

# Assessment Plan

2021-22



## IND - Mathematics

**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:** To provide students with the foundational knowledge necessary for a thorough understanding of the basic areas of undergraduate mathematical studies, as well as the skills required to use that understanding.

**Alignment With GFU Mission:** If we successfully carry out our mission we will prepare students "academically and professionally to think with clarity, act with integrity" as desired in the University Mission.

**Degree Outcomes:** - Demonstrate computational competency including appropriate uses of technology

- Understand and appreciate applications of mathematics
- Be prepared for graduate study in mathematics
- Apply mathematical theory, concepts and methods of inquiry to advanced topics
- Understand the development of a mathematical system

**Assessment Lead:** John Johnson

### Outcome: Computational Competency

Develop computational competency including the use of technology.

**OutcomeType:** Student Learning Outcome

#### Assessment Tools

**Exam/Quiz - In Course** - Departmental Assessment Exam (Active)

**Target:** Half the class obtaining a score of 70% or better

**Schedule for Data Collection:** December 1 of each academic year

**Schedule for Data Analysis & Reporting:** February 1

#### Related Goals

College of Engineering

**Departmental** - Graduate well-rounded students of high character who are professionally competent, spiritually grounded, globally aware and socially engaged.

IND - Mathematics

**Departmental** - Develop skills at using technology where appropriate, especially in the calculus sequence

**Departmental** - Study applications of mathematics to applications in the sciences as well as to other mathematical topics.

### Outcome: Applications

Understand and appreciate the applications of mathematics to relevant subjects

#### Assessment Tools

# IND - Mathematics

**Exam/Quiz - In Course** - Departmental Math Assessment Exam (Active)

**Target:** Half the class scoring above 70%

**Schedule for Data Collection:** December 1

**Schedule for Data Analysis & Reporting:** February 1

## Related Goals

College of Engineering

**Departmental** - Graduate well-rounded students of high character who are professionally competent, spiritually grounded, globally aware and socially engaged.

IND - Mathematics

**Departmental** - Develop skills at using technology where appropriate, especially in the calculus sequence

**Departmental** - Study applications of mathematics to applications in the sciences as well as to other mathematical topics.

**Departmental** - Provide a well-rounded education that will prepare students for a variety of experiences including graduate school in mathematics and related subjects.

## Outcome: Prepare Students

Prepare students for further study and/or careers involving mathematics

**Outcome Status:** Active

## Assessment Tools

**Survey** - Alumni Survey (Active)

**Target:** 90% of alumni surveyed felt prepared for their chosen career path

**Schedule for Data Analysis & Reporting:** April 1

## Related Goals

College of Engineering

**Departmental** - Graduate well-rounded students of high character who are professionally competent, spiritually grounded, globally aware and socially engaged.

IND - Mathematics

**Departmental** - Develop skills at using technology where appropriate, especially in the calculus sequence

**Departmental** - Study applications of mathematics to applications in the sciences as well as to other mathematical topics.

**Departmental** - Provide a well-rounded education that will prepare students for a variety of experiences including graduate school in mathematics and related subjects.

**Departmental** - Understand the theoretical nature of mathematics as presented especially in course Math 340, 412 and 421, with preparation provided in Math 290

**Departmental** - Be able to transport mathematical ideas across courses, to recognize a familiar mathematical structure in a new and different context.

## Outcome: Advanced Study

Apply mathematical theory, concepts and methods of inquiry to advanced topics.

# IND - Mathematics

## Assessment Tools

**Exam/Quiz - In Course** - Final Exam - Math420 (Active)

**Target:** 90% pass rate

**Schedule for Data Collection:** May 1

**Schedule for Data Analysis & Reporting:** May 1

## Related Goals

College of Engineering

**Departmental** - Graduate well-rounded students of high character who are professionally competent, spiritually grounded, globally aware and socially engaged.

IND - Mathematics

**Departmental** - Provide a well-rounded education that will prepare students for a variety of experiences including graduate school in mathematics and related subjects.

**Departmental** - Understand the theoretical nature of mathematics as presented especially in course Math 340, 412 and 421, with preparation provided in Math 290

**Departmental** - Understand the axiomatic development of mathematical systems, especially in Math 331 (probability systems), Math 320 (vector spaces) and Math 410 (groups, rings, etc.).

**Departmental** - Be able to transport mathematical ideas across courses, to recognize a familiar mathematical structure in a new and different context.

## Outcome: Mathematical Systems

Understand the development of an axiomatic mathematical system

## Assessment Tools

**Exam/Quiz - In Course** - Departmental Assessment Exam (Active)

**Target:** Half the class scoring above 70%

**Schedule for Data Analysis & Reporting:** February 1

## Related Goals

College of Engineering

**Departmental** - Graduate well-rounded students of high character who are professionally competent, spiritually grounded, globally aware and socially engaged.

IND - Mathematics

**Departmental** - Understand the theoretical nature of mathematics as presented especially in course Math 340, 412 and 421, with preparation provided in Math 290

**Departmental** - Understand the axiomatic development of mathematical systems, especially in Math 331 (probability systems), Math 320 (vector spaces) and Math 410 (groups, rings, etc.).

**Departmental** - Be able to transport mathematical ideas across courses, to recognize a familiar mathematical structure in a new and different context.