

2018 Architectural Engineering *Career Fair*



Placement & Salary Summary

for the Penn State

Bachelor of Architectural Engineering (BAE) and

Master of Architectural Engineering (MAE)

Graduating Class of 2018

Department of Architectural Engineering

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PennState
College of Engineering

**ARCHITECTURAL
ENGINEERING**

25th Annual AE Career Fair
A Quarter Century of Making Careers

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Introduction

Each year the Architectural Engineering Department (AE) conducts a voluntary exit survey under the supervision of Professor M. Kevin Parfitt to obtain historical information relative to salary offers, acceptances, employment details, and related information such as student placement preferences. This year the published details continue to highlight a variety of information related to salaries including separate categories of data for the BAE and MAE degree programs and regional and city averages as well as upper level undergraduate internship wages.

Discussion of Survey Results

Class Average:

The demand for 2018 Penn State AE graduates continued a steady upward climb based on the placement rate, number of offers received, and the number of unfilled job positions offered to AE students. Positive demand is also evidenced by an increase in the average salary figures for almost all categories of offers and acceptances (refer to the figures on page 7 of this report). The value of the average offer accepted by the Class of 2018 increased 2.6% to \$63,260 and the demand for top performing students continues to be very strong with high salary offers in all of the four options increasing and ranging from \$69,000 up to \$76,000 this year.

Industry demand was also identified by an increase in the number of Fall Semester offers. The percentage of students accepting offers in Fall increased dramatically from 57 to 79 percent!

By the Percentages...

79... Percentage of students accepting their full time employment offer in Fall Semester (by Dec 31). *A new record!*

32... Highest percentage of students accepting their offers in a single month (November).

31... Percentage of students accepting an offer from one of their previous internship employers.

81... Percentage of students accepting their highest offer.

2.6... Average percentage increase in value of all offers of employment accepted in 2018 compared to 2017.

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Employment Rate:

Using the survey in conjunction with informal polling, exit questioning and a post-graduation follow up inquiry to the faculty indicates that 100% of May 2018 AE graduates who were actively searching for work have accepted offers as of the date of this report. It is believed that at least 97% had offers prior to graduation in early May. This does not include a small number of MAE students (4) returning in the fall who will graduate in December of 2018. Also not included were students entering some form of military service, foreign students who were returning to their home countries before searching for positions and students who were not US citizens who did not have a visa allowing them to remain in the US without sponsorship.

“...100% of May 2018 graduates who were actively searching for work accepted offers...”

Non – Salary Considerations:

Student feedback continues to indicate that factors such as type of projects, location, opportunity for learning and advancement, working atmosphere, type of company, available support resources including technology and many other non-salary factors remain considerations when students are evaluating an offer despite the economic pressures to accept offers based on salary alone.

It is important to note that Penn State Architectural Engineering students are provided with a full range of career planning information as part of the professional practice and career development activities in the Senior Thesis Program including guest industry speakers on the topic. As such, AE students are encouraged to investigate and evaluate all factors including job satisfaction and the type and value of various benefit and retirement plans that may impact the student or employer as part of a first professional employment position decision.

Students in the class of 2018 indicated that the following six categories are the qualifications and experiences those students felt the *employers conveyed as most important* during discussions and interviews:

1. **Work Experience:** Previous Summer / Internship Experience in the industry, volunteer service and service-learning projects and national competition experience. Experience as a teaching assistant / TA for an AE class. Hands-on experience and transferrable skills and knowledge.

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2. **Personal Traits:** Work ethic, motivation and professionalism. Enthusiasm, personality and communication skills including interview response skills and the ability to communicate the vision of the type of job desired. Self-starter abilities, reasoning and problem solving skills, demonstration of leadership, organizational and other soft skills. Expression of interest in working for a particular company. Extracurricular experiences.
3. **Education, Knowledge, Technical Skills and Academic Experience:** GPA, professional degree (e.g. BAE & MAE) and specific courses and knowledge such as BIM, IPD, and advanced modeling software skills. Understand how to read drawings, knowledge of systems & details and how buildings go together. Participated in study abroad. Certifications: FE / EIT, LEED, etc. Demonstration of ability to learn.
4. **Integrated Team Experience:** Experience in BIM Studio (co-lab), BIM Thesis (AEI National Competition) and related activities.
5. **“Job Hunt Preparation” and Interview Skills:** Quality resume that is correct and easy to read / visually scan, research / knowledge of companies prior to interview, ability to hold / lead a conversation, ability to provide expanded resume, sample work or portfolio as follow up if requested.
6. **Flexibility:** Office or job location, willingness to travel for job requirements. Ability to juggle tasks on short notice.

When surveyed concerning their priorities for finding the right first employer or entry level position, students in the class of 2018 provided an extensive list of criteria as might be expected. The **most common categories or influence items** (unranked order) stated as used by students in evaluating offers and final selection of companies were little changed from last year. Representative examples are noted below for reference.

- Type of position / type of projects.
- Salary, benefits and overall compensation plan (vacation, flextime, signing bonus, annual bonus, retirement plan, overtime pay or comp time, personal time off when appropriate, etc.).
- Opportunity for advancement, personal development and long-range career track planning opportunities.
- Reputation of firm including office culture.
- Geographic Location / City vs. Suburb / Distance from family and friends / cost of living.

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- Strong Leadership and Management team / positive working atmosphere / co-workers / age of co-workers.
- Personality and attitude of primary employer contact during the recruiting process, communication during interview and entire recruiting process (stay in contact), office environment and positive feelings during the office visit and related activities.
- Size of organization and number of offices.
- Experience and quality of previous internship with the company.
- Recognition of work-life balance expressed by recruiters.
- Willingness to sponsor student (non-US citizens).

Internships as a Recruiting Tool

Internships are a valuable learning experience for students that helps prepare them to enter the profession at a later date. In addition, summer jobs and internships are also a good marketing strategy for companies to use for full time employment. For the Class of 2018, approximately 31% accepted full time positions with one of the companies where they worked as a summer intern. *This indicates that summer internships are one of the most effective methods employers can use to recruit Penn State AE students.* The exact distribution of previous summer jobs to most recent internships was not tracked as a part of the survey information collected.

Not Included in the Survey:

Please note that moving expenses, housing allowances, automobile allocations, etc. were not figured into any of the salary category calculations. In addition, reported salaries based on anticipated or “projected” commissions or year-end bonuses were not included in this summary. ***Figures were not included, nor totals adjusted, for the value of benefit packages because most students do not have access to the full specifics and associated financial value of these items at the time of job offers, discussions and acceptance.*** In some cases, the students were provided the details but were told the information was confidential and not to be discussed with other employers, etc.

Responses from continuing students reporting offers for summer jobs and internships and students serving in branches of the US Military Services or public service positions (Teach for America, AmeriCorps, etc.) were not included in the survey figures. Internship wage information is listed as a separate item on the salary summary chart.

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Timing – When Employers Make Offers and When Students Accept

As design and construction activity continued to expand this past year, a number of companies implemented a more aggressive approach to recruiting in an attempt to obtain quality future employees. For the fifth year in a row, the timing in which offers were made and students accepted positions has accelerated. In conjunction with the timing of the University and AE Career Fairs, which were both held in September, 79% of students (up from 57% last year) accepted their employment offers in fall semester. This is a new record for AE. *The acceptance rate continued to rise at the start of the year and was at 90% by January 31, 2018.*

Students were often encouraged to make early decisions in order to lock in employment. A number of students also indicated that they were in favor of the early offer and decision process in order to finalize employment decisions prior to the push to finish AE Senior Thesis in the spring. Approximately 13% of students made their decisions by the end of September, shortly after the AE Career Fair.

The table that follows indicates the general timeframe of when students were provided with offers and the month in which they made their decisions:

Month	Percent of Total Offers Made by Companies	Percent of Students Accepting an Offer of Employment
August or before	10	3
September	11	10
October	28	11
November	31	32
December	11	23
January	4	11
February	1	5
March	1	1
April	1	1
May or later	2	3

Internships

Average hourly rates for summer jobs and internships for upper level AE Students (primarily seniors and returning BAE/MAE December graduates) varied based on such factors as size, type and location of the firms involved. Wages ranged from \$17.00 to \$25.00 per hour. It is important to note that some of these summer internship offers included housing or living allowances and incentive scholarships while a small percentage of summer offers included housing provided or paid for directly by the employer.

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Summary:

Overall offers of compensation varies widely from firm to firm as can be seen from a review of the highest and lowest offers noted in the summary table which ranged from \$45,000 to \$76,000 for the overall class. Students also reported significant differences among firms in such items as benefit packages, moving allowances, bonus and overtime pay, type and timing of performance reviews, and support for such items as professional society membership and travel reimbursement for conferences and continuing education events.

For More Information:

Questions related to this summary report or general information on recruiting Penn State AE students should be addressed to Professor M. Kevin Parfitt (mkp@psu.edu). For information related to the annual AE Career Fair, updating your contact information, obtaining student resumes, scheduling an on-campus recruiting visit or other recruiting activities involving the AE Department and our students, please contact Richelle Weiger (rbw11@psu.edu).

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Salary Summary Information^{1 2}

September 10, 2018

AE Salary Survey Category	Construction	Lighting / Electrical	Mechanical	Structural
Offers				
Average BAE Salary – All Offers	\$ 65,540	\$ 57,650	\$ 55,180	\$ 59,030
Average MAE Salary – All Offers	\$ 67,000	\$ 58,130	\$ 59,400	\$ 62,440
Avg. BAE + MAE Salary – All Offers	\$ 66,110	\$ 57,900	\$ 57,740	\$ 61,560
Change in Overall Class Avg. from 2017	6.2%	5.2%	(2.4)%	4.5%
Accepted				
Average BAE Salary - Accepted	\$ 66,080	\$ 58,630	\$ 61,760	\$ 59,040
Average MAE Salary - Accepted	\$ 66,970	\$ 62,000	\$ 64,150	\$ 61,090
Avg. BAE + MAE Salary - Accepted	\$ 66,450	\$ 60,070	\$ 63,200	\$ 60,300
Change in Overall Class Avg. from 2017	5.8%	3.4%	3.6%	1.2%
Accepted with a company that was one of their previous internship employers.	46%	29%	25%	18%
High – Low				
Highest Reported Offer	\$ 76,000	\$ 71,000	\$ 69,000	\$ 69,000
Lowest Reported Offer	\$52,000	\$ 45,000	\$ 55,000	\$ 48,000
Students Accepting their Highest Offer	79%	71%	70%	67%
Bonus				
Average Bonus	\$2,300	NA	\$3,170	\$2,060
Offers that included a signing bonus ³	20%	0%	22%	26%
Class of 2018 - Overall Averages				
Average Salary Offered – All Options	2018 \$ 61,700	2017 \$ 59,341	Difference \$ 2,359	Change 4.0%
Average Salary Accepted – All Options	\$ 63,260	\$ 61,653	\$ 1,607	2.6%
Survey Response Rate - 90%				
	87	89	100	91

¹ Information contained in this summary represents only those students in the Class of 2018 who responded to the survey as of August 1, 2018. In other words, students who graduated with either a BAE or MAE in May 2018 are the primary pool used for this survey. It does not contain salary figures for those returning MAE students who will graduate in December of 2018 unless they reported an early acceptance.

² Four MAE students in this class are scheduled to graduate in December of 2018 and their salaries are not included in this summary.

³ Approximately 35% of students indicated that they would receive a moving allowance as a separate item.

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L/E Option Average Salary Offer Breakdown ⁴	Percentage of Total Offers	2018
Lighting Designer or Lighting Engineer Position Only	69%	\$ 56,750
Positions Described as Primarily Electrical or Elect/Ltg	24%	\$ 61,090
Positions Described as Lighting / Electrical (L/E)	7%	\$58,250

“Non - Traditional” AE Employment Categories ⁴ Averages of Offers	2018
Forensics / Building Science / Building Envelope	\$ 68,000.
Facilities Management (for Owner)	\$ 64,500
BIM and VR Specialists	\$ 69,500
“Big 4” Professional Services Companies	\$ 68,500

Summer Internships ⁵	2018
Range – All Options	\$17.00 - \$ 25.00 per hour
<i>Applies to Returning Seniors & MAE Students, not necessarily the entire undergraduate population. Note this is a very limited sample as most students were pursuing permanent full time employment.</i>	

Graduate School ⁶	2018
Number of students indicating Graduate School in lieu of full time employment at this time.	None
Types of graduate degree being pursued	NA

⁴ Please note that the Lighting / Electrical Option Figures are based on a small sample size of students (split between Lighting Design, Electrical Design positions and L/E) and may not accurately reflect industry averages in this field.

⁴ Averages based on small sample sizes.

⁵ Some internship offers for these upper level students included housing or housing allowances in addition to the hourly rate noted in the chart. Those allowance figures are not averaged into the wages shown in the chart.

⁶ Does not include any students returning for one semester to finish their Penn State Integrated BAE/MAE degrees. Those students are accounted for under Internships for those who responded.

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Average Salary Offers BAE & MAE Mixed (Not Necessarily Acceptances) Popular Locations ⁷	Construction	Lighting/ Electrical	Mechanical	Structural
Greater Baltimore Metro Area	\$ 64,800	\$ 58,500	\$ 61,000.	\$ 58,800
Washington DC Metro Area (Including Northern VA, Rockville, MD Reston etc.)	\$ 66,900	\$50,250	\$ 64,900	\$ 65,700
New York City Metro Area (NYC, NJ, CT)	\$ 69,500	\$ 59,100	\$ 63,800	\$ 65,400
Boston Metro Area	-	\$ 59,000	\$ 63,700	-
Greater Orlando Area	-	\$ 59,000	\$61,700	\$ 60,100
Pennsylvania Cities				
Misc. PA Cities: Harrisburg ,Lancaster, Johnstown	-	-	-	\$ 55,600
Philadelphia Metro Area (including NJ)	\$ 62,300	\$ 58,700	\$ 61,300.	\$ 59,500
Pittsburgh Metro Area	\$ 59,000	-	\$ 59,300	\$ 58,400
Multi-City Mixed Averages				
Raleigh, Charlotte, Cocoa FL, Orlando, Tampa, Atlanta, St. Louis, Phoenix, Denver, Golden, Detroit, San Diego, Los Angeles,	\$ 66,300	-	-	\$ 59,400

⁷ No salary is listed unless there were at least two offers. No salary is listed if all the offers for that city were from the same company. Salaries for some cities area a compilation of locations in the general geographic area of that city and should not be construed specifically as a downtown location.