

Assessment Plan

2018-19



Program (CENG) - Engineering

University Mission: George Fox University, a Christ-centered community, prepares students spiritually, academically, and professionally to think with clarity, act with integrity, and serve with passion.

Program Mission: Prepare technically competent and broadly educated engineers for a life of responsible service emerging from a Christian worldview.

Alignment With GFU Mission: The Engineering Program mission aligns with the GFU mission in the following ways:

- Embraces the Christian mission
- Promotes academic excellence
- Emphasizes importance of practical knowledge, ethical behavior and critical thinking
- Prepares students for a life of responsible service

Degree Outcomes:

- Ability to apply knowledge of mathematics, science, and engineering
- Ability to design and conduct experiments, as well as to analyze and interpret data
- Ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- Ability to function on multi-disciplinary teams
- Ability to identify, formulate, and solve engineering problems
- understanding of professional and ethical responsibility
- Ability to communicate effectively
- Broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- Recognition of the need for and ability to engage in life-long learning
- Knowledge of contemporary issues
- Ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

Assessment Lead: Mike Foster

Outcome: Outcome 1

an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

Outcome Status: Active

Assessment Tools

Survey - Senior Survey (Active)

Target: 80% of responses are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Exam/Quiz - In Course - Rubric (instructor developed) for 1a (Active)

Target: 80% of rubric scores are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Exam/Quiz - In Course - Rubric (instructor developed) for 1b (Active)

Target: 80% of rubric scores are 3 or 4

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Schedule for Data Analysis & Reporting: Annual

Exam/Quiz - In Course - Rubric for 1c (instructor developed) (Active)

Target: 80% of rubric scores 3 or 4

Schedule for Data Analysis & Reporting: Annual

Exam/Quiz - In Course - Rubric for 1d (instructor developed) (Active)

Target: 80% of rubric results are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Related Documents:

[ENGM 211 Final Exam - Outcome \(a\) - Student 1.pdf](#)

[ENGM 211 Final Exam - Outcome \(a\) - Student 2.pdf](#)

[ENGM 211 Final Exam - Outcome \(a\) - Student 3.pdf](#)

[ENGM 211 Final Exam - Outcome \(a\) Results.xlsx](#)

[ENGM 320 Final Exam - Outcome \(a\) - Student 1.pdf](#)

[ENGM 320 Final Exam - Outcome \(a\) - Student 2.pdf](#)

[ENGM 320 Final Exam - Outcome \(a\) - Student 3.pdf](#)

[ENGM 320 Final Exam - Outcome \(a\) Results.xlsx](#)

Exam/Quiz - In Course - Rubric for 1e (instructor developed) (Active)

Target: 80% of rubric scores 3 or 4

Schedule for Data Analysis & Reporting: Annual

Related Goals

Core Themes

Core Theme 2.1 - GFU students demonstrate competence in their respective fields of study by obtaining licensure or credentials needed to practice.

Core Theme 2.2 - GFU students apply professional competence by successfully obtaining entrance to graduate school, additional preparation, and/or successful employment in the field

Outcome: Outcome 2

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

Outcome Status: Active

Assessment Tools

Survey - Senior Survey (Active)

Target: 80% of responses are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Capstone Assignment - Senior Design - Rubric for Outcome c (Active)

Target: 80% of rubric scores are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Capstone Assignment - Servant Engineering - Rubric for Outcome c (Active)

Program (CENG) - Engineering

Target: 80% of rubric scores are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Related Goals

Core Themes

Core Theme 2.1 - GFU students demonstrate competence in their respective fields of study by obtaining licensure or credentials needed to practice.

Core Theme 2.2 - GFU students apply professional competence by successfully obtaining entrance to graduate school, additional preparation, and/or successful employment in the field

Core Theme 4.1 - GFU students, faculty, and staff/administrators apply their leadership knowledge and skills in communities, both local and global

Core Theme 4.2 - GFU students, faculty, staff & administrators demonstrate engagement in improving the human condition by serving people both locally and globally

Outcome: Outcome 3

an ability to communicate effectively with a range of audiences

Outcome Status: Active

Assessment Tools

Survey - Senior Survey (Active)

Target: 80% of responses are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Laboratory Assignment - Rubric for 3a (Writing) (Active)

Target: 80% of rubric scores are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Presentation/Performance - Rubric 3b (Present to group) - SD team presents to client (Active)

Target: 80% of rubric scores are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Presentation/Performance - Rubric 3b (Present to group) - SE team year-end presentation (Active)

Target: 80% of rubric scores are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Presentation/Performance - Rubric 3b (Present to group) - presentations in various courses (Active)

Target: 80% of rubric scores are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Presentation/Performance - Rubric 3c (Comm. in meetings) - SD Students (Active)

Target: 80% of rubric scores are 3 or 4

Schedule for Data Analysis & Reporting: Annual

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Presentation/Performance - Rubric 3c (Comm. in meetings) - SE Students (Active)

Target: 80% of rubric scores are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Related Goals

Core Themes

Core Theme 1.1 - General Education. Undergraduates complete a general education package that helps them develop foundational skills, acquire knowledge in a breadth of disciplinary domains, and interact productively across differences.

Core Theme 2.1 - GFU students demonstrate competence in their respective fields of study by obtaining licensure or credentials needed to practice.

Core Theme 2.2 - GFU students apply professional competence by successfully obtaining entrance to graduate school, additional preparation, and/or successful employment in the field

Outcome: Outcome 4

an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts

Outcome Status: Active

Assessment Tools

Survey - Senior Survey (Active)

Target: 80% of responses are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Survey - EERI (Active)

Target: Cumulative average N2_100 Score of 60 or higher

Schedule for Data Analysis & Reporting: Annual

Survey - EVA (Active)

Target: 80% of responses are 3 or 4

Schedule for Data Collection: Annual

Schedule for Data Analysis & Reporting: Annual

Capstone Assignment - Rubric 4c in SD (Active)

Target: 80% of rubric scores are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Capstone Assignment - Rubric 4c in SE (Active)

Target: 80% of rubric scores are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Capstone Assignment - Rubric 4d in SD (Active)

Target: 80% of rubric scores are 3 or 4

Schedule for Data Analysis & Reporting: Annual

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Capstone Assignment - Rubric 4d in SE (Active)

Target: 80% of rubric scores are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Related Goals

Core Themes

Core Theme 2.1 - GFU students demonstrate competence in their respective fields of study by obtaining licensure or credentials needed to practice.

Core Theme 2.2 - GFU students apply professional competence by successfully obtaining entrance to graduate school, additional preparation, and/or successful employment in the field

Core Theme 2.3 - GFU students demonstrate an ethical orientation, shaped by Christian values, in their professional practice

Outcome: Outcome 5

an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

Outcome Status: Active

Assessment Tools

Survey - Senior Survey (Active)

Target: 80% of responses are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Survey - CATME in Servant Engineering (Active)

Target: 80% of responses are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Survey - CATME in Senior Design (Active)

Target: 80% of responses are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Related Goals

Core Themes

Core Theme 2.2 - GFU students apply professional competence by successfully obtaining entrance to graduate school, additional preparation, and/or successful employment in the field

Outcome: Outcome 6

an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions

Outcome Status: Active

Assessment Tools

Program (CENG) - Engineering

Survey - Senior Survey (Active)

Target: 80% of responses are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Laboratory Assignment - Rubric for 6a "Design an Experiment" (Active)

Target: 80% of rubric scores are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Laboratory Assignment - Rubric for 6b "Conduct an Experiment" (Active)

Target: 80% of rubric scores are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Laboratory Assignment - Rubric for 6c "Analyze and Interpret Data" (Active)

Target: 80% of rubric scores are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Related Goals

Core Themes

Core Theme 2.1 - GFU students demonstrate competence in their respective fields of study by obtaining licensure or credentials needed to practice.

Core Theme 2.2 - GFU students apply professional competence by successfully obtaining entrance to graduate school, additional preparation, and/or successful employment in the field

Outcome: Outcome 7

an ability to acquire and apply new knowledge as needed, using appropriate learning strategies

Outcome Status: Active

Assessment Tools

Survey - Senior Survey (Active)

Target: 80% of responses are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Student Self Assessment - 3 questions on EVA using a Likert-like scale (Active)

Target: 80% of rubric scores are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Capstone Assignment - Rubric 7b in SD (Active)

Target: 80% of rubric scores are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Capstone Assignment - Rubric 7b in SE (Active)

Target: 80% of rubric scores are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Program (CENG) - Engineering

Presentation/Performance - Rubric 7b in various classes (Active)

Target: 80% of rubric scores 3 or 4

Schedule for Data Analysis & Reporting: Annual

Related Goals

Core Themes

Core Theme 1.1 - General Education. Undergraduates complete a general education package that helps them develop foundational skills, acquire knowledge in a breadth of disciplinary domains, and interact productively across differences.

Core Theme 2.1 - GFU students demonstrate competence in their respective fields of study by obtaining licensure or credentials needed to practice.

Core Theme 2.2 - GFU students apply professional competence by successfully obtaining entrance to graduate school, additional preparation, and/or successful employment in the field

Outcome: Outcome j

: A knowledge of contemporary issues

Outcome Status: Inactive

Assessment Tools

Survey - Senior Survey (Active)

Target: 80% of responses are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Writing Assignment - Senior Survey; Faculty review of Senior Survey responses (Active)

Target: 80% of scores are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Writing Assignment - Rubric j1 (Active)

Target: 80% of rubric scores are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Related Goals

Core Themes

Core Theme 1.1 - General Education. Undergraduates complete a general education package that helps them develop foundational skills, acquire knowledge in a breadth of disciplinary domains, and interact productively across differences.

Core Theme 2.1 - GFU students demonstrate competence in their respective fields of study by obtaining licensure or credentials needed to practice.

Core Theme 2.2 - GFU students apply professional competence by successfully obtaining entrance to graduate school, additional preparation, and/or successful employment in the field

Outcome: Outcome k

: An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

Program (CENG) - Engineering

Outcome Status: Inactive

Assessment Tools

Survey - Senior Survey (Active)

Target: 80% of responses are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Laboratory Research Project - Rubric k1 (Active)

Target: 80% of rubric scores are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Laboratory Research Project - Rubric k2 (Active)

Target: 80% of rubric scores are 3 or 4

Schedule for Data Analysis & Reporting: Annual

Related Goals

Core Themes

Core Theme 2.1 - GFU students demonstrate competence in their respective fields of study by obtaining licensure or credentials needed to practice.

Core Theme 2.2 - GFU students apply professional competence by successfully obtaining entrance to graduate school, additional preparation, and/or successful employment in the field