INTRODUCTION

The Bachelor of Science (BS) degree at University of Wisconsin – Stout is housed within the Department of Construction which is part of the College of Science, Technology, Engineering and Mathematics (STEM). During the academic year 2013/2014, there were over 260 students pursuing the BS degree, which is accredited by the American Council for Construction Education (ACCE) and has been since 1994.

UW-Stout’s Construction program is designed to help students develop the organizational, analytical, technical, and communication skills needed to direct even the most complicated operations. Classes in structural systems, site engineering, construction methods and materials, estimating, architectural technology, and environmental systems prepare students for the technical side of developing construction projects. The program is unique because it not only focuses on the technical process, but also the business, marketing, and management end of construction as well.

The faculty that teach in the program are highly qualified individuals that share their experiences from time they have spent in the construction industry. The Program values professional credentialing, and thus the make-up of the faculty include licensed Professional Engineers (PE), licensed Architects (AIA) and numerous Certified Professional Constructors (CPC).

CONTINUOUS QUALITY IMPROVEMENT

The Construction Program strives to continually advance the program and meet the needs of Construction Industry partners. Through the Program Mission statement, set goals and well-defined student learning outcomes, the Program has processes in place by which to assess information gathered on an annual basis. Faculty, industry advisory representatives and additional stakeholders review the material and provide construction feedback for improvement of the program. This process promotes continuous improvement and allows the Program to maintain a high level of excellence.

PROGRAM MISSION STATEMENT

The mission of the UW-Stout Construction program is to provide students with a quality, career-oriented education in which they will understand and participate in best practices of the construction process. Students will be employable upon graduation in entry-level construction management positions relating to the major sectors of the construction industry. Students will be prepared to enter graduate studies in areas related to construction.

PROGRAM GOALS AND LEARNING OUTCOMES – STUDENT RELATED

By engaging in the UW-Stout Construction Program, students will:

- Develop and practice analytical and problem solving skills
- Develop professional communication skills with an emphasis on written, graphic, and oral skills
- Develop technical proficiency in current best practices related to the areas of architecture, engineering, and construction
Upon graduating from the UW-Stout Construction Program, students will be able to:

- Apply skills needed to administer a construction project
- Apply industrial standards related to a construction project
- Demonstrate the use of industry technology
- Identify and validate best practices within the construction industry
- Engage in construction professional practices
- Identify and evaluate design variables related to a construction project
- Research and innovate construction processes and methodologies

Curriculum Strategies to Accomplish Student Learning Outcomes:

1. **Apply skills needed to administer a construction project**
   - Perform initial and lifecycle cost analysis and ROI
   - Communicate knowledge of bonding, fixed and variable costs, depreciation, and cash flow
   - Critically examine the risks associated with the industry from a legal standpoint
   - Identify, evaluate and critically assess key matters arising during the course of a construction contract
   - Engage proactively in planning, organizing and processing knowledge to avoid legal difficulties
   - Interpret the various forms of a contract commonly used in the construction industry

2. **Apply industrial standards related to a construction project**
   - Identify industry quality standards for materials
   - Demonstrate the ability to communicate information via construction documents, including specifications
   - Organize and present construction information within a graphic document
   - Relate practice to codes, regulations, ordinances and laws applicable to the region/location

3. **Demonstrate the use of industry technology**
   - Demonstrate construction drawing skills, showing comprehensive knowledge in visual formats (2D, 3D) and its association to other parameters (4D, 5D)
     - Includes budgeting, scheduling, feasibility, stresses, structural performance
   - Demonstrate safe use of industry instruments and equipment

4. **Identify and validate best practices within the construction industry**
   - Evaluate the ethical considerations relative to the construction process
   - Analyze and make calculated decisions in critical situations of risk in project management
   - Apply methods that validate practice and constant quality improvement
   - Identify safe practices that increase productivity

5. **Engage in construction professional practices**
   - Identify and quantify the items in a building assembly
   - Communicate knowledge of construction planning, scheduling and cost
   - Ability to forecast and manage the methods, processes, and costs within the construction business
   - Foster collaboration amongst diverse industry participants and/or peers
6. Identify and evaluate design variables related to a construction project
   - Capability to identify and evaluate multiple design variables
   - Capability to size / select (or design) elements
   - Implement site planning strategies

7. Research and innovate construction processes and methodologies
   - Able to identify and propose alternatives to conventional practices
     - Emphasizes opportunity to become more efficient and effective

ADDITIONAL GOALS – RELATED TO FACULTY

- Recruit and retain the most qualified teaching professionals to meet the needs of the program
- To provide professional and technical expertise to the construction industry
- To promote the improvement of the teaching and learning relationship through professional development and effective utilization of available resources.

PROGRAM ASSESSMENT PROCESS

The program assessment outline and process was developed keeping in mind the program mission, goals and stated learning outcomes. Assessment is structured to provide a continuous feedback loop to improve the program. There are a number of forms and input utilized for program assessment. These include the following:

- Direct Measurement tools

  1. Exit Survey for graduating students: All seniors are provided an opportunity to fill out an exit survey in their last two weeks of their final semester. This survey is conducted through the final AEC-472 Management of Construction course.
  2. Associate Constructor Level I Exam: All students are required to take the Level I Associate Constructor exam provided by the American Institute of Constructors (AIC). This exam is taken twice a year, and all students are required to take this in their final semester.
  3. Alumni Surveys: On a three year rotating basis the primary statistical record keeping office on campus conducts alumni surveys and records the data.
  4. Employer Surveys: On a one-year and five-year basis the primary statistical record keeping office on campus conducts alumni surveys and records the data.

- Indirect Measurement tools

  1. Industry advisory board curriculum review committee: Each semester the Industry Advisory Board meets to review curriculum and provide updates based on the needs of industry. This input is gathered through meeting minutes.
2. **Faculty course survey**: Each semester student complete a faculty and course survey. The results are available to each instructor at the end of each semester.

3. **Professional Development week**: At the start of each semester, the Construction Department conducts a strategic planning session to set goals and priorities for each year. Subsequently, the Department reflects on previous accomplishments from the prior year.

Each assessment tool is not used for each assessment cycle. Combinations of tools are used at any given cycle (typically annually) to assess the program and what improvements are needed. For example, one cycle may only use the Associate Constructor examination results combined with the Industry Advisory Board input to base the annual goals off of. In the next cycle, those two tools will likely not be used.

The Construction Department faculty are selected each fall to be part of the Program Assessment Committee, which guides the entire faculty group through the process annually. The Program Director for Construction is the default chair of the Program Assessment Committee.

Each October, UW-Stout requires every program to submit an *Assessment in the Major* report. This report is the primary annual reporting tool and is reviewed at the Professional Development week meetings as well as the Industry Advisory Board meetings.

Program Mission statements and student learning outcomes are reviewed on an annual basis and adjusted as necessary.