient care.

Internships are a great way to **DISCOVER TALENT + FIND FUTURE EMPLOYEES.**





BACHELOR'S INTERNSHIP SALARIES REPORTED

Major ¹	Reported ²	Median Monthly Salary	Average Monthly Salary	Range
Aerospace Engineering	28	\$3,160	\$3,268	\$1,806 - \$5,500
Biomedical Engineering	15	\$3,293	\$3,584	\$1,733 - \$7,973
Chemical Engineering	35	\$3,467	\$3,646	\$1,820 - \$6,500
Civil Engineering	21	\$2,600	\$2,930	\$1,907 - \$4,983
Computer Engineering	35	\$3,813	\$4,396	\$1,820 - \$12,133
Computer Science	235	\$5,373	\$5,401	\$1,560 - \$12,133
Data Science	27	\$5,720	\$5,211	\$1,820 - \$9,707
Electrical Engineering	35	\$3,300	\$3,405	\$1,907 - \$5,500
Environmental Engineering	10	\$2,860	\$2,851	\$2,123 - \$3,467
Industrial & Operations Engineering	55	\$3,987	\$4,151	\$1,733 - \$8,334
Materials Science & Engineering	16	\$3,163	\$3,115	\$1,733 - \$4,073
Mechanical Engineering	101	\$3,640	\$3,741	\$1,733 - \$9,533
Naval Architecture & Marine Engineering	7	\$3,250	\$3,287	\$2,080 - \$5,027

MASTER'S INTERNSHIP SALARIES REPORTED

Major ¹	Reported ²	Median Monthly Salary	Average Monthly Salary	Range
Aerospace Engineering	8	\$4,767	\$4,718	\$3,120 - \$5,987
Biomedical Engineering	8	\$4,160	\$4,355	\$1,733 - \$7,627
Computer Science & Engineering	8	\$6,760	\$6,608	\$5,200 - \$8,320
Electrical & Computer Engineering	35	\$5,373	\$5,392	\$2,947 - \$7,800
Global Automotive & Manufacturing Engineering	5	\$4,333	\$4,377	\$3,467 - \$5,200
Industrial & Operations Engineering	6	\$5,287	\$5,836	\$3,467 - \$9,533
Manufacturing	5	\$5,547	\$5,756	\$3,293 - \$8,667
Mechanical Engineering	14	\$4,594	\$5,051	\$2,600 - \$10,400

Majors with fewer than four reported salaries were not listed. For a complete list of majors, see page 11 for Bachelor Degrees and page 15 for Masters Degrees.
Reported data is the number of students who informed the ECRC of their internship and provided their salary. Many students did not report their internships and of those who did report their internship, some students did not provide their salary.





Competitions can help organizations identify top industry talent in **FUN + ENGAGING** ways.



BACHELOR'S GRADUATES

DEMOGRAPHICS	2017–2018 ² Degrees conferred	FALL 2018 ENROLLMENT
Women	27%	27%
Underrepresented Minorities ¹	8%	13%
International Students	14%	12%

MAJOR	2017–2018^{2, 3} Degrees conferred	FALL 2018 ⁴ ENROLLMENT
Aerospace Engineering	107	352
Biomedical Engineering	91	283
Chemical Engineering	136	365
Civil Engineering	60	125
Climate & Meteorology		8
Computer Engineering	94	272
Computer Science (includes LSA)⁵	693	1,704
Data Science (includes LSA)⁵	50	165
Earth Systems Science & Engineering	3	1
Electrical Engineering	116	326
Engineering		3
Engineering Physics	16	37
Engineering Undeclared		1,982
Environmental Engineering	22	87
Industrial & Operations Engineering	200	431
Materials Science & Engineering	47	114
Mechanical Engineering	287	833
Naval Architecture & Marine Engineering	20	60
Nuclear Engineering & Radiological Sciences	29	65
Space Science & Engineering	2	15
Total	1,973	7,228

Jenny Capital One

Michigan Engineering students have the knowledge base and skill set to be successful. But more than skills, they have the ability to think – and that's what is most important to Capital One.

THE AVERAGE BASE SALARY FOR 2017–2018 ENGINEERING BACHELOR'S GRADUATES WAS



1 Includes Black, Hispanic and Native American. % based on ethnicity of domestic CoE, LSA-CS and LSA-DS students.

2 Data compiled from students who graduated August 2017 to June 2018.

3 Students are counted more than once if they received a degree in more than one academic program. Unique student total = 1,882.

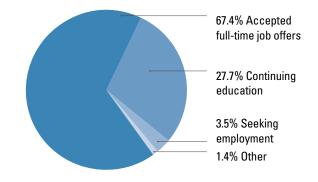
4 Students may elect more than one program; this data only reflects their enrollment in the program designated as primary.

5 Data for Literature, Science, and the Arts (LSA) Computer Science and Data Science is included as it is administered through the Computer Science and Engineering department.



POST-GRADUATION PLANS¹

Employment	1,088	67.4%
Continuing education	446	27.7%
Seeking employment	57	3.5%
Other ²	22	1.4%
Total	1,613	



			mation	
SALARIES BY MAJOR ³	Respondents ⁴	Median	Average	Range
Aerospace Engineering	25	\$70,000	\$70,495	\$59,000 - \$87,500
Biomedical Engineering	11	\$70,000	\$71,818	\$60,000 - \$108,000
Chemical Engineering	42	\$70,656	\$71,187	\$31,200 - \$102,000
Civil Engineering	11	\$67,000	\$64,758	\$54,000 - \$75,000
Computer Engineering	28	\$77,200	\$85,390	\$64,000 - \$140,000
Computer Science	215	\$100,000	\$97,377	\$55,000 - \$162,000
Data Science	13	\$95,000	\$92,500	\$70,000 - \$121,500
Electrical Engineering	36	\$71,000	\$71,933	\$31,200 - \$110,000
Environmental Engineering	4	\$60,000	\$61,750	\$57,000 - \$70,000
Industrial & Operations Engineering	58	\$71,656	\$73,592	\$53,000 - \$140,000
Materials Science & Engineering	10	\$66,750	\$65,762	\$45,000 - \$82,000
Mechanical Engineering	93	\$70,000	\$72,628	\$52,500 - \$120,000
Naval Architecture & Marine Engineering	5	\$60,000	\$64,800	\$55,000 - \$90,000

			Base Salary Information		
SALARIES BY REGION⁵	Respondents ⁶	%	Median	Average	Range
Midwest	251	45.5%	\$70,000	\$72,357	\$31,200 - \$156,000
West	167	30.2%	\$105,000	\$96,711	\$56,000 - \$162,000
Northeast	71	12.9%	\$85,000	\$89,558	\$40,000 - \$140,000
South	63	11.4%	\$76,000	\$79,369	\$53,000 - \$110,000

1 Data was collected on students who graduated in the Academic Year 2018 (July 1, 2017 to June 30, 2018). This data reflects post-graduation plans within six months of graduation. Data was collected on 1,613 out of 1,973 graduates, which equals a knowledge rate of 81.8%.

2 Other includes Military, Volunteer Service, etc.

3 Majors with fewer than four reported salaries were not listed. For a complete list of majors, see page 11.

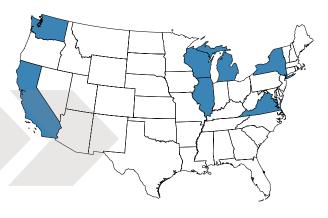
4 Respondents are the number of graduates who indicated they are employed and provided their salary. Some employed graduates did not provide their salary.

5 Salaries outside of the United States were not included.

6 Respondents are the number of graduates who indicated they are employed and provided their salary and location. Some employed graduates did not provide their salary.



JOB ACCEPTANCE BY STATE (TOP 7)1



	Total	1,073	
	Other	222	20.7%
7	Wisconsin	33	3.1%
6	Virginia	35	3.3%
5	New York	91	8.5%
4	Illinois	106	9.9%
3	Washington	125	11.6%
2	California	143	13.3%
1	Michigan	318	29.6%

SALARIES BY SECTOR²

		Base Salary Information		
	Respondents ³	Median	Average	Range
Aerospace & Defense	35	\$70,000	\$71,522	\$57,000 - \$85,000
Automobiles & Parts	45	\$73,000	\$73,044	\$40,000 - \$110,000
Chemicals	6	\$73,500	\$72,906	\$60,000 - \$80,535
Construction & Materials	10	\$63,750	\$63,060	\$56,200 - \$72,400
Consulting/Employment Agencies	33	\$73,500	\$70,585	\$31,200 - \$87,500
Financials	85	\$85,000	\$92,959	\$53,000 - \$150,000
Food & Beverages	10	\$71,000	\$69,256	\$58,000 - \$75,000
Government/Military	8	\$62,000	\$61,953	\$35,000 - \$85,000
Healthcare	17	\$69,000	\$67,000	\$45,000 - \$75,000
Industrial Engineering & Transportation	40	\$70,000	\$73,440	\$55,000 - \$130,000
Insurance	4	\$70,000	\$69,375	\$62,500 - \$75,000
Oil & Gas	14	\$77,500	\$81,100	\$49,000 - \$102,000
Personal & Household Goods	19	\$70,000	\$75,627	\$60,000 - \$162,000
Retail	36	\$106,000	\$100,500	\$67,000 - \$113,000
Software & Computing Services	124	\$100,000	\$96,276	\$56,160 - \$156,000
Technology Hardware & Equipment	36	\$70,750	\$78,084	\$52,500 - \$118,000
Utilities	8	\$68,500	\$68,000	\$65,000 - \$70,000

1 Number and percent are based on the number of graduates who indicated the location of their employing organization.

2 Sectors with fewer than four reported salaries were not listed.

3 Respondents are the number of graduates who indicated they are employed and provided their salary and employing organization. Some employed graduates did not provide their salary and employer.





Michigan Engineering graduate programs are **RATED** among the **TOP** in the nation.



MASTER'S GRADUATES

DEMOGRAPHICS	2017–2018 ² DEGREES CONFERRED	FALL 2018 ENROLLMENT
Women	27%	25%
Underrepresented Minorities ¹	10%	11%
International Students	58%	58%

MAJOR	2017–2018^{2, 3} DEGREES CONFERRED	FALL 2018⁴ ENROLLMENT
Aerospace Engineering	61	115
Applied Climate	4	4
Atmospheric, Oceanic & Space Sciences	2	_
Automotive Engineering	29	55
Biomedical Engineering	79	103
Chemical Engineering	36	22
Civil Engineering	25	57
Climate & Space Sciences & Engineering	13	1
Computer Science & Engineering	69	109
Construction Engineering & Management	11	22
Design Science	11	13
Electrical & Computer Engineering	281	418
Electrical Engineering	13	2
Electrical Engineering-Systems	14	4
Energy Systems Engineering	31	67
Environmental Engineering	22	30
Global Automotive & Manufacturing Engineering	78	175
Industrial & Operations Engineering	101	110
Innovation & Entrepreneurship	1	_
Macromolecular Science & Engineering	8	10
Manufacturing	15	46
Materials Science & Engineering	23	33
Mechanical Engineering	186	244
Naval Architecture & Marine Engineering	25	43
Nuclear Engineering & Radiological Sciences	23	28
Plasma Science & Engineering	2	
Robotics	43	48
Space Engineering	23	31
Structural Engineering	7	11
Systems Engineering & Design	8	33
Unclassified	_	12
Total	1,244	1,846

THE AVERAGE BASE SALARY FOR 2017–2018 ENGINEERING MASTER'S GRADUATES WAS



1 Includes Black, Hispanic and Native American. % based on ethnicity of domestic College of Engineering students.

2 Data compiled from students who graduated August 2017 to June 2018.

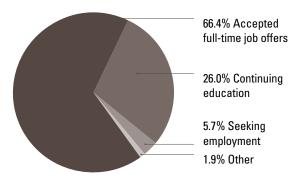
3 Students are counted more than once if they received a degree in more than one academic program. Unique student total = 1,225.

4 Students may elect more than one program; this data only reflects their enrollment in the program designated as primary.



POST-GRADUATION PLANS¹

Employment	669	66.4%
Continuing education	262	26.0%
Seeking employment	57	5.7%
Other ²	19	1.9%
Total	1,007	



Base Salary Information SALARIES BY MAJOR³ Respondents⁴ Median Average Range Aerospace Engineering 11 \$82,500 \$84,733 \$75,500 - \$102,000 7 Automotive Engineering \$80,000 \$80,863 \$70,000 - \$100,000 **Biomedical Engineering** 10 \$75,250 \$73,363 \$60,000 - \$82,625 **Civil Engineering** 4 \$65,313 \$65,356 \$64,800 - \$66,000 **Computer Science & Engineering** 12 \$110,500 \$105,417 \$60,000 - \$140,000 **Electrical & Computer Engineering** 38 \$108,500 \$102,446 \$48,000 - \$170,000 **Electrical Engineering-Systems** 4 \$85,000 \$82,000 \$63,000 - \$95,000 **Global Automotive & Manufacturing Engineering** 5 \$97,000 \$91,000 \$70,000 - \$115,000 \$92,412 Industrial & Operations Engineering 33 \$85,000 \$54,000 - \$130,000 4 Manufacturing \$76,250 \$76,375 \$63,000 - \$90,000 Materials Science & Engineering 5 \$77,000 \$82,900 \$72,500 - \$110,000 **Mechanical Engineering** 42 \$82,000 \$81,119 \$50,000 - \$115,000 Robotics 4 \$111,000 \$115,500 \$80,000 - \$160,000 Space Engineering 8 \$79,000 \$76,626 \$38,400 - \$95,000 Structural Engineering 5 \$65,000 \$63,840 \$61,000 - \$66,000

Base Sal	ary Int	forma	tion
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SALARIES BY REGION⁵	Respondents ⁶	%	Median	Average	Range
Midwest	93	44.5%	\$77,000	\$77,003	\$48,000 - \$130,000
West	76	36.4%	\$100,000	\$99,709	\$38,400 - \$170,000
South	21	10.0%	\$90,000	\$87,367	\$40,000 - \$130,000
Northeast	19	9.1%	\$81,000	\$88,263	\$67,000 - \$130,000

1 Data was collected on students who graduated in the Academic Year 2018 (July 1, 2017 to June 30, 2018). This data reflects post-graduation plans within six months of graduation. Data was collected on 1,007 out of 1,244 graduates, which equals a knowledge rate of 80.9%.

2 Other includes Military, Volunteer Service, etc.

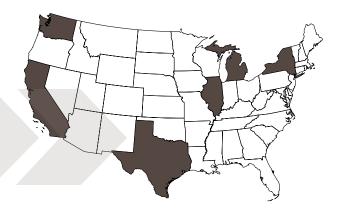
3 Majors with fewer than four reported salaries were not listed. For a complete list of majors, see page 15.

4 Respondents are the number of graduates who indicated they are employed and provided their salary. Some employed graduates did not provide their salary.

5 Salaries outside of the United States were not included.

6 Respondents are the number of graduates who indicated they are employed and provided their salary and location. Some employed graduates did not provide their salary.

JOB ACCEPTANCE BY STATE (TOP 6)1



1	Michigan	234	38.4%
2	California	146	24.0%
3	Washington	51	8.4%
4	Illinois	21	3.4%
5	Texas	19	3.1%
6	New York	18	3.0%
	Other locations	120	19.7%
	Total	609	

		Base Salary Information		
SALARIES BY SECTOR ²	Respondents ³	Median	Average	Range
Aerospace & Defense	19	\$83,000	\$85,641	\$56,000 - \$125,000
Automobiles & Parts	18	\$80,670	\$80,436	\$60,000 - \$100,000
Construction & Materials	4	\$66,500	\$70,050	\$61,200 - \$86,000
Consulting/Employment Agencies	15	\$73,000	\$74,987	\$64,800 - \$100,000
Financials	13	\$105,000	\$100,923	\$75,000 - \$130,000
Healthcare	9	\$75,500	\$75,814	\$60,000 - \$109,000
Industrial Engineering & Transportation	22	\$79,000	\$78,273	\$60,000 - \$97,000
National Laboratory	4	\$90,250	\$81,225	\$38,400 - \$106,000
Oil & Gas	4	\$81,000	\$82,250	\$61,000 - \$106,000
Personal & Household Goods	6	\$80,000	\$82,667	\$80,000 - \$95,000
Retail	8	\$116,000	\$113,375	\$78,000 - \$130,000
Software & Computing Services	23	\$108,000	\$95,061	\$40,000 - \$125,000
Technology Hardware & Equipment	44	\$93,000	\$95,809	\$63,000 - \$160,000
Utilities	4	\$70,025	\$72,169	\$65,625 - \$83,000

1 Number and percent are based on the number of graduates who indicated the location of their employing organization.

2 Sectors with fewer than four reported salaries were not listed.

3 Respondents are the number of graduates who indicated they are employed and provided their salary and employing organization. Some employed graduates did not provide their salary and employer.





Michigan Engineering produces engineers who live up to our **LEADERS** and **BEST** reputation.



DEMOGRAPHICS

	2017–2018 ² DEGREES CONFERRED	FALL 2018 ENROLLMENT	
Women	21%	26%	
Underrepresented Minorities ¹	14%	16%	
International Students	48%	50%	

MAJOR	2017–2018 ^{2,3} DEGREES CONFERRED	FALL 2018 ⁴ ENROLLMENT	
Aerospace Engineering	33	110	
Atmospheric, Oceanic & Space Sciences	9	12	
Biomedical Engineering	17	116	
Chemical Engineering	21	140	
Civil Engineering	14	57	
Climate & Space Sciences & Engineering	1	35	
Computer Science & Engineering	29	236	
Design Science	1	10	
Electrical & Computer Engineering	2	214	
Electrical Engineering	33	56	
Electrical Engineering-Systems	20	23	
Engineering Educaton Research	_	1	
Environmental Engineering	4	29	
Industrial & Operations Engineering	10	72	
Macromolecular Science & Engineering	9	40	
Manufacturing	_	4	
Materials Science & Engineering	19	97	
Mechanical Engineering	39	250	
Naval Architecture & Marine Engineering	7	31	
Nuclear Engineering & Radiological Sciences	13	111	
Nuclear Science	1	1	
Robotics	_	46	
Total	282	1,691	

Jennifer Shell

Michigan Engineers have a history and reputation for being very successful at Shell. They tend to be very goal oriented and able to prioritize in order to meet those goals, both short term and long term.

THE AVERAGE INDUSTRY BASE SALARY FOR 2017-2018 ENGINEERING DOCTORAL GRADUATES WAS

\$107,898

1 Includes Black, Hispanic and Native American. % based on ethnicity of domestic Engineering students.

2 Data compiled from students who graduated August 2017 to June 2018.

3 Students are counted more than once if they received a degree in more than one academic program. Unique student total = 282.

4 Students may elect more than one program; this data only reflects their enrollment in the program designated as primary.



TOP HIRING COMPANIES (2017-2018)^{1, 2}

COMPANY	FULL-TIME	CO-0P	INTERN	TOTAL HIRES
Amazon	82	8	30	120
General Motors	94	2	6	102
Microsoft	57	4	13	74
Ford Motor Company	45	_	28	73
JP Morgan Chase	15	_	38	53
Facebook	32	5	14	51
Google	35	4	7	46
Apple	35	4	5	44
Northrop Grumman	26	_	15	41
Aptiv	29	_	6	35
Epic	28	_	5	33
Capital One	19	_	11	30
Goldman Sachs	11	1	14	26
Boeing	19	_	6	25
Stryker	8	_	16	24
Bosch	13	_	9	22
Raytheon	19	_	3	22
SpaceX	15	5	2	22
Cummins	5	9	7	21
DTE Energy	8	3	9	20
Bloomberg	12	_	7	19
Jualcomm	12	1	6	19
exas Instruments	5	_	14	19
ntel	13	_	4	17
Dow Chemical	7	3	6	16
Tesla Motors	10	4	2	16
at Chrysler Automobiles	11	1	3	15
BM	12		3	15
VASA	3	6	6	15
Procter & Gamble	9	_	6	15
ōyota	6	7	2	15
General Electric	5	2	7	14
Vedtronic	3		11	14

Complete list available at career.engin.umich.edu/companylist.

1 University of Michigan was excluded from this list. They had 91 total hires.

2 Data calculated by jobs reported within six months of graduation. More hires may have been made than are listed.



TOP HIRING COMPANIES (2017–2018)



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This publication includes post-graduate and salary data reported as of November 2018.

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