

UNIT REPORT

**Civil & Environmental Engr-
Academic - APR Self-Study Report
by Academic Unit/Department**

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Program Mission

CEE Mission

Program Mission Statement:

We offer superior hands-on education through direct and personal student-faculty interactions to prepare Civil Engineers for successful careers in private practice, public agencies, and research organizations. We engage students in internationally recognized research and service in emerging and critical areas to support society and the environment. Our department provides leadership in education, civil infrastructure, and sustainability.

Program Goal (add a minimum of 3 program goal "plan items")

Program Goal 1. Career Advancement

Goal Statement:

Note (for all 5 Program Goals): The CEE department is using the five Program Educational Objectives (PEOs) from our required ABET accreditation process as our Program Goals. It is the ongoing goal of our program to educate students at the undergraduate and graduate levels such that they achieve these objectives. Our Program Goals are ongoing, reviewed annually, and assessed cumulatively during the ABET accreditation visits which occur on a 6-year cycle, as well as by the ongoing assessment of learning objectives. Students also answer questions about these goals in their senior exit interviews.

Goal 1 Statement: **Attain career advancement based on a demonstrated ability to apply and expand fundamental engineering principles to the analysis and design of engineering projects, incorporate professional codes and standards, and be aware of social, economic and environmental impacts.**

Alignment to UI Strategic Plan Goals:

Innovate (Goal 1): Scholarly and creative products of the highest quality and scope, resulting in significant positive impact for the region and the world.

Engage (Goal 2): Suggest and influence change that addresses societal needs and global issues, and advances economic development and culture.

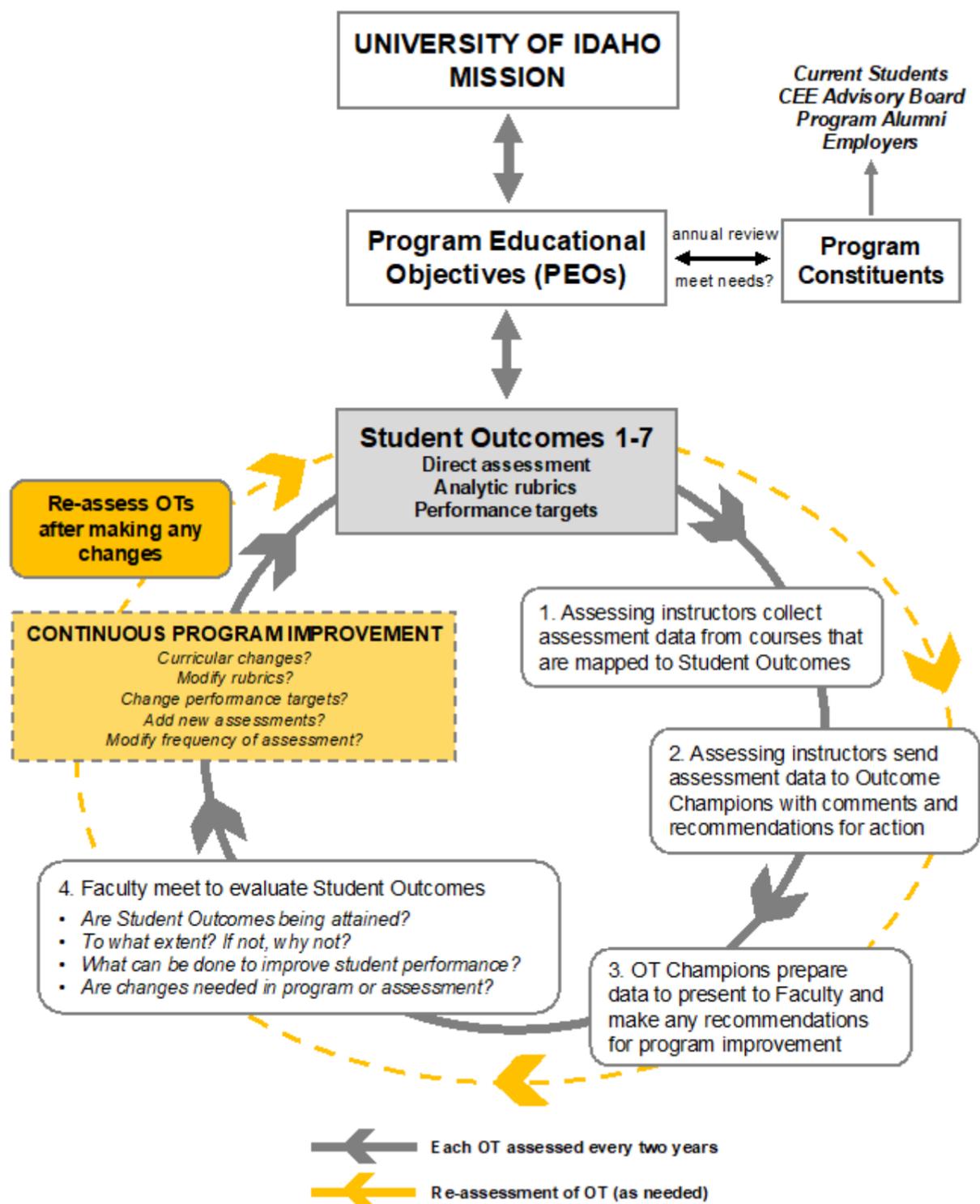
Indicators/Metrics to Evaluate Progress:

In the 2021 senior exit survey, 100% of students indicated that this objective is appropriate for graduates of the BSCE degree program at UI.

Successful ABET review and accreditation every 6 years, learning objectives regularly achieved at undergraduate and graduate levels. Our last successful ABET review was completed in 2019, the next review will be in 2025.

List of Actions the Program Will Take to Achieve Goals :

Ongoing ABET assessment process.



Goal Achievement Level: In Progress

Program Goal 2. Communication

Goal Statement:

Note (for all 5 Program Goals): The CEE department is using the five Program Educational Objectives (PEOs) from our required ABET accreditation process as our Program Goals. It is the ongoing goal of our program to educate students at the undergraduate and graduate levels such that they achieve these objectives. Our Program Goals are ongoing, reviewed annually, and assessed cumulatively during the ABET accreditation visits which occur on a 6-year cycle, as well as by the ongoing assessment of learning objectives. Students also answer questions about these goals in their senior exit interviews.

Goal 2 Statement: **Be an effective and competent communicator regarding civil engineering systems and processes.**

Alignment to UI Strategic Plan Goals:

Engage (Goal 2): Suggest and influence change that addresses societal needs and global issues, and advances economic development and culture.
 Transform (Goal 3): Increase our educational impact.

Indicators/Metrics to Evaluate Progress:

Same as Goal 1.

List of Actions the Program Will Take to Achieve Goals :

Same as Goal 1.

Goal Achievement Level: In Progress

Program Goal 3. Life-long Learning and Development

Goal Statement:

Note (for all 5 Program Goals): The CEE department is using the five Program Educational Objectives (PEOs) from our required ABET accreditation process as our Program Goals. It is the ongoing goal of our program to educate students at the undergraduate and graduate levels such that they achieve these objectives. Our Program Goals are ongoing, reviewed annually, and assessed cumulatively during the ABET accreditation visits which occur on a 6-year cycle, as well as by the ongoing assessment of learning objectives. Students also answer questions about these goals in their senior exit interviews.

Goal 3 Statement: Establish a path for life-long learning and continuous professional development through graduate education, short-courses, service on professional committees, and attendance at conferences.

Alignment to UI Strategic Plan Goals:

Innovate (Goal 1): Scholarly and creative products of the highest quality and scope, resulting in significant positive impact for the region and the world.

Transform (Goal 3): Increase our educational impact.

Indicators/Metrics to Evaluate Progress:

Same as Goal 1.

List of Actions the Program Will Take to Achieve Goals :

Same as Goal 1.

Goal Achievement Level: In Progress

Program Goal 4. Responsibility and Collaboration

Goal Statement:

Note (for all 5 Program Goals): The CEE department is using the five Program Educational Objectives (PEOs) from our required ABET accreditation process as our Program Goals. It is the ongoing goal of our program to educate students at the undergraduate and graduate levels such that they achieve these objectives. Our Program Goals are ongoing, reviewed annually, and assessed cumulatively during the ABET accreditation visits which occur on a 6-year cycle, as well as by the ongoing assessment of learning objectives. Students also answer questions about these goals in their senior exit interviews.

Goal 4 Statement: Meet or exceed the State Board qualification requirements to obtain Professional Engineering licensure and accept higher levels of responsibility in managing personnel and projects requiring collaboration with interdisciplinary groups, elected officials, and the public.

Alignment to UI Strategic Plan Goals:

Engage (Goal 2): Suggest and influence change that addresses societal needs and global issues, and advances economic development and culture.

Transform (Goal 3): Increase our educational impact.

Cultivate (Goal 4): Foster an inclusive, diverse community of students, faculty, and staff and improve cohesion and morale.

Indicators/Metrics to Evaluate Progress:

Same as Goal 1.

List of Actions the Program Will Take to Achieve Goals :

Same as Goal 1.

Goal Achievement Level: In Progress

Program Goal 5. Accountability

Goal Statement:

Note (for all 5 Program Goals): The CEE department is using the five Program Educational Objectives (PEOs) from our required ABET accreditation process as our Program Goals. It is the ongoing goal of our program to educate students at the undergraduate and graduate levels such that they achieve these objectives. Our Program Goals are ongoing, reviewed annually, and assessed cumulatively during the ABET accreditation visits which occur on a 6-year cycle, as well as by the ongoing assessment of learning objectives. Students also answer questions about these goals in their senior exit interviews.

Goal 5 Statement: Be accountable for the health, safety, and welfare of the general public, while maintaining the highest ethical and professional practices.

Alignment to UI Strategic Plan Goals:

Transform (Goal 3): Increase our educational impact.

Cultivate (Goal 4): Foster an inclusive, diverse community of students, faculty, and staff and improve cohesion and morale.

Indicators/Metrics to Evaluate Progress:

Same as Goal 1.

List of Actions the Program Will Take to Achieve Goals :

Same as Goal 1.

Goal Achievement Level: In Progress

Student Learning Assessment Report (add one "plan item" for each major, degree, and/or certificate offered by dept)

BSCE

Assessment Report Contact: Fritz Fiedler

Program Changes in Past Year:

The structure of the curriculum has not changed.

We changed the prerequisites for CE 211 to better match the actual mathematics required, and to correct a course number.

We changed the CE 444 course description to include a possible field trip.

Learning Outcomes are Communicated to All Students in Program (check box if true): true

Learning Outcomes are Communicated to All Faculty (check box if true): true

Optional: Framework Alignment: ABET

Import Outcomes Data (from Anthology Outcomes):

By graduation, students will be able to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

By graduation, students will demonstrate an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.

By graduation, students will be able to communicate effectively with a range of audiences.

By graduation, students will be able to recognize ethical and professional responsibilities in engineering situations and make informed judgments.

By graduation, students will be able to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

By graduation, students will be able to develop and conduct appropriate testing or experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

By graduation, students will have the ability to acquire and apply new knowledge as needed, without formal instruction or detailed guidance.

Summary of Student Learning:

ABET assessment data for AY 20-21 are attached. No major deficiencies are noted.

Additionally, the 2021 Senior Exit Survey results are attached.

Attached Files

[ABET \(Fall20-Spr21\).zip](#)

[Senior Exit Survey-2021 MASTER - Results.docx](#)

Summary of Faculty Discussion:

Faculty discussions were held on April 13 2021 (discussed fall 2020 results) and on November 9 2021 (discussed spring 2021 results). Meeting minutes are attached. It is noted that in addition to COVID impacts, students seem less prepared in subjects (algebra) that they should have learned in high school. No major changes are being considered.

Attached Files

[Faculty Meeting Minutes 13Apr2021.docx](#)

[CEE Faculty Meeting 9Nov2021.docx](#)

Summary of Changes/Improvements Being Considered:

No changes to the actual assessment of learning are being considered.

Inter-rater Reliability:

All faculty use the same rubrics and regular discussions are held.

Closing the Loop:

Assessment is never complete, it is an ongoing process. Attached is our last ABET self-study, completed in 2019. The next ABET review will occur in 2025.

Attached Files

[UI-CEE-ABETSelf-Study2019-20.pdf](#)

MEngCE

Assessment Report Contact: Fritz Fiedler

Program Changes in Past Year:

None.

Learning Outcomes are Communicated to All Students in Program (check box if true): true

Learning Outcomes are Communicated to All Faculty (check box if true): true

Optional: Framework Alignment:

Import Outcomes Data (from Anthology Outcomes):

The student will be able to conduct research and analyze and interpret results.

The student will be able to communicate professional work.

The student will be able to demonstrate knowledge of degree subject matter; integrate and build on foundation provided by relevant undergraduate degree.

The student will understand the responsibility to enhance the quality of life of the global community through the practice of civil engineering.

M.Eng. in Civil Engineering

Performance Indicators	Assessment Tools	Exceeds Requirements	Meets Requirements	Partially Meets Requirements	Does Not Meet Requirements	Ranking
Demonstrates an in-depth knowledge of degree subject matter, integrating and building upon the foundation provided by a relevant undergraduate degree	Required end-of-degree materials, including project report and comprehensive exam	Demonstrates a thorough breadth and depth of knowledge in discipline, including constraints imposed by codes and regulations	Demonstrates both breadth and depth of knowledge in discipline, including constraints imposed by codes and regulations. Was competent in project.	Demonstrated adequate depth on project, but lacked depth in discipline. Aware of codes but did not address them specifically in report or exam.	Did not demonstrate depth in project.	Exceeds Meets Partially Meets Does Not Meet
Uses the results of applied research and other existing information needed to carry an engineering project from concept to design	Required end-of-degree materials, including project report and comprehensive exam	Project demonstrated mastery of modern methods of analysis and provided a creative and effective solution to the design problem. An in-depth knowledge of theory and practice was shown.	Project was thoughtful and thorough and was based on a sound analysis of the problem and alternative solutions. An in-depth knowledge of theory and practice was shown.	Project was based on limited analysis but was "workable". An in-depth knowledge of theory and practice was not demonstrated.	Project was "cookbook". Results of the analysis were not meaningful.	Exceeds Meets Partially Meets Does Not Meet
Communicates professional work	Written project report, including appropriate graphics	Report was well written using correct, clear and concise English with consistent formatting. Explanations were generally concise and to the point. Excellent use of graphics.	Report was well written. Sentence structure and format generally resulted in "easy reading". Explanations were generally concise and to the point. Graphics were appropriate	Parts of the report were poorly written and/or formatting was inconsistent. Explanations were sometimes hard to follow and did not always clarify the point.	Report was poorly written, difficult to read, and/or disorganized. Inconsistent formatting.	Exceeds Meets Partially Meets Does Not Meet
Understands the responsibility to enhance the quality of life of the global community through the practice of civil engineering	Section of project report addressing "societal context"	Provided a thoughtful analysis of the project impact of the research, both intended (positive) and unintended (positive or negative), on the community it was designed to serve. Knew and understood issues involving ethics, sustainability and public health and safety related to project.	Provided a sound analysis of the potential impact of the project on the local community, but addressed broader effects on society in a limited fashion. Was knowledgeable of issues involving ethics, sustainability and public health and safety related to project.	Provided a weak analysis of the potential impact of the project on the local community and/or did not address broader impacts. Was not able to define ethical, sustainability and/or public health and safety issues.	Report did not address societal context and/or unintended consequences of the project.	Exceeds Meets Partially Meets Does Not Meet

Student Name: _____ Thesis Advisor: _____ Date of degree completion: _____

Summary of Student Learning:

One MEng student only partially met expectations in two categories, the second and fourth rubric items. No other comments were supplied by the assessing professor, and he is retired. All other MEng students met or exceeded all performance indicators.

Summary of Faculty Discussion:

No program changes are being considered.

Summary of Changes/Improvements Being Considered:

No program changes are being considered.

Inter-rater Reliability:

All faculty use the same rubrics.

Closing the Loop:

No changes have been made to the Master of Engineering program in Civil Engineering for a long time. Assessment is never complete, it is an ongoing process.

MSCE

Assessment Report Contact: Fritz Fiedler

Program Changes in Past Year:

We have not made changes in the last year.

Learning Outcomes are Communicated to All Students in Program (check box if true): true

Learning Outcomes are Communicated to All Faculty (check box if true): true

Optional: Framework Alignment:**Import Outcomes Data (from Anthology Outcomes):**

The student will be able to conduct research and analyze and interpret results.

The student will be able to communicate professional work.

The student will be able to demonstrate knowledge of degree subject matter; integrate and build on foundation provided by relevant undergraduate degree.

The student will understand the responsibility to enhance the quality of life of the global community through the practice of civil engineering.

updated 10 October 20

M.S. in Civil Engineering

Performance Indicators	Assessment Tools	Exceeds Requirements	Meets Requirements	Partially Meets Requirements	Does Not Meet Requirements	Ranking
Demonstrates knowledge of degree subject matter; integrates and builds on foundation provided by a relevant undergraduate degree	Required end-of-degree materials, including M.S. thesis and oral defense	Demonstrates a thorough breadth and depth of knowledge in discipline. Exhibits a high level of competence in research area.	Demonstrates both breadth and depth of knowledge in discipline. Is competent in research area.	Demonstrated adequate depth in research area, but lacked depth in discipline.	Did not demonstrate depth in research area.	Exceeds Meets Partially Meets Does Not Meet
Conducts research and analyzes and interprets the results	Required end-of-degree materials, including M.S. thesis and oral defense	Demonstrates extensive knowledge of published work in area of research and the ability to build on that knowledge. Exhibited the ability to plan and execute original research and to analyze and correctly interpret the results.	Demonstrates adequate knowledge of published work in area of research and the ability to build on that knowledge. Exhibited the ability to execute research and to analyze and correctly interpret the results.	Literature research was weak. Was able to conduct research and analyze and interpret the results only with supervision.	Omitted many of the important works in the field. Research techniques and analysis weak.	Exceeds Meets Partially Meets Does Not Meet
Communicates professional work	Written M.S. thesis, including appropriate graphics and oral presentation and defense	This was well written using correct, clear and concise English with consistent formatting. Oral presentation showed good command of language and subject matter. Responses to questions were direct and provide the desired clarification. Excellent use of graphics.	This was well written. Sentence structure and format generally resulted in "easy reading". Oral presentation was clear and concise. Responses to questions were satisfactory. Graphics were appropriate.	Parts of the thesis were poorly written and/or formatting was inconsistent. Oral presentation was sometimes difficult to follow and responses to questions did not always clarify the point.	Thesis was poorly written and difficult to read. Inconsistent formatting. Poorly presented presentation.	Exceeds Meets Partially Meets Does Not Meet
Understands the responsibility to enhance the quality of life of the global community through the practice of civil engineering	Oral presentation and response to specific questions by the graduate committee	Provided a thoughtful analysis of the potential impact of the research, both intended (positive) and unintended (positive or negative) on society. Knew and understood issues involving ethics, sustainability and public health and safety related to the research subject.	Provided a sound analysis of the potential impact of the research on society. Was knowledgeable of issues involving ethics, sustainability and public health and safety related to the research subject.	Provided a weak analysis of the potential impact of the research on society and/or was not able to define ethical, sustainability or public health and safety issues.	Was not able to give a cogent analysis of societal context issues.	Exceeds Meets Partially Meets Does Not Meet

Student Name: _____ Thesis Advisor: _____ Date of M.S. thesis defense: _____

Summary of Student Learning:

All MSCE students in this cycle have met or exceeded expectations for the provided performance indicators, resulting in successfully completing the MSCE degree.

Summary of Faculty Discussion:

No changes are being considered.

Summary of Changes/Improvements Being Considered:

No changes are being considered.

Inter-rater Reliability:

All faculty use the same rubric.

Closing the Loop:

No changes have been made.

PhDCE

Assessment Report Contact: Fritz Fiedler

Program Changes in Past Year:

No changes have been made.

Learning Outcomes are Communicated to All Students in Program (check box if true): true

Learning Outcomes are Communicated to All Faculty (check box if true): true

Optional: Framework Alignment:

Import Outcomes Data (from Anthology Outcomes):

The student will be able to conduct original research and analyze and interpret results.

The student will be able to communicate professional work.

The student will demonstrate knowledge of degree subject matter and engineering and scientific knowledge of research area.

The student understands the responsibilities to enhance the quality of life of the global community through the practice of civil engineering.

Ph.D. in Civil Engineering

Performance Indicators	Assessment Tools	Exceeds Requirements	Meets Requirements	Partially Meets Requirements	Does Not Meet Requirements	Ranking
Demonstrates knowledge of degree subject matter and engineering and scientific knowledge of research area	Preliminary examination and end-of-degree materials, including written dissertation, oral presentation and final defense	Demonstrated both breadth and depth of knowledge in discipline and expert level of knowledge in research area. Research results are publishable and will advance the frontier of knowledge in the discipline	Demonstrated both breadth and depth of knowledge in discipline and broad knowledge in research area. Research results are publishable and will have an impact on the discipline.	Demonstrated both breadth and depth of knowledge in discipline, but not expert level in research area. Results may be publishable but will have little or no effect on discipline.	Knowledge in research area not at expert level. Results of research not publishable.	Exceeds Meets Partially Meets Does Not Meet
Conducts original research and analyzes and interprets the results	Preliminary examination and end-of-degree materials, including written dissertation, oral presentation and final defense	Demonstrated extensive knowledge of published work and the ability to build on that knowledge. Was able to plan and execute original research and analyze and correctly interpret the results.	Demonstrated adequate knowledge of published work in area of research and ability to build on that knowledge. Showed ability to execute original research and to analyze and correctly interpret the results.	Literature research was weak. Was able to conduct research and analyze and interpret the results, but only with supervision. Research may not be original enough to publish.	Obviously missed many of the important works in the field. Research techniques and analysis weak.	Exceeds Meets Partially Meets Does Not Meet
Communicates professional work	Written dissertation, including appropriate graphics; oral presentation at final defense	Dissertation was well written using correct and concise English with consistent formatting. Oral presentation showed command of language and subject matter. Responses to questions provided clarification. Excellent use of graphics.	Dissertation was well written. Sentence structure and format generally resulted in "easy reading". Oral presentation was clear and concise. Responses to questions were generally concise and to the point. Graphics were appropriate.	Parts of dissertation were poorly written and/or formatting was inconsistent. Oral presentation was sometimes hard to follow and responses to questions were not always clear.	Report was poorly written with and difficult to read. Inconsistent formatting. Oral presentation was poor; unable to answer questions.	Exceeds Meets Partially Meets Does Not Meet
Understands the responsibility to enhance the quality of life of the global community through the practice of civil engineering	Oral presentation and responses to questions by the graduate committee	Provided a thoughtful analysis of the potential impact of the research on society. Knew and understood issues involving ethics, sustainability and public health and safety related to research subject.	Provided a sound analysis of the potential impact of the research on society. Was knowledgeable of issues involving ethics, sustainability and public health and safety related to research subject.	Provided a weak analysis of the potential impact of the research on society and/or was not able to define ethical, sustainability or public health and safety issues.	Was not able to give a cogent analysis of societal context issues.	Exceeds Meets Partially Meets Does Not Meet

Student Name: _____ Thesis Advisor: _____ Date of Ph.D. Defense: _____

Summary of Student Learning:

All students who completed a PhD degree in CE met or exceeded expectations.

Summary of Faculty Discussion:

No changes are being considered.

Summary of Changes/Improvements Being Considered:

No changes are being considered.

Inter-rater Reliability:

All faculty use the same rubric.

Closing the Loop:

No changes have been made.

MSGeoE

Assessment Report Contact: Fritz Fiedler

Program Changes in Past Year:

No changes have been made.

Learning Outcomes are Communicated to All Students in Program (check box if true): true

Learning Outcomes are Communicated to All Faculty (check box if true): true

Optional: Framework Alignment:**Import Outcomes Data (from Anthology Outcomes):**

Demonstrates knowledge of degree subject matter; integrates and builds upon the foundation provided by a relevant undergraduate degree.

Conducts research and analyzes and interprets the results.

Communicates professional work.

Understands the responsibility to enhance the quality of life of the global community through the practice of engineering.

M.S. in Geological Engineering (non-thesis option)

Performance Indicators	Assessment Tools	Exceeds Requirements	Meets Requirements	Partially Meets Requirements	Does Not Meet Requirements	Ranking
Demonstrates knowledge of degree subject matter; integrates and builds on foundation provided by a relevant undergraduate degree	Required end-of-degree materials, including M.S. thesis and oral defense	Demonstrates a thorough breadth and depth of knowledge in discipline. Exhibits a high level of competence in research area.	Demonstrates both breadth and depth of knowledge in discipline. Is competent in research area.	Demonstrated adequate depth in research area, but lacked depth in discipline.	Did not demonstrate depth in research area.	Exceeds Meets Partially Meets Does Not Meet
Conducts research and analyzes and interprets the results	Required end-of-degree materials, including M.S. thesis and oral defense	Demonstrates extensive knowledge of published work in area of research and the ability to build on that knowledge. Exhibited the ability to plan and execute original research and to analyze and correctly interpret the results.	Demonstrates adequate knowledge of published work in area of research and the ability to build on that knowledge. Exhibited the ability to execute research and to analyze and correctly interpret the results.	Literature research was weak. Was able to conduct research and analyze and interpret the results only with supervision.	Omitted many of the important works in the field. Research techniques and analysis weak.	Exceeds Meets Partially Meets Does Not Meet
Communicates professional work	Written M.S. thesis, including appropriate graphics and oral presentation and defense	Thesis was well written using correct, clear and concise English with consistent formatting. Oral presentation showed good command of language and subject matter. Responses to questions were direct and provide the desired clarification. Excellent use of graphics.	Thesis was well written. Sentence structure and format generally resulted in "easy reading". Oral presentation was clear and concise. Responses to questions were satisfactory. Graphics were appropriate.	Parts of the thesis were poorly written and/or formatting was inconsistent. Oral presentation was sometimes difficult to follow and responses to questions did not always clarify the point.	Thesis was poorly written and difficult to read. Inconsistent formatting. Poorly presented presentation.	Exceeds Meets Partially Meets Does Not Meet
Understands the responsibility to enhance the quality of life of the global community through the practice of civil engineering	Oral presentation and response to specific questions by the graduate committee	Provided a thoughtful analysis of the potential impact of the research, both intended (positive) and unintended (positive or negative) on society. Knew and understood issues involving ethics, sustainability and public health and safety related to the research subject.	Provided a sound analysis of the potential impact of the research on society. Was knowledgeable of issues involving ethics, sustainability and public health and safety related to the research subject.	Provided a weak analysis of the potential impact of the research on society and/or was not able to define ethical, sustainability or public health and safety issues.	Was not able to give a cogent analysis of societal context issues.	Exceeds Meets Partially Meets Does Not Meet

Student Name: _____ Thesis Advisor: _____ Semester/Year of degree completion: _____

M.S. in Geological Engineering (thesis option)

Performance Indicators	Assessment Tools	Exceeds Requirements	Meets Requirements	Partially Meets Requirements	Does Not Meet Requirements	Ranking
Demonstrates knowledge of degree subject matter; integrates and builds on foundation provided by a relevant undergraduate degree	Required end-of-degree materials, including M.S. thesis and oral defense	Demonstrates a thorough breadth and depth of knowledge in discipline. Exhibits a high level of competence in research area.	Demonstrates both breadth and depth of knowledge in discipline. Is competent in research area.	Demonstrated adequate depth in research area, but lacked depth in discipline.	Did not demonstrate depth in research area.	Exceeds Meets Partially Meets Does Not Meet
Conducts research and analyzes and interprets the results	Required end-of-degree materials, including M.S. thesis and oral defense	Demonstrates extensive knowledge of published work in area of research and the ability to build on that knowledge. Exhibited the ability to plan and execute original research and to analyze and correctly interpret the results.	Demonstrates adequate knowledge of published work in area of research and the ability to build on that knowledge. Exhibited the ability to execute research and to analyze and correctly interpret the results.	Literature research was weak. Was able to conduct research and analyze and interpret the results only with supervision.	Omitted many of the important works in the field. Research techniques and analysis weak.	Exceeds Meets Partially Meets Does Not Meet
Communicates professional work	Written M.S. thesis, including appropriate graphics and oral presentation and defense	Thesis was well written using correct, clear and concise English with consistent formatting. Oral presentation showed good command of language and subject matter. Responses to questions were direct and provide the desired clarification. Excellent use of graphics.	Thesis was well written. Sentence structure and format generally resulted in "easy reading". Oral presentation was clear and concise. Responses to questions were satisfactory. Graphics were appropriate.	Parts of the thesis were poorly written and/or formatting was inconsistent. Oral presentation was sometimes difficult to follow and responses to questions did not always clarify the point.	Thesis was poorly written and difficult to read. Inconsistent formatting. Poorly presented presentation.	Exceeds Meets Partially Meets Does Not Meet
Understands the responsibility to enhance the quality of life of the global community through the practice of civil engineering	Oral presentation and response to specific questions by the graduate committee	Provided a thoughtful analysis of the potential impact of the research, both intended (positive) and unintended (positive or negative) on society. Knew and understood issues involving ethics, sustainability and public health and safety related to the research subject.	Provided a sound analysis of the potential impact of the research on society. Was knowledgeable of issues involving ethics, sustainability and public health and safety related to the research subject.	Provided a weak analysis of the potential impact of the research on society and/or was not able to define ethical, sustainability or public health and safety issues.	Was not able to give a cogent analysis of societal context issues.	Exceeds Meets Partially Meets Does Not Meet

Student Name: _____ Thesis Advisor: _____ Date of M.S. thesis defense: _____

Summary of Student Learning:

All students met or exceeded expectations.

Summary of Faculty Discussion:

No changes are being considered.

Summary of Changes/Improvements Being Considered:

No changes are being considered.

Inter-rater Reliability:

All faculty use the same rubric.

Closing the Loop:

No changes have been made.

Student Achievement

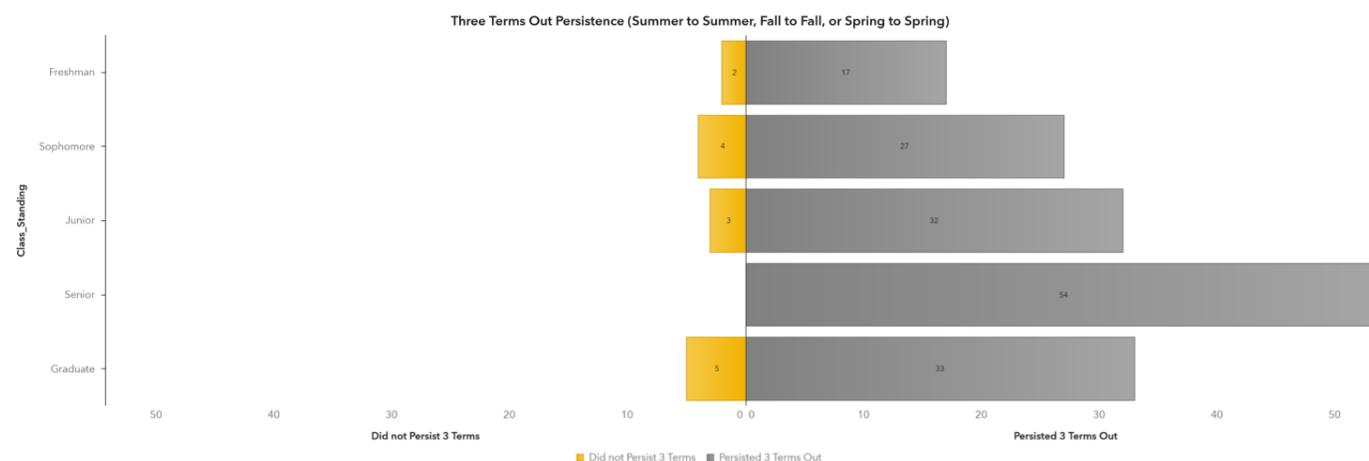
Student Achievement

Student Retention:

From the APR dashboard, >95% of undergraduates and >93% of graduate students continued from spring to fall 2021. The APR dashboard does not indicate how undergraduate students who graduated are handled, but given these high percentages they must not be included in the percent.

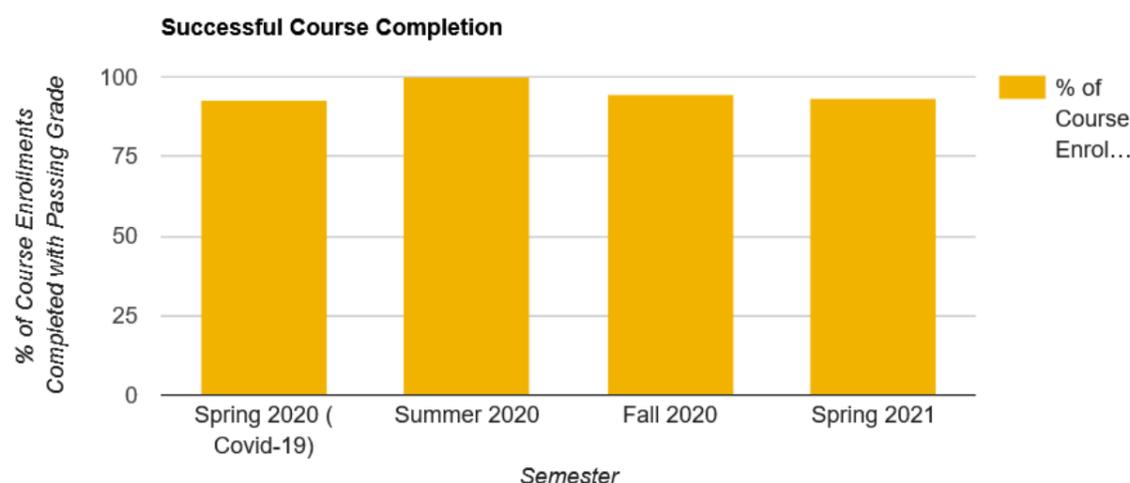
Student Persistence:

From the Institutional Research dashboard for Civil Engineering majors starting Fall 2020:



Student Completion:

From the APR Dashboard, Enrollment and Completion:



Student Postgraduate Success:

CEE has a 94% placement rate, which is a 2015-2020 average from the U of I First Destination Survey. From senior exit surveys, it appears that all students who want a job can get one, and many students have multiple job offers. Senior exit survey results for 2021 are included in a separate section.

Identify Equity Gaps:

From the APR Dashboard data, the CEE department does not have significant equity gaps, but there may be effects of small samples and a priori self selection. Of note is that women have higher cumulative GPAs than men, and asians and hispanics have higher GPAs than whites. The GPAs for whites, native americans, and blacks are not significantly different. Moreover, gaps in incoming GPA between first generations students and not first generation students are closed at UI in CEE.

APR Civil & Environmental Engr.

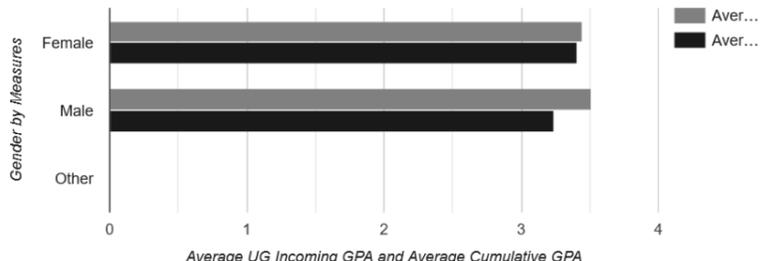
UG GPA by Race (Fall 2021)

Race/Ethnicity by Measures	Avg UG Cum GPA	Avg UG Incoming GPA	Average ACT Score	Average SAT Score
White	3.28	3.52	26.09	1,073.57
Asian	3.51	3.93	27.21	0
American Indian or Alaska Native	3.21	2.74	20	1,010
Black or African	3.26	4	0	0

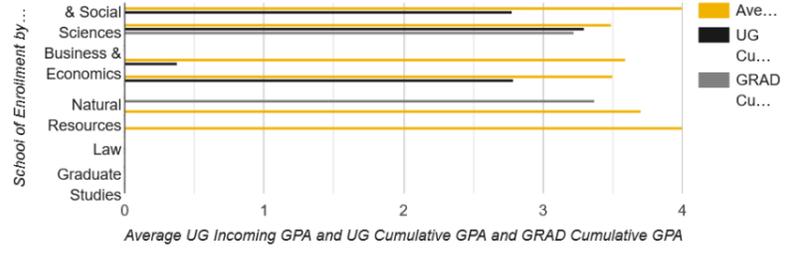
GRAD GPA by Race (Fall 2021)

Race/Ethnicity by Measures	Avg GRAD Cum GPA	Avg GRAD HS Incoming GPA	Average ACT Score	Average SAT Score
White	3.2	3.62	25.6	1,142.5
Asian	0	0	0	0
American Indian or Alaska Native	0	0	0	0
Black or African	0	0	0	0

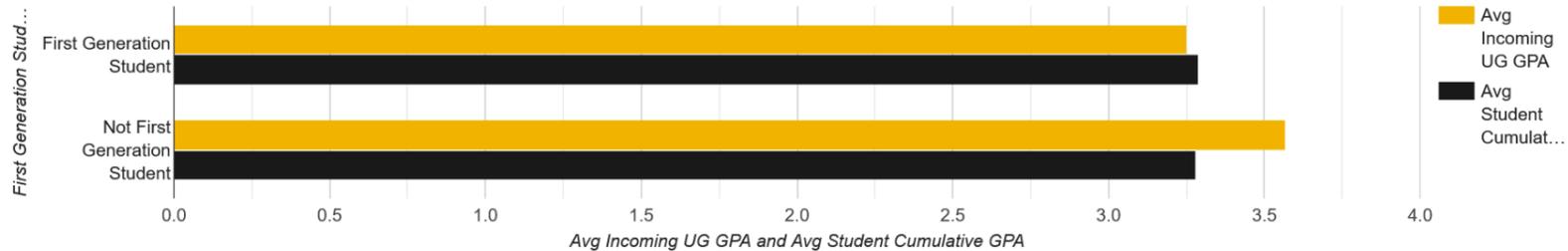
GPA by Gender (Fall 2021)



GPA by College (Fall 2021)



GPA by First Gen Status (Fall 2021)



Effective Learning Environment and Closing Equity Gaps:

We appear to provide an effective learning environment for students with different backgrounds and races.

Demand and Productivity

CEE Demand and Productivity

External Demand:

Completed. Enrollment is generally up slightly.

Internal Demand:

Completed. Demand for CE undergraduate courses is almost entirely from CEE students, as is expected for an engineering department. At the graduate level, faculty in the Center for Ecohydraulics Research offer courses that are taken by students in other department. In AY 20-21, in three classes the total enrollment was 38, and 23 of these (60%) were non-CE students.

Credit Productivity:

This is primarily a function of enrollment in CEE, since students in CEE are required to take CE courses, and with the exception of certain graduate classes, students from other departments are not.

Financial Health and Resources

Financial Health and Resources

Financial Health:

We are effectively delivering our programs, but we are starved of both faculty and administrative/technical support resources. Our Gen Ed budget is not controlled by the department, so we are unable to effectively manage our own human resources. The CEE department needs at least 3 additional faculty, and 2 support staff (including a dedicated technician) to effectively grow enrollments and research expenditures. The cost of being starved for resources is low morale and necessitates reduced number and diversity of upper division and graduate course offerings, making us less attractive to potential students.

Efficient Use of Resources:

We do the best we can with the resources provided to us by closely monitoring incidental costs (e.g., encouraging people not to print many pages and not to print in color), but the vast majority of our budget is for salaries, and those are not controlled by the department.