Mission / Purpose

The Department of Civil, Construction, and Environmental Engineering is dedicated to advancing the profession through its innovative, student-centered education and research programs. The faculty and staff are committed to preparing graduates for entry into the profession, educating future leaders of the profession, and conducting and disseminating meaningful basic and applied research for the betterment of the state, nation, and global communities.

Student Learning Outcomes, with Any Associations and Related Measures, Targets, Findings, and Action Plans

SLO 1: Specialization
Develop and evaluate new, advanced technical knowledge in a specialized area of civil engineering.

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Related Measures

M 1: Dissertation Proposal
Performance on preliminary exam and dissertation proposal.

Source of Evidence: Presentation, either individual or group

Target:
An average evaluation of 3 or better on a 5-point Lickert evaluation scale

M 2: Dissertation and Defense
Evaluation of performance on dissertation defense.

Source of Evidence: Academic direct measure of learning - other

Target:
An average evaluation of 3 or better on a 5-point Lickert evaluation scale

SLO 2: Communication
Skills/Abilities) Explain the relevance and application of new, advanced technical knowledge in both technical and non-technical terms.

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civil engineering PhD Curriculum Maps

Related Measures

M 1: Dissertation Proposal
Performance on preliminary exam and dissertation proposal.

Source of Evidence: Presentation, either individual or group

Target:
An average evaluation of 3 or better on a 5-point Lickert evaluation scale

M 2: Dissertation and Defense
Evaluation of performance on dissertation defense.

Source of Evidence: Academic direct measure of learning - other

Target:
An average evaluation of 3 or better on a 5-point Lickert evaluation scale

SLO 8: Program Optimum Enrollment
The program will build and sustain an optimal level of annual program enrollments and degree completions.

Other Outcomes, with Any Associations and Related Measures, Targets, Findings, and Action Plans

OthOtcn 5: Recognized quality
The program will improve and sustain a high level of recognized quality.

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Related Measures

M 13: Trend in CCE departmental PhD enrollment
Trend in CCE departmental PhD enrollment

Source of Evidence: Academic indirect indicator of learning - other

Target:
Increase PhD enrollment towards a goal of 60.

OthOtcn 7: Program Value
The program will be highly valued by its program graduates and other key constituencies it serves.
Related Measures

M 13: Trend in CCE departmental PhD enrollment
Trend in CCE departmental PhD enrollment
Source of Evidence: Academic indirect indicator of learning - other
Target:
Increase PhD enrollment towards a goal of 60.

M 16: The number of CCE departmental PhD graduates occupying faculty positions at colleges and universities around the world
The number of CCE departmental PhD graduates occupying faculty positions at colleges and universities around the world
Source of Evidence: Academic indirect indicator of learning - other
Target:
Place at least 2 PhD's in academia per year.

Details of Action Plans for This Cycle (by Established cycle, then alpha)

Improve survey and score
While the target was met, the survey instrument needs improvement and the faculty would like to raise the target in the future.
Established in Cycle: 2012-2013
Implementation Status: Planned
Priority: High
Implementation Description: The survey questions need refinement to allow faculty to sort out specific areas for improvement.
Responsible Person/Group: Department head in cooperation with the graduate studies committee.
Additional Resources: None
Mission / Purpose

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Student Learning Outcomes, with Any Associations and Related Measures, Targets, Findings, and Action Plans

SLO 4: Technical Specialization
Develop and evaluate new, advanced technical knowledge in a specialized area of civil engineering.

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Related Measures

M 6: Dissertation Proposal
Performance on preliminary exam and dissertation proposal.

Source of Evidence: Presentation, either individual or group

Target:
An average evaluation of 3 or better on a 5-point Lickert evaluation scale

Finding (2012-2013) - Target: Met
The average evaluation score was 4.2, which exceeds the target.

M 7: Dissertation and Defense
Evaluation of performance on dissertation defense.

Source of Evidence: Academic direct measure of learning - other

Target:
An average evaluation of 3 or better on a 5-point Lickert evaluation scale

Finding (2012-2013) - Target: Met
The average evaluation score was 4.3, which exceeds the target.

SLO 5: Communication Skills
Explain the relevance and application of new, advanced technical knowledge in both technical and non-technical terms.

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Related Measures

M 6: Dissertation Proposal
Performance on preliminary exam and dissertation proposal.

Source of Evidence: Presentation, either individual or group

Target:
An average evaluation of 3 or better on a 5-point Lickert evaluation scale

Finding (2012-2013) - Target: Met
The average evaluation score was 4.0, which exceeds the target.

M 7: Dissertation and Defense
Evaluation of performance on dissertation defense.

Source of Evidence: Academic direct measure of learning - other

Target:
An average evaluation of 3 or better on a 5-point Lickert evaluation scale

Finding (2012-2013) - Target: Met
The average evaluation score was 4.1, which exceeds the target.

Other Outcomes, with Any Associations and Related Measures, Targets, Findings, and Action Plans

OthOtcm 1: Program Quality
The program will improve and sustain a high level of recognized quality.

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Related Measures

M 1: Refereed Publications
The number of refereed publications produced and appearing in print each year, using FAR report data.
Source of Evidence: Existing data

**Target:**
The faculty should publish, on average, at least 2 referred publications per year.

**Finding (2012-2013) - Target: Met**
During the FAR reporting period of April-March, the faculty reported 67 refereed publications. With a faculty of 20, this results in nearly 3.4 publications per year.

**M 2: PhD Placement in Academia**
The number of PhD graduates occupying faculty positions at colleges and universities around the world.

Source of Evidence: Academic indirect indicator of learning - other

**Target:**
At least one-third of the PhD graduates accept faculty positions.

**Finding (2012-2013) - Target: Met**
In 2012-2013, of the three PhD graduates, one accepted a faculty position.

**OthOtcm 2: Program Optimum Enrollment**
The program will build and sustain an optimal level of annual program enrollments and degree completions.

**Related Measures**

**M 3: PhD enrollment**
Annual PhD enrollment and trends.

Source of Evidence: Academic indirect indicator of learning - other

**Target:**
Increase enrollment 60 by the year 2020

**Finding (2012-2013) - Target: Met**
The program enrolled 28 students, up 2 from the previous year and up 5 from two years prior.

**M 4: PhD Degrees Awarded**
Annual PhD degrees awarded and trend

Source of Evidence: Academic indirect indicator of learning - other

**Target:**
Increase PhD degree production to 12 per year by the year 2020.

**Finding (2012-2013) - Target: Met**
In 2012-2013, the department graduated 3 PhD students. The department awarded 2 PhD degrees per year for the previous three academic years.

**OthOtcm 3: Program Highly Valued**
The program will be highly valued by its program graduates and other key constituencies it serves.

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**Related Measures**

**M 2: PhD Placement in Academia**
The number of PhD graduates occupying faculty positions at colleges and universities around the world.

Source of Evidence: Academic indirect indicator of learning - other

**Target:**
Place at least 2 PhD's in academia per year.

**Finding (2012-2013) - Target: Met**
3 PhD graduates from 2012-2013 accepted academic positions at Norwich Univ, North Dakota State Univ, and Cornell.

**M 5: PhD Student Survey**
An annual survey of PhD students is conducted to assess, from their perspective, the quality of their experience using a five-point Likert scale.

Source of Evidence: Exit interviews with grads/program completers

**Target:**
An average score of 3 (meeting expectations) is targeted. Anything below is a cause for concern.

**Finding (2012-2013) - Target: Met**
The average score was a 3.4 > 3.0, so the target is met.

**Related Action Plans (by Established cycle, then alpha):**

**Improve survey and score**
Established in Cycle: 2012-2013

While the target was met, the survey instrument needs improvement and the faculty would like to raise the target in the future.

For full information, see the Details of Action Plans section of this report.

**Details of Action Plans for This Cycle (by Established cycle, then alpha)**

**Improve survey and score**

While the target was met, the survey instrument needs improvement and the faculty would like to raise the target in the future.

**Established in Cycle:** 2012-2013

**Implementation Status:** Planned
Priority: High

Relationships (Measure | Outcome/Objective): Measure: PhD Student Survey | Outcome/Objective: Program Highly Valued

Implementation Description: The survey questions need refinement to allow faculty to sort out specific areas for improvement.

Responsible Person/Group: Department head in cooperation with the graduate studies committee.

Additional Resources: None
Mission / Purpose

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Student Learning Outcomes, with Any Associations and Related Measures, Targets, Findings, and Action Plans

SLO 1: Innovation
Develop and evaluate new, advanced technical knowledge in a specialized area of civil engineering.

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Related Measures

M 1: Innovation - Proposal
Performance on preliminary exam and dissertation proposal.
Source of Evidence: Presentation, either individual or group

M 2: Innovation - Dissertation
Performance on dissertation defense.
Source of Evidence: Academic direct measure of learning - other

M 3: Innovation - Survey
Student survey on ability to develop and evaluate new, advanced technical knowledge in a specialized area of civil engineering.
Source of Evidence: Academic indirect indicator of learning - other

SLO 2: Communication
Skills/Abilities) Explain the relevance and application of new, advanced technical knowledge in both technical and non-technical terms.

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Related Measures

M 4: Communication - Proposal
Performance on preliminary exam and dissertation proposal. 2
Source of Evidence: Performance (recital, exhibit, science project)

M 5: Communication - Dissertation
Performance on dissertation defense. 2
Source of Evidence: Performance (recital, exhibit, science project)

M 6: Communication - Survey
Student survey on ability to develop and evaluate new, advanced technical knowledge in a specialized area of civil engineering 2
Source of Evidence: Academic indirect indicator of learning - other

Other Outcomes, with Any Associations and Related Measures, Targets, Findings, and Action Plans

OthOtcm 3: Comprehensive Exam Tool
(An Improvement Outcome Derived From their 2010-11 Assessment Findings) Preliminary Exam: The department will develop a standardized method of assessing, recording and disseminating preliminary exam data

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Related Measures

M 7: Exam Tool Development
Preliminary exam assessment tool developed and implemented.
Source of Evidence: Academic direct measure of learning - other

M 8: NA
NA - covered in other measures
Source of Evidence: Faculty pre-test / post-test of knowledge mastery

OthOtcm 4: Dissertation Defense Tool
An Improvement Outcome Derived From their 2010-11 Assessment Findings) Dissertation Defense: The department will develop a standardized method of assessing, recording and disseminating dissertation defense data

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**Related Measures**

- **M 9: NA**
  - NA - covered in other outcomes/measures
  - Source of Evidence: Academic direct measure of learning - other

- **M 10: Dissertation Tool**
  - Develop tool to evaluate dissertation defense
  - Source of Evidence: Academic direct measure of learning - other

**OthOtcm 5: Recognized quality**
The program will improve and sustain a high level of recognized quality.

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**Related Measures**

- **M 11: Trend in the number of graduate applications, both external and internal**
  - Trend in the number of graduate applications, both external and internal
  - Source of Evidence: Academic indirect indicator of learning - other

- **M 12: Trend in the GRE scores and/or GPA of accepted applicants**
  - Trend in the GRE scores and/or GPA of accepted applicants
  - Source of Evidence: Academic indirect indicator of learning - other

**OthOtcm 6: Optimal level**
The program will build and sustain an optimal level of annual program enrollments and degree completion

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**Related Measures**

- **M 13: Trend in CCE departmental PhD enrollment**
  - Trend in CCE departmental PhD enrollment
  - Source of Evidence: Academic indirect indicator of learning - other

- **M 14: Trend in CCE departmental PhD graduation rate**
  - Trend in CCE departmental PhD graduation rate
  - Source of Evidence: Academic indirect indicator of learning - other

**OthOtcm 7: Program Value**
The program will be highly valued by its program graduates and other key constituencies it serves.

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**Related Measures**

- **M 15: The Capstone Engineering Society is a group of alumni actively involved in planning and support for the College of Engineering.**
  - The Capstone Engineering Society is a group of alumni actively involved in planning and support for the College of Engineering. Participation in the society indicates a high level of commitment to the College of Engineering. The number of CCE PhD graduates in the society will be monitored annually.
  - Source of Evidence: Academic indirect indicator of learning - other

- **M 16: The number of CCE departmental PhD graduates occupying faculty positions at colleges and universities around the world**
  - The number of CCE departmental PhD graduates occupying faculty positions at colleges and universities around the world
  - Source of Evidence: Academic indirect indicator of learning - other