



**Construction Engineering**  
1501 West Bradley Avenue | Peoria, IL 61625

## **Accreditation Documentation for the Construction program at Bradley University**

The baccalaureate program in construction is accredited by the American Council for Construction Education and is a charter member of the Associated Schools of Construction.

### **CEC Vision Statement**

Our world is facing gigantic global challenges that must be promptly addressed to guarantee the sustainability of comfortable living conditions for the generations to come, and it is imperative for our department to step up to the plate and prepare civil engineering and construction professionals who can effectively tackle and solve problems and be leaders in a dynamically evolving and technologically oriented world.

Over the past thirty years, the Department of Civil Engineering and Construction has established itself as a beacon of excellence at Bradley University. Through great vision and leadership and faculty dedication and hard-work, CEC is the department that established the foundation for a sustained effort in the promotion of excellence in teaching, research, and service at Bradley. Having the firm belief that excellence is not a destiny in itself, but rather a journey, CEC will continue to strive to be a frontrunner in preparing the future leaders of the civil engineering and construction industries.

The Construction Program proposes to contribute to the fulfillment of this vision by carrying out its mission and achieving its objectives and learning outcomes, which are stated below.

### **Construction Program Mission**

The Construction Program offers a non-traditional curriculum leading to a Bachelor of Science in Construction degree of excellent quality. The mission of the Department as it relates to Construction is:

*Produce graduates who possess a keen awareness of the national and global dimensions of the construction industry, leadership skills required to serve our society, and the technical knowledge to pursue multiple career paths including advanced degrees.*

### **Construction Program Objectives**

The Construction Program's aim is to achieve the following objectives:

#### **1. Leadership in Construction**

- a. Graduates understand the need for teamwork, communication skills, integrity, good citizenship, and service. They have the needed knowledge to become leaders in the construction industry.

#### **2. Professional Achievement**

- a. Graduates have the needed understanding of ethical responsibilities, certification, the necessity for continuing education, and contemporary issues required for placement and career advancement.

### **3. Globalization**

- a. Offer programs to ensure that graduates have the needed awareness of global construction issues and cultures to help them thrive in an emerging world market.

### **4. Industry Partnerships**

- a. Partner with the construction profession to offer an innovative program that promotes cultural diversity and responds to the needs of the profession and society in the areas of sustainability, infrastructure, and emerging technology.

## **Construction Program Learning Outcomes**

*The Construction Program elected to adopt the ACCE Student Learning Outcomes as Program Learning Outcomes.*

*Upon graduation from the Construction Program at Bradley University, a graduate shall be able to:*

- 1. Create written communications appropriate to the construction discipline.*
- 2. Create oral presentations appropriate to the construction discipline.*
- 3. Create a construction project safety plan.*
- 4. Create construction project cost estimates.*
- 5. Create construction project schedules.*
- 6. Analyze professional decisions based on ethical principles.*
- 7. Analyze construction documents for planning and management of construction processes.*
- 8. Analyze methods, materials, and equipment used to construct projects.*
- 9. Apply construction management skills as a member of a multi-disciplinary team.*
- 10. Apply electronic-based technology to manage the construction process.*
- 11. Apply basic surveying techniques for construction layout and control.*
- 12. Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process.*
- 13. Understand construction risk management.*
- 14. Understand construction accounting and cost control.*
- 15. Understand construction quality assurance and control.*
- 16. Understand construction project control processes.*
- 17. Understand the legal implications of contract, common, and regulatory law to manage a construction project.*
- 18. Understand the basic principles of sustainable construction.*
- 19. Understand the basic principles of structural behavior.*
- 20. Understand the basic principles of mechanical, electrical and piping systems.*

## **Admission Requirements**

### **Bradley University General Admission Requirements**

Generally, minimum curriculum requirements for all entering freshmen are as follows: 4 units (years) of English (1/2 or 1 unit of which may be speech), 3 units of college preparatory mathematics, 2 units of laboratory science, and 2 units of social sciences. See listings below for special requirements within the individual colleges and programs. (Applicants deficient in special admission requirements may be admitted but will be required to take preparatory courses in addition to the program described elsewhere in the catalog.)

### **Construction**

Required: 2 units of algebra, 1 unit of plane geometry, 1/2 unit of trigonometry, 1 unit of physics. Recommended: 1/2 unit of solid geometry and 1/2 unit of graphics.

### **Student Achievements**

The Department of Civil Engineering and Construction aims at producing Construction Graduates with a great potential to become leaders in the profession. A recent study revealed that 36% of the construction students who graduated between 1948 and 2014 achieved a VIP status by 2008. These include high level positions such as President, Vice-President, District Director, and other titles. Additionally, at least five Construction Program alumni passed the bar exam.

Bradley University Construction Students have numerous opportunities to participate in activities that complement what they learn in the classroom and help them develop their teamwork and leadership. Our students also get opportunities to travel and attend conferences where they can network and learn from leaders in the industry.

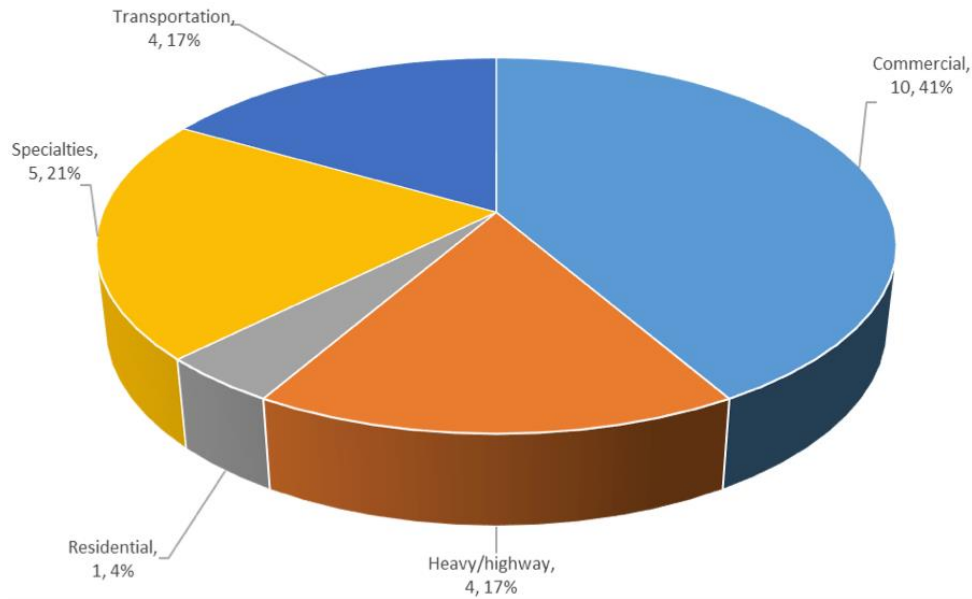
### **Student Placement**

#### **Placement of Construction Graduates**

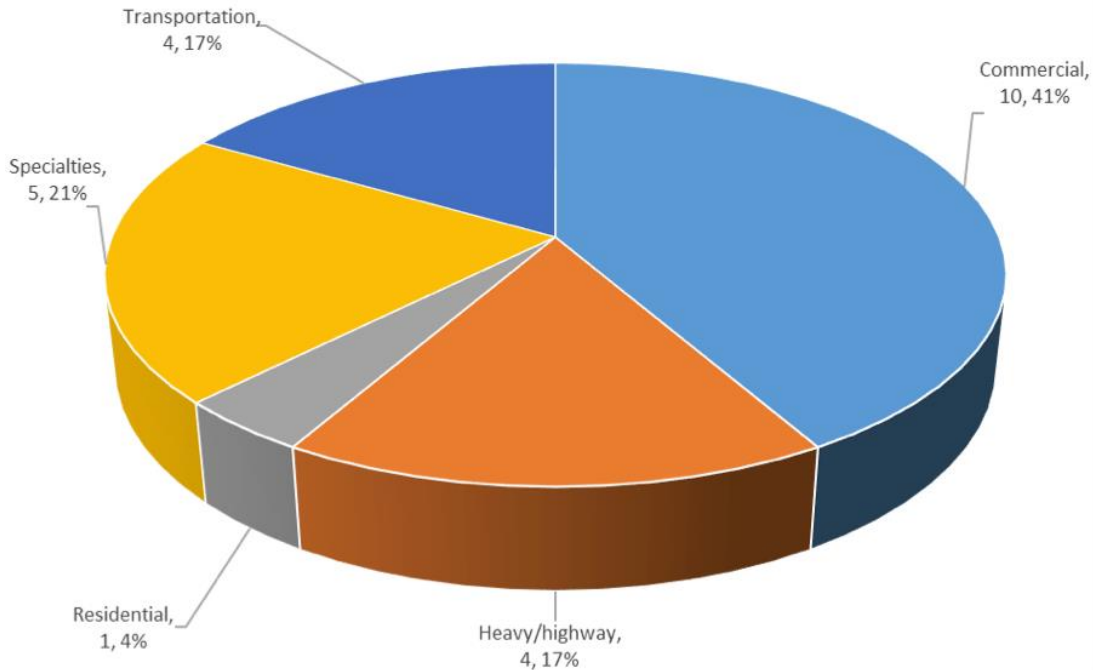
Placement data is obtained from the Smith Career Center and by direct communication with students. For the 2015-2016 academic year, all students have been accounted for and all the students were employed in the construction industry, save for those deciding to continue their education.

YEAR	% EMPLOYED	% CONT. EDUCATION	% OTHER INTENTIONS	% PLACED	HIGH SALARY	LOW SALARY	AVERAGE SALARY	NATIONAL AVERAGE
2014-2015	92	8	0	100	60,000	45,000	54,250	57,392
2013-2014	100	0	0	100	74,000	48,000	53,183	56,900
2012-2013	91	4	0	96	65,000	42,000	52,142	58,500

### Distribution of Construction Graduates By Construction Sector



## Distribution of Construction Graduates By Job Title



## Student Awards

### Associated Schools of Construction Great Lakes Region 3 Estimating Competition

Every year a group of six of our Construction Students participate in the Associated Schools of Construction, Great Lakes Region 3 Student Commercial Estimating Competition. Competing teams are judged by a panel of six construction professionals consisting of senior management personnel. The team judging criteria include team dynamics, estimating skills, LEED skills, QC/QA knowledge, scheduling skills, project logistics, safety programs, presentation skills, and professionalism. Competing against teams from schools such as Michigan State, Purdue, Marquette, Illinois State, Ferris State, University of Cincinnati, Ball State University, Bowling Green State University, and Milwaukee School of Engineering, our students have been able to achieve the following results over the last few years:

Year	BU Estimating Team Ranking	Number of Schools Participating
2013	5 <sup>th</sup>	10
2014	1 <sup>st</sup>	10
2015	3 <sup>rd</sup>	9
2016	3 <sup>rd</sup>	12

## Illinois Asphalt Pavement Association (IAPA) Undergraduate Research Awards

Every year Civil Engineering and Construction students have been awarded three to four Illinois Asphalt Pavement Association (IAPA) scholarships out of a total of ten scholarships the association awards in the state of Illinois. Students receive an \$1,800 scholarship award and get a chance to work on an asphalt related research project under the mentorship of a CEC faculty. The students produce a project and a poster that they get to present at the IAPA Annual Convention that is usually held in the spring. The following Construction Students have been granted IAPA Research Awards:

Year	Name	Mentor	Project Title
2013	Jacob Luna	Dr. Kerrie Schattler	A Shift in Energy The Effects of Unconventional Oil on the Illinois Asphalt Industry
2014	Matthew Lewallen	Dr. Mohammad Imran Hossain	A literature Review on Aged and Oxidized Binder coated on Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS) Materials
2014	Omar Elhouar	Dr. Mohammad Imran Hossain	Use of Warm Mix Asphalt (WMA) for Hot and Cold Weather Condition
2015	Paige Jordan	Dr. Mohammad Imran Hossain	Distresses within Asphalt Concrete Pavements and use of rePave tool for Pavement Distress Management
2016	Brian Ivancich	Dr. Mohammad Imran Hossain	Permeable Pavement: Hydrological Design

## CEC Undergraduate Student Awards

The CEC Undergraduate Student Award is presented to students who provide significant service to the department, demonstrate professional and ethical behavior in all of their activities, and help the department achieve its mission, goals, and objectives. The recipients receive a plaque at the Annual Honors Banquet and a stipend. Construction students who received the award over the last three years are:

Year	Award Recipients
2014	Jacob Luna
2015	Cale George Jacob Luna
2016	Peter J. Kozel Connor A. Wilson

## Student Scholarships

Our department possesses several annual and endowed scholarships that are used to supplement scholarships and financial assistantships provided by Bradley University. Presently, annual scholarships are awarded to Construction and Civil Engineering students. In fact, we were provided scholarships for even graduate students. A list of the scholarships and other endowed accounts committed to our department is given below.

### CEC Endowed Scholarships

No	Account Name	Market Value (May 2016)
1	Al-Khafaji Leadership Lecture	\$ 79,418
2	Beavers Heavy Construction Scholarship	\$ 104,372
3	Bradley University Alumni with River City Construction Co Endowed Scholarship	\$ 109,662
4	CCIC Industry Scholarship Fund for the Global Explorer Program	\$ 19,906
5	Chicago Outer Belt Contractors Association Endowed Scholarship	\$ 77,577
6	Cullinan Scholarship Fund	\$ 513,766
7	Doug Pollock Civil Engineering Endowed Scholarship	\$ 20,239
8	Doug Pollock Civil Engineering Endowed Scholarship for Graduate	\$ 44,557
9	Elliot Monter Endowed Fund for Construction	\$ 499,831
10	John P. Hanley Endowed Scholarship	\$ 9,953
11	John W. McNabb Endowed Scholarship	\$ 16,153
12	Johnson Memorial Endowment-Department of Construction	\$ 82,004
13	Mid-Illini Mechanical Contractors Association Industry Fund	\$ 44,388
14	Philip Z. Horton, Jr. Endowed Scholarship	\$ 57,860
15	Rathi Bhattacharya Memorial Endowed Award	\$ 7,356
16	Sikha and Rathi Bhattacharya Endowed Graduate Scholarship	\$ 12,713
17	Williams Const. Global Explorer Program	\$ 19,978
	<b>Total:</b>	<b>\$ 1,719,732</b>



## CEC Annual Scholarships

No	Scholarship Name	Awarded Amount
1	Beavers Heavy Construction Endowment	\$4,500
2	BU Alumni w/ River City Construction Endowment	\$5,800
3	Chicago Outer Belt Construction Association Endowment	\$4,000
4	Combined Central Illinois Construction Endowment	\$2,000
5	Crawford, Murphy and Tilly	\$6,000
6	Doug Pollock CE Endowment	\$1,050
7	Ellen & William Debelak	\$1,000
8	Elliot Monter Endowment	\$25,500
9	John P. Hanley Endowed	\$625
10	Phillip Horton Endowed	\$3,100
11	River City Annual Scholarship	\$7,000
12	The R.A. Cullinan Scholarship Endowment	\$22,000
	<b>Total:</b>	\$82,575

## Student Activities

Our students are continuously encouraged to attend presentations and seminars by invited speakers and participate in field trips. They are also given opportunities to participate in community service activities and attend conferences. Some of the activities that our students are typically involved in include:

- General monthly meetings of student organizations (AGC, MCAA, and Sigma Lambda Chi).
- National MCAA Convention (four students are typically supported to attend the convention at locations such as Maui, HI, Orlando, FL, and San Diego, CA).
- The North American Steel Construction Conference (three to four students are typically supported to attend the conference at locations such as Orlando, FL, Toronto, ON, St. Louis, MO, Nashville, TN, and San Antonio, TX).
- Field trips.
- Building playgrounds for the benefit of local schools and communities.
- Building pocket parks.
- The Bridge-Pal program

- Habitat for Humanity.
- The Illinois River Sweep.
- Golf outings with MCA Chicago sponsoring association