

2015  
2016

# ANNUAL REPORT

Data from 2014-2015

Engineering Career Resource Center



# Welcome



I am pleased to share with you the 2015-2016 issue of the Engineering Career Resource Center (ECRC) Annual Report. The report contains information on the post-graduation activities of August 2014 – April 2015 graduates and hiring activity for the College of Engineering Internship and Cooperative Education (Co-op) Program.

This year's salary and recruiting data shows that Michigan Engineers are highly sought after by numerous employers. Bachelor's level students reported an increase in accepting full-time employment over graduate school. Many majors saw average salary increases over last year's salaries.

The ECRC continued to provide a range of services to graduate and undergraduate students and alumni of the College. As always, our goal is to assist students in gaining valuable professional experiences that will help them make a successful transition from school to career. We focused on resume writing, interviewing skills, mock interviews and job search strategies. We look forward to another exciting year.

Sincerely,

A handwritten signature in black ink that reads "Kerri Boivin". The script is fluid and cursive.

Kerri Boivin  
Director, Engineering Career Resource Center  
College of Engineering  
University of Michigan



# Cooperative Education

The optional non-credit Cooperative Education (Co-op) Program enables 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.

## Registered Co-op Students

Total  
**226**

### Ariana Bruno

BSE ME '15

My co-op experience has really helped broaden the horizon of possibilities after graduation that I never knew existed or would pique my curiosity. It is definitely an experience I will forever look back on and appreciate all the skills I have been able to pick up beyond the classroom setting.



## Co-op Salaries and Hires

Program <sup>†</sup>	Hires <sup>††</sup>	Median Monthly Salary	Average Monthly Salary
Aerospace Engineering	14	\$3,207	\$3,379
Biomedical Engineering	5	\$3,302	\$3,399
Chemical Engineering	19	\$3,871	\$4,363
Civil Engineering	4	\$2,427	\$2,448
Computer Engineering	15	\$5,200	\$5,260
Computer Science	52	\$5,921	\$5,814
Electrical Engineering	12	\$6,013	\$5,036
Environmental Engineering	4	\$3,142	\$3,142
Industrial & Operations Engineering	36	\$3,640	\$3,777
Materials Science & Engineering	7	\$3,328	\$3,215
Mechanical Engineering	43	\$3,293	\$3,383

<sup>† †</sup> Majors with less than 4 submissions were omitted.

<sup>††</sup> 14 students registered for ENGR 400, but did not provide salary information. Their data was omitted.



# Internships

Non-credit internships are popular amongst 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.**



## Nabeel Kasim

BSE IOE '15

I am working at Girişim Asset Management a subsidiary of the larger FIBA Holding Group. Girişim is a financial asset management company. My internship abroad in Turkey exposed me to a whole new culture and work environment. I will be able to work in the U.S. with greater insight in global operations.



## Bachelor's Internship Salaries Reported

Majors <sup>†</sup>	Reported <sup>††</sup>	Median Monthly Salary	Average Monthly Salary	Range
Aerospace Engineering	19	\$3,467	\$3,538	\$2,427 - 5,200
Biomedical Engineering	13	\$3,293	\$3,211	\$2,000 - 4,467
Chemical Engineering	40	\$3,857	\$3,855	\$1,875 - 6,626
Civil Engineering	11	\$2,600	\$2,470	\$1,907 - 3,033
Computer Engineering	34	\$4,160	\$4,661	\$2,167 - 8,500
Computer Science	113	\$5,200	\$5,122	\$1,907 - 9,013
Electrical Engineering	32	\$3,597	\$3,731	\$1,733 - 6,970
Environmental Engineering	7	\$2,080	\$2,414	\$1,733 - 3,467
Industrial & Operations Engineering	60	\$3,467	\$3,817	\$1,667 - 8,000
Materials Science & Engineering	20	\$3,311	\$3,317	\$1,560 - 4,917
Mechanical Engineering	90	\$3,467	\$3,501	\$1,733 - 6,967

<sup>†</sup> Majors with less than 4 submissions were omitted.



## Master's Internship Salaries Reported

Program <sup>†</sup>	Hires <sup>††</sup>	Median Monthly Salary	Average Monthly Salary	Range
Aerospace Engineering	6	\$4,367	\$4,128	\$2,167 - 5,200
Automotive Engineering	7	\$4,160	\$4,376	\$2,600 - 7,500
Biomedical Engineering	5	\$3,120	\$3,328	\$1,733 - 5,200
Computer Science & Engineering	10	\$6,717	\$6,648	\$3,987 - 8,500
Electrical Engineering	18	\$4,940	\$4,531	\$2,600 - \$5,800
Electrical Engineering: Systems	14	\$4,745	\$5,091	\$3,120 - 8,320
Industrial & Operations Engineering	14	\$4,507	\$4,850	\$3,120 - 7,800
Manufacturing	5	\$4,853	\$4,727	\$1,841 - 6,300
Mechanical Engineering	23	\$4,400	\$4,346	\$2,427 - 7,084

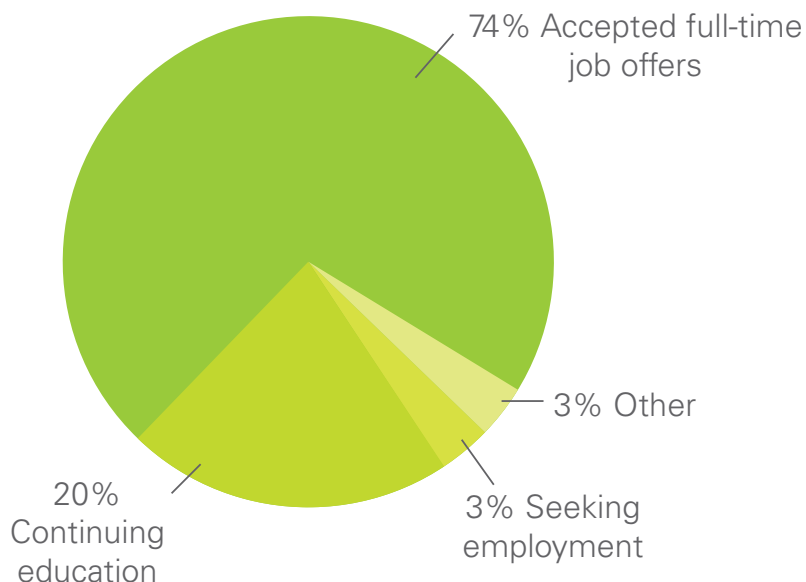
<sup>†</sup> Programs with less than four submissions were omitted.

<sup>††</sup> 125 students from the different degree levels reported hires, but did not provide salary information. Their data was omitted.



# Bachelor's Graduates

## Post-graduation Plans



Note: Out of graduating class of 1,554, data on 1,113 students was collected from December 2014 to October 30, 2015. Knowledge rate = 72%.





## Salaries by Major

Data reflects total respondents indicating salary

	Respondents*	Base Salary Information		
		Median	Average	Range
Aerospace Engineering	13	\$61,500	\$61,692	\$49,000 - 93,000
Biomedical Engineering	7	\$65,000	\$64,686	\$60,000 - 69,000
Chemical Engineering	24	\$72,000	\$73,547	\$40,000 - 108,000
Civil Engineering	9	\$57,595	\$61,835	\$49,920 - 90,000
Computer Engineering	22	\$78,800	\$82,277	\$60,000 - 115,000
Computer Science	99	\$95,000	\$91,151	\$55,000 - 160,000
Electrical Engineering	23	\$70,000	\$70,383	\$60,000 - 85,000
Industrial & Operations Engineering	71	\$66,000	\$66,200	\$45,000 - 85,000
Materials Science & Engineering	18	\$69,000	\$67,221	\$53,786 - 87,000
Mechanical Engineering	82	\$67,000	\$65,914	\$45,000 - 80,000
Naval Architecture & Marine Engineering	4	\$56,500	\$55,444	\$44,776 - \$64,000

\* Categories with less than four data points were omitted.



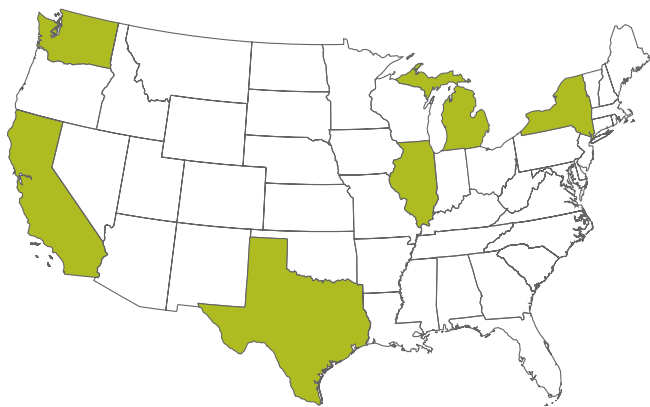
## Salaries by Region

Data reflects total knowledge of salary and location

				Base Salary Information		
		Respondents	%	Median	Average	Range
Midwest	IA, IL, IN, KS, MI, MN, MO, NE, ND, OH, SD, WI	190	52%	\$67,004	\$67,185	\$40,000 - 108,000
West	AK, CA, HI, ID, MT, NV, OR, UT, WA, WY	77	21%	\$95,000	\$92,334	\$50,000 - 130,000
Northeast	CT, MA, ME, NH, NJ, NY, RI, VT	40	11%	\$72,500	\$76,814	\$44,776 - 115,000
South	AL, FL, GA, KY, LA, MS, NC, SC, TN	23	6%	\$65,000	\$65,452	\$49,000 - 96,000
Mid-Atlantic	DC, DE, MD, PA, VA, WV	17	5%	\$67,000	\$68,235	\$54,000 - 88,000
Southwest	AZ, CO, NM, OK, TX	16	4%	\$72,000	\$73,900	\$55,000 - 108,000

## Job Acceptances by State (Top 6)

Data reflects total knowledge of location



1	Michigan	260	41%
2	California	68	11%
3	Illinois	57	9%
4	New York	51	8%
5	Washington	49	8%
6	Texas	21	3%
	<i>Other locations</i>	125	20%
	<b>Total</b>	<b>631</b>	



## Salaries by Sector

Data reflects total knowledge of salary and employer

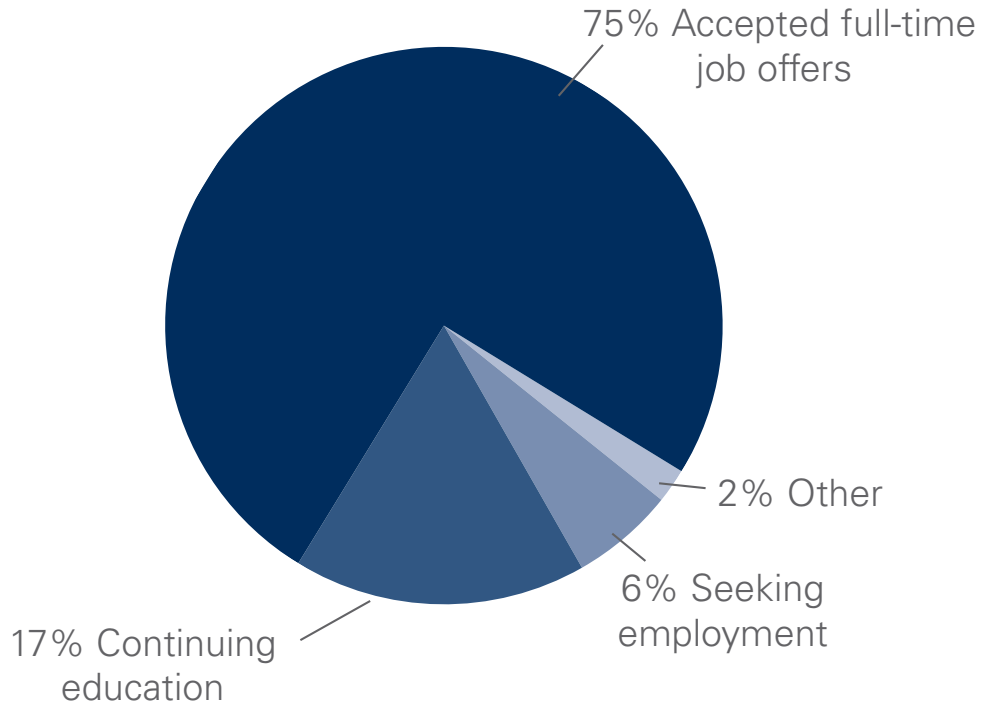
	Respondents*	%	Base Salary Information		
			Median	Average	Range
Aerospace & Defense	26	7%	\$63,919	\$65,000	\$49,000 - 77,000
Automotive & Transport Equipment	59	17%	\$66,788	\$70,000	\$50,048 - 80,000
Chemicals	11	3%	\$72,585	\$72,000	\$70,000 - 75,836
Computer Hardware	12	3%	\$86,417	\$80,500	\$72,000 - 110,000
Computer Software & Services	87	25%	\$92,170	\$95,000	\$50,000 - 160,000
Consulting	33	9%	\$68,761	\$70,000	\$50,000 - 93,000
Consumer Products	16	5%	\$69,831	\$66,000	\$62,000 - 115,000
Energy & Utilities	18	5%	\$76,264	\$69,500	\$60,000 - 108,000
Engineering Services	8	2%	\$63,565	\$60,000	\$49,920 - 104,000
Financial Services	23	6%	\$69,913	\$70,000	\$55,000 - 100,000
Government	5	1%	\$58,456	\$63,600	\$44,776 - 68,903
Healthcare Products & Services	8	2%	\$62,269	\$61,750	\$60,000 - 65,650
Manufacturing	44	12%	\$64,012	\$65,000	\$40,000 - 77,600
Materials & Construction	4	1%	\$62,399	\$62,298	\$50,000 - 75,000

\* Categories with less than 4 data points were omitted.



# Master's Graduates

## Post-graduation Plans



Note: Out of graduating class of 1,041, data on 672 students was collected from December 2014 to October 30, 2015. Knowledge rate = 65%.



## Salaries by Program

Data reflects total respondents indicating salary

	Respondents*	Base Salary Information		
		Median	Average	Range
Aerospace Engineering	6	\$75,000	\$73,833	\$56,000 - 82,000
Automotive Engineering	6	\$72,000	\$70,500	\$63,000 - 78,000
Biomedical Engineering	11	\$70,720	\$69,529	\$55,000 - 85,000
Computer Science & Engineering	12	\$105,000	\$101,667	\$72,000 - 120,000
Electrical Engineering	17	\$90,000	\$91,324	\$70,000 - 116,000
Electrical Engineering: Systems	19	\$80,000	\$88,500	\$65,000 - 125,000
Energy Systems Engineering	5	\$67,000	\$71,800	\$63,000 - 95,000
Environmental Engineering	4	\$68,280	\$67,965	\$65,000 - 70,300
Financial Engineering	4	\$92,500	\$89,500	\$63,000 - 110,000
Industrial & Operations Engineering	31	\$75,000	\$81,858	\$48,000 - 135,000
Mechanical Engineering	23	\$75,000	\$75,943	\$64,000 - 105,000
Space Engineering	7	\$76,380	\$76,569	\$62,000 - 93,106

\* Categories with two or less respondents were omitted.



## Salaries by Region

Data reflects total respondents indicating salary and location

	Respondents	%	Base Salary Information			
			Median	Average	Range	
Midwest	IA, IL, IN, KS, MI, MN, MO, NE, ND, OH, SD, WI	74	47%	\$74,000	\$72,796	\$46,000 - 135,000
West	AK, CA, HI, ID, MT, NV, OR, UT, WA, WY	44	28%	\$95,553	\$95,871	\$64,000 - 125,000
Southwest	AZ, CO, NM, OK, TX	21	13%	\$76,380	\$79,923	\$62,000 - 120,000
Mid-Atlantic	DC, DE, MD, PA, VA, WV	9	6%	\$70,000	\$74,506	\$49,000 - 120,000
Northeast	CT, MA, ME, NH, NJ, NY, RI, VT	8	5%	\$79,500	\$86,750	\$67,000 - 120,000

## Job Acceptances by State (Top 6)

Data reflects total knowledge of location



1	Michigan	95	37%
2	California	50	19%
3	Illinois	19	7%
4	Washington	16	6%
5	Texas	15	6%
6	New York	12	5%
	<i>Other locations</i>	51	20%
	<b>Total</b>	<b>258</b>	



## Salaries by Sector

Data reflects total knowledge of salary and employer

	Respondents*	%	Base Salary Information		
			Median	Average	Range
Aerospace & Defense	13	9%	\$77,000	\$81,133	\$62,550 - 120,000
Automotive & Transport Equipment	25	18%	\$75,000	\$75,168	\$60,000 - 95,000
Computer Hardware	5	4%	\$110,000	\$99,800	\$75,000 - 120,000
Computer Software & Services	29	21%	\$105,000	\$102,069	\$60,000 - 125,000
Consulting	14	10%	\$75,000	\$76,071	\$63,000 - 110,000
Energy & Utilities	6	4%	\$67,500	\$70,000	\$60,000 - 85,000
Engineering Services	6	4%	\$62,500	\$61,047	\$46,000 - 70,720
Financial Services	6	4%	\$94,000	\$96,417	\$55,500 - 135,000
Government	4	3%	\$82,500	\$82,000	\$73,000 - 90,000
Healthcare Products & Services	5	4%	\$64,000	\$64,100	\$48,000 - 75,000
Manufacturing	28	20%	\$74,000	\$74,250	\$55,000 - 105,000

\* Categories with less than four data points were omitted.

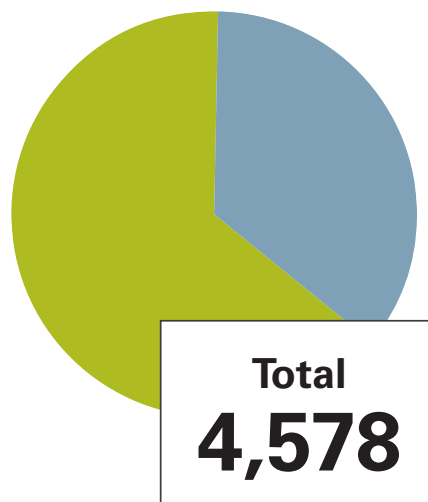


# Recruiting Season

## On-campus Interviews

### ENGenius.Jobs Postings \*

Term	Jobs Posted
Summer/Fall 2014	4,030
Winter/Spring 2015	3,577
<b>Total</b>	<b>7,607</b>





## Undergraduate Majors Most Requested by Organizations in Job Postings

Major	# of Jobs Posted*	% of Total Jobs Posted
Computer Engineering	3,970	65%
Computer Science	3,956	64%
Electrical Engineering	3,822	62%
Mechanical Engineering	3,271	53%
Industrial & Operations Engineering	2,433	40%

\* 6,135 total jobs posted for undergraduate degree candidates from July 2014 to June 2015. Some postings seek candidates from more than one major.



## Top Hiring Companies (2014-2015)\*

	Full-time	Co-op	Intern	Total Hires
General Motors	71	1	8	<b>80</b>
Ford Motor Company	61	-	15	<b>76</b>
Microsoft	43	3	15	<b>61</b>
Amazon	24	7	12	<b>43</b>
Google	25	4	9	<b>38</b>
Facebook	12	7	14	<b>33</b>
General Electric	14	5	14	<b>33</b>
Cummins, Inc.	16	1	13	<b>30</b>
Intel Corporation	19	1	8	<b>28</b>
Toyota Motor	6	12	7	<b>25</b>
Goldman Sachs	15	3	6	<b>24</b>
Apple, Inc.	12	4	6	<b>22</b>
Bosch	11	1	9	<b>21</b>
Dow Chemical USA	12	4	5	<b>21</b>
Boeing Company, The	13	-	7	<b>20</b>
PwC	14	2	4	<b>20</b>
Fiat Chrysler Automobiles	10	-	9	<b>19</b>
Qualcomm Incorporated	9	2	8	<b>19</b>
NASA	7	4	6	<b>17</b>
IBM	13	-	3	<b>16</b>
Lockheed Martin	16	-	-	<b>16</b>
J.P. Morgan Chase	10	-	5	<b>15</b>

Complete list available at [career.engin.umich.edu/companylist.pdf](http://career.engin.umich.edu/companylist.pdf)





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This publication includes post-graduate  
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