



2016 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 2016

Department of Architectural Engineering

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PennState
College of Engineering

**ARCHITECTURAL
ENGINEERING**

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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 2016 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 6 of this report). The value of the average offer accepted by the Class of 2016 increased to \$59,180 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 \$68,000 up to \$73,840 this year.

By the Percentages...

62... Percentage of students accepting their full time employment offer in Fall Semester (by Dec 31).

21... Highest percentage of students accepting their offers in a single month (December).

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

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

2.8... Average percentage increase in value of all offers of employment made in 2016 compared to 2015.

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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 2016 AE graduates who were actively searching for work accepted offers as of the date of this report. It is estimated that at least 90% had offers prior to graduation in early May. This does not include a small number of those students returning in the fall who will graduate in December of 2016. Also not included were students entering some form of military service, foreign students who were returning to their home countries before searching for positions, students who were not US citizens who did not have a visa allowing them to remain in the US without sponsorship and those who graduated but were continuing their education in graduate schools.

“...100% of May 2016 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 2016 indicated that the following five 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.

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2. **Personal Traits:** Work ethic 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 skills, leadership and organizational skills.
3. **Education, Knowledge 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.
4. **Integrated Team Experience:** Experience in BIM Studio (co-lab), BIM Thesis (AEI 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.

When surveyed concerning their priorities for finding the right first employer or entry level position, students in the class of 2016 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 2015 and representative examples are noted below for reference.

- Type of position / type of projects.
- Salary, benefits and overall compensation plan (vacation, flex time, bonus, retirement plan, overtime pay, etc).
- Opportunity for advancement, personal development and long range planning opportunities.
- Reputation of firm.
- Geographic Location / City vs. Suburb / Distance from family / cost of living.
- 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, office environment and positive feelings during the office visit.

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Internships as a Recruiting Tool

Internships are a valuable learning experience for students that help to prepare them to eventually enter the profession. In addition, summer jobs and internships are also a good marketing strategy for companies to use for full time employment. For the Class of 2016, over 39% 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 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.

Timing – When Employers Make Offers and When Students Accept

As design and construction activity continued to improve this past year, a number of companies implemented a more aggressive approach to recruiting in an attempt to obtain quality future employees. For the third year in a row, the timing in which offers were made and students accepted positions has increased. In conjunction with the timing of the University and AE Career Fairs, which were both held in September, 62% of students accepted their employment offers in fall semester. *The acceptance rate rose significantly at the start of the year and was at 80% by January 31, 2016 an increase of 7% over the same period last year.*

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.

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

Month	Percent of Total Offers Made by Companies	Percent of Students Accepting an Offer of Employment
August or before	12	6
September	10	9
October	18	10
November	23	16
December	13	21
January	13	18
February	4	8
March	4	5
April or later	3	7

Internships

Average hourly rates for summer jobs and internships for upper level AE Students (primarily seniors and returning BAE/MAE December grads) came in at \$17.80 per hour which was slightly less than a year ago. 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.

Summary:

Overall 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 almost \$74,000 for the overall class. Students also reported significant differences among firms in such items as benefit packages, 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 can be addressed to Interim Department Head / Professor M. Kevin Parfitt (mkp@psu.edu). For information related to the annual AE Career Fair, obtaining student resumes or scheduling an on-campus recruiting visit to the AE Department, please contact Deborah Sam (dsam@engr.psu.edu)

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Salary Summary Information¹
September 20, 2016

AE Salary Survey Category	Construction	Lighting / Electrical	Mechanical	Structural
Offers				
Average BAE Salary – All Offers	\$61,510	\$ 56,580	\$ 60,940	\$ 53,060
Average MAE Salary – All Offers	\$ 63,000	\$ 56,180	\$ 59,000	\$ 60,140
Avg. BAE + MAE Salary – All Offers	\$ 61,730	\$ 56,330	\$ 59,730	\$ 52,180
Change in Overall Class Avg. from 2014	6.5%	0.7%	(0.4)%	8.4%
Accepted				
Average BAE Salary - Accepted	\$ 60,810	\$ 55,400	\$ 62,300	\$ 54,000
Average MAE Salary - Accepted	\$ 63,330	\$ 57,600	\$ 61,200	\$ 59,890
Avg. BAE + MAE Salary - Accepted	\$ 61,390	\$ 56,700	\$ 61,850	\$ 57,100
Change in Overall Class Avg. from 2014	4.4%	0.3%	1.2%	(0.2)%
Accepted with a company that was one of their previous internship employers.	46%	33%	42%	18%
High – Low				
Highest Reported Offer	\$ 73,840	\$ 70,000	\$ 70,000	\$ 68,000
Lowest Reported Offer	\$50,000	\$ 45,000	\$ 45,000	\$ 45,000
Students Accepting their Highest Offer	88%	75%	69%	56%
Bonus				
Average Bonus	\$3,420	\$2,000	\$3,250	\$1,975
Offers that included a signing bonus ²	26%	13%	16%	10%
Class of 2016 - Overall Averages				
Average Salary Offered – All Options	\$ 58,950	\$ 57,330	\$ 1,620	2.8%
Average Salary Accepted – All Options	\$ 59,180	\$ 58,720	\$ 460	0.8%
Survey Response Rate - 78%	73	83	72	87

¹ Information contained in this summary represents only those students in the Class of 2016 who responded to the survey as of August 1, 2015. In other words, students who graduated with either a BAE or MAE in May 2016 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 2016 unless they reported an early acceptance.

² 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 ³	Percentage of Total Offers	2016
Lighting Designer or Lighting Engineer Position	71%	\$ 54,680
Lighting / Electrical Combination (none reported)	0	NA
Positions Described as Electrical Only	29%	\$ 60,380
Project Manager for Electrical Contractor (one response)	3%	\$ 63,000

“Non - Traditional” AE Employment Categories	2016
BIM Specialist	\$ 69,330
Forensics/Building Technology/Building Envelope	\$ 65,250
CM for Mechanical or Electrical Subcontractor	\$58,000

Summer Internships ⁴	2016
Range – All Options	\$15.00 - \$ 24.00 per hour
Average – All Options	\$ 17.80
<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 ⁵	2016
Number of students indicating Graduate School in lieu of full time employment at this time.	None
Types of graduate degree being pursued	NA

³ Please note that the Lighting / Electrical Option Figures for this year are based on a small sample size consisting of fifteen responding students (split between Lighting Design and Electrical Design positions - no L/E combination positions were reported as such) and may not accurately reflect industry averages in this field.

⁴ 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.

⁵ 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: Popular Locations ⁶	Construction	Lighting/ Electrical	Mechanical	Structural
Baltimore Metro Area	\$ 59,000	-	\$ 58,900	\$ 56,700
Washington DC Metro Area (Including Northern VA, Rockville, MD Reston etc.)	\$ 62,100	\$59,000	\$ 60,800	\$ 59,000
New York City Metro Area (NYC, NJ, CT)	\$ 67,500	\$ 61,000	\$ 64,400	\$ 60,600
Boston Metro Area	-	\$ 55,300	\$ 64,500	\$ 58,500
Pennsylvania Cities				
Misc. PA Cities: Harrisburg ,Lancaster, Lititz, State College, York, Johnstown, Hanover, Allentown, etc.	\$ 55,750	-	\$ 57,300	\$ 51,200
Philadelphia Metro Area	\$ 55,500	\$ 57,200	\$ 61,500	\$ 55,300
Pittsburgh Metro Area and Cleveland, OH	57,000	-	-	\$ 55,000
Multi-City Averages				
Charlotte, Clemson, Cocoa FL, Orlando, Atlanta, Dallas, Denver, Boulder, Seattle, San Francisco, San Diego, Los Angeles	\$ 62,700	\$ 60,700	\$ 55,700	\$ 58,000
Detroit, Chicago, Lexington KY	-	\$ 57,500	\$ 57,800	\$ 59,000

⁶ 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.