

## MAT185 Quantitative Reasoning (3 credit hours) Course Syllabus

---

### Course Description

Students will create, analyze, and interpret basic mathematical models from informal problem statements; argue that the models constructed are reasonable; and use the models to provide insight into the original problem. Life-long critical thinking and quantitative reasoning skills will be taught.

### Course Learning Outcomes

By the end of this course, you will be able to:

1. Explain mathematical information presented in various forms (e.g., equations, graphs, diagrams, tables, words).
2. Convert information from one mathematical form (e.g., equations, graphs, diagrams, tables, words) into another.
3. Perform arithmetical and mathematical calculations.
4. Make and draw conclusions based on quantitative analysis.
5. Make and evaluate important assumptions in estimation, modeling, and data analysis.
6. Explain thoughts and processes in terms of what evidence is used, how it is organized, presented, and contextualized, both verbally and in writing

### Required Textbook(s) and Resources

Gaze, E. (2024). Thinking Quantitatively: Communicating with Numbers. Pearson.

Be sure to also review the weekly **Explore** sections for additional library or web resources. For access to databases, research help, and writing tips, visit the [Tiffin University Library](#).

### Time Commitment

Effective time management is possibly the single most critical element to your academic success. To do well in this online class you should plan your time wisely to maximize your learning through the completion of readings, discussions, and assignments. Because of our accelerated, seven-week term, TU online courses are designed with the expectation that you

dedicate a little over **six (6)** hours per credit hour to course activities and preparation **each week**. For example, for successful completion of a three-credit, seven-week online course you should reserve roughly **twenty (20) hours per week**.

To help plan your time and keep on track toward successful course completion, note the distinctive rhythm of assignment due dates:

1. All times assume Eastern Time (GMT-4).
2. Weeks begin at 12:00 a.m. ET on Monday and end at 11:55 p.m. ET on Sunday.
3. Unless otherwise noted, initial assignments or discussion posts are due by **11:55 p.m. ET on Wednesdays**.
4. Additional assignments or follow-up discussion posts are due by **11:55 p.m. ET on Saturdays, and**
5. Major assignments and reflections are typically due by **11:55 p.m. ET on Sundays**.

### Learning Activities

This course has been designed as a Competency/Mastery Learning course type. This means that you will be working through course assignments until you achieve a level of competency as indicated in the course. Course assignments may be 3rd party exams or activities, or you may be given resources and then instructed to create a large project that demonstrates your competency in the subject.

Be sure to read instructions carefully to avoid missing deadlines.

### Key Assessment (Taskstream Submission)

This TU course features a “Key Assessment” that provides you the opportunity to demonstrate your program’s core competencies. It also shows how the course fits within the broader curriculum. For this course, the Week 3 Application Task: Finance Project fits to align with the Program Learning Outcome “Students will solve problems using quantitative and qualitative methods.”

### Grading

The chart below identifies the individual contributions from each type of activity, per week.

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Total
Forum Activity 1.1 (N/A)							<b>0</b>

<b>Lessons</b> Activity 1.2 (20)	<b>Lessons</b> Activity 2.1 (20)	<b>Lessons</b> Activity 3.1 (20)	<b>Lessons</b> Activity 4.1 (20)	<b>Lessons</b> Activity 5.1 (20)	<b>Lessons</b> Activity 6.1 (20)	<b>Lessons</b> Activity 7.1 (20)	<b>140</b>
<b>Homework</b> Activity 1.3 (20)	<b>Homework</b> Activity 2.2 (20)	<b>Homework</b> Activity 3.2 (20)	<b>Homework</b> Activity 4.2 (20)	<b>Homework</b> Activity 5.2 (20)	<b>Homework</b> Activity 6.2 (20)	<b>Homework</b> Activity 7.2 (20)	<b>140</b>
<b>Quiz</b> n/a	<b>Quiz</b> Activity 2.3 (75)	<b>Quiz</b> Activity 3.3 (75)	<b>Quiz</b> Activity 4.3 (75)	<b>Quiz</b> Activity 5.3 (75)	<b>Quiz</b> Activity 6.3 (75)	<b>Quiz</b> Activity 7.3 (75)	<b>450</b>
<b>Application</b> Activity 1.4 (50)	<b>Application</b> Activity 2.4 (30)	<b>Application</b> Activity 3.4 (50)	<b>Application</b> Activity 4.4 (30)	<b>Application</b> Activity 5.4 (30)	<b>Application</b> Activity 6.4 (30)	<b>Application</b> Activity 7.3 (50)	<b>270</b>
<b>90</b>	<b>145</b>	<b>165</b>	<b>145</b>	<b>145</b>	<b>145</b>	<b>165</b>	<b>1000</b>

## Grading Scale

A: 90-100% | B: 80-89% | C: 70-79% | D: 60-69% | F: <60%

## Course Schedule and Weekly Checklist

### Start Here

- ☐ MON: Activity 1.1: Intro to Math - Introductory Post

### Week 1 – Foundations of Quantitative Reasoning

- ☐ WED: Activity 1.1: Intro to Math – Follow-Up Post
- ☐ WED: Activity 1.2: Week 1 Lesson
- ☐ SAT: Activity 1.3: MyLab Homework
- ☐ SUN: Activity 1.4: Application Task

### Week 2 – Linear and Exponential Modeling

- ☐ WED: Activity 2.1: Week 2 Lesson
- ☐ SAT: Activity 2.2: MyLab Homework
- ☐ SUN: Activity 2.3: Week 2 Quiz
- ☐ SUN: Activity 2.4: Application Task

### Week 3 – Intro to Financial Literacy

- ☐ WED: Activity 3.1: Week 3 Lesson
- ☐ SAT: Activity 3.2: MyLab Homework
- ☐ SUN: Activity 3.3: Week 3 Quiz
- ☐ SUN: Activity 3.4: Application Task

## **Week 4 – Advanced Financial Concepts**

- WED: Activity 4.1: Week 4 Lesson
- SAT: Activity 4.2: MyLab Homework
- SUN: Activity 4.3: Week 4 Quiz
- SUN: Activity 4.4: Application Task

## **Week 5 – Descriptive Statistics**

- WED: Activity 5.1: Week 5 Lesson
- SAT: Activity 5.2: MyLab Homework
- SUN: Activity 5.3: Week 5 Quiz
- SUN: Activity 5.4: Application Task

## **Week 6 – Applications of Probability**

- WED: Activity 6.1: Week 6 Lesson
- SAT: Activity 6.2: MyLab Homework
- SUN: Activity 6.3: Week 6 Quiz
- SUN: Activity 6.4: Application Task

## **Week 7 – Practical Applications**

- WED: Activity 7.1: Week 7 Lesson
- SAT: Activity 7.2: MyLab Homework
- SUN: Activity 7.3: Week 7 Quiz
- SUN: Activity 7.4: Course Reflection

## **Tips for Success**

Online learning requires self-discipline and self-direction. As seekers of the truth, we should be willing to challenge one another's academic work in a spirit of respectful comradery. Your course is a place for you to grow as you benefit from the expertise, experience, and diverse perspectives of your instructor and peers. Constructive feedback will challenge you to stretch your own thinking, thereby expanding your knowledge and understanding.

To get the most out of your learning experience, you should actively engage (participate) in **ALL** course activities. Course elements are arranged chronologically. To complete a week, simply work your way "down the page" through all of the course materials and activities.

## **For More Information:**

Be sure to review the [Support, Policies, and Procedures](#) addendum.