

Master Course Syllabus

For additional course information, including prerequisites, corequisites, and course fees, please refer to the Catalog: <https://catalog.uvu.edu/>

Semester: Spring

Year: 2025

Course Prefix: MAT

Course and Section #: 1030-X04

Course Title: Quantitative Reasoning QL.

Credits: 3

Course Description

Teaches how to communicate, interpret, and analyze quantitative information found in the media and in everyday life to make sound personal, professional, and civic decisions.

Course Attributes

This course has the following attributes:

- General Education Requirements
- Global/Intercultural Graduation Requirements
- Writing Enriched Graduation Requirements
- Discipline Core Requirements in Program
- Elective Core Requirements in Program
- Open Elective

Other: *Click here to enter text.*

Instructor Information

Instructor Name: Emily Clark

Student Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Explain real world information presented in mathematical forms (e.g., equations, graphs, diagrams, tables, words), including making reasonable predictions of trend data.
2. Convert relevant information into various mathematical forms (e.g., equations, graphs, diagrams, tables, words) that are appropriate and accurate.
3. Perform calculations that are sufficiently comprehensive and elegant (clear, concise, etc.) to solve authentic problems.
4. Analyze real world data as the basis for competent judgments, drawing reasonable and appropriately qualified conclusions.

5. Make and evaluate important assumptions in estimation, modeling, and data analysis using a compelling rationale for why each assumption is appropriate.
 6. Express quantitative evidence in support of an argument or specific purpose (in terms of what evidence is used and how it is formatted, presented, and contextualized).
 7. Use algebra to support objectives 1-6.
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Course Materials and Texts

REQUIRED SOFTWARE LICENSE: In this class, it is required to have a software license for Lumen OHM. You can purchase access to just the online homework system by visiting any Lumen assignment inside of Canvas. Alternatively, you may be able to find the access codes sold in the UVU bookstore. However, these codes are often in short supply.

TEXTBOOK (Optional): Viewing Life Mathematically: A Pathway to Quantitative Reasoning; Denley and Hall

Microsoft Office Account (Required): We will be making extensive use of the Microsoft Office suite, especially Excel, Word, and OneNote. Fortunately, as UVU students, you have access to this suite free of charge. Please visit UVU's Microsoft Office 365 page (Links to an external site.) to get your access. I also strongly encourage using the Desktop applications over the Online version, especially when you use OneNote, as it has a better feature set. See the OneNote videos and assignments for more information. You will need this same account to use Microsoft Teams for any group meetings your group chooses to hold.

Webcam (Required): You will need a simple webcam to facilitate communication with the class, communication with your group, and to have your test proctored.

Course Requirements

Course Assignments, Assessments, and Grading Policy

Individual Work. Students will learn by reading the textbook, watching lecture videos, and completing LumenOHM exercises.

Group Work. Each week, you will be asked to work on either mini-projects tied to that week's learning or to a major project which helps you work through several modules, making connections in the material you have been learning

Each week consists of one or two mini-projects.

Students earn credit by participating with their group on projects during the week

Major projects build off of the knowledge gained from each section and the work done in the mini projects

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|---------------------------|-----|
| Homework | 20% |
| Discussions/Mini Projects | 20% |
| Participation | 10% |
| Major Projects | 25% |
| Final Exam | 25% |

Required or Recommended Reading Assignments

All required readings use chapters from the course text that align with the lectures below.

General Description of the Subject Matter of Each Lecture or Discussion

1030

Module 1: Course Orientation

- 1-1 Course Orientation (no textbook)
- 1-2 Working in Groups (custom textbook)

Module 2: Technology

- 2-1 Basic Excel (custom videos)
- 2-2 Advanced Excel (custom videos)
- 2-3 Technology (assignment)
- 2-4 Introduction to Lumen (assignment)

Module 3: Logical Fallacies and Collecting Data

- 3-1 Logical Fallacies
- 3-2 Statistics: Collecting Data

Module 4: Describing Data and Normal Distribution

- 4-1 Statistics: Describing Data
- 4-2 Normal Distribution

Module 5: Probability and Expected Value

- 5-1 Probability
- 5-2 Applications of Probability & Expected Value

Module 6: Game Building

Game Building Major Project

Module 7: Measurement and Percents

- 7-1 Measurement and Unit Analysis
- 7-2 Proportions and Percents

Module 8: Problem Solving and Linear Growth

- 8-1 Problem Solving
- 8-2 Linear Growth

Module 9: Exponential and Logistic Growth

- 9-1 Exponential and Logistic Growth
- 9-2 Putting Modelling Together

Module 10: Modeling

Modeling Real Data Major Project

Module 11: Personal Finances

- 11-1 Voting Theory (Optional)
- 11-2 Apportionment (Optional)
- 11-3 Personal Finances

Module 12: Saving Money and Annuities

- 12-1 Simple and Compound Interest
- 12-2 Saving Money and Annuities

Module 13: Loans and Amortization

- 13-1 Loans and Amortizations
- 13-2 Putting Finances Together

Module 14: Finances

Financial Major Project

Required Course Syllabus Statements

Generative AI

This course requires you to complete assignments that assess your understanding and application of the material. You are expected to do your own work, and the use of artificial intelligence (AI) tools, such as chatbots, text generators, paraphrasers, summarizers, or solvers, is strictly prohibited for any part of your assignments. Using these tools will be considered academic dishonesty and will be handled according to the university's policy. If you have questions about acceptable use of AI tools, please consult the instructor before submitting your work.

Using Remote Testing Software

This course does not use remote testing software.

This course uses remote testing software. Remote test-takers may choose their remote testing locations. Please note, however, that the testing software used for this may conduct a brief scan of remote test-takers' immediate surroundings, may require use of a webcam while taking an exam, may require the microphone be on while taking an exam, or may require other practices to confirm academic honesty. Test-takers therefore shall have no expectation of privacy in their test-taking location during, or immediately preceding, remote testing. If a student strongly objects to using test-taking software, the student should contact the instructor at the beginning of the semester to determine whether alternative testing arrangements are feasible. Alternatives are not guaranteed.

Required University Syllabus Statements

Accommodations/Students with Disabilities

Students needing accommodations due to a permanent or temporary disability, pregnancy or pregnancy-related conditions may contact UVU [Accessibility Services](#) at accessibilityservices@uvu.edu or 801-863-8747.

Accessibility Services is located on the Orem Campus in BA 110.

Deaf/Hard of Hearing students requesting ASL interpreters or transcribers can contact Accessibility Services to set up accommodations. Deaf/Hard of Hearing services can be contacted at DHHservices@uvu.edu

DHH is located on the Orem Campus in BA 112.

Academic Integrity

At Utah Valley University, faculty and students operate in an atmosphere of mutual trust. Maintaining an atmosphere of academic integrity allows for free exchange of ideas and enables all members of the community to achieve their highest potential. Our goal is to foster an intellectual atmosphere that produces scholars of integrity and imaginative thought. In all academic work, the ideas and contributions of others must be appropriately acknowledged and UVU students are expected to produce their own original academic work.

Faculty and students share the responsibility of ensuring the honesty and fairness of the intellectual environment at UVU. Students have a responsibility to promote academic integrity at the university by not participating in or facilitating others' participation in any act of academic dishonesty. As members of the academic community, students must become familiar with their [rights and responsibilities](#). In each

course, they are responsible for knowing the requirements and restrictions regarding research and writing, assessments, collaborative work, the use of study aids, the appropriateness of assistance, and other issues. Likewise, instructors are responsible to clearly state expectations and model best practices.

Further information on what constitutes academic dishonesty is detailed in [UVU Policy 541: Student Code of Conduct](#).

Equity and Title IX

Utah Valley University does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, gender expression, age (40 and over), disability, veteran status, pregnancy, childbirth, or pregnancy-related conditions, citizenship, genetic information, or other basis protected by applicable law, including Title IX and 34 C.F.R. Part 106, in employment, treatment, admission, access to educational programs and activities, or other University benefits or services. Inquiries about nondiscrimination at UVU may be directed to the U.S. Department of Education's Office for Civil Rights or UVU's Title IX Coordinator at 801-863-7999 – TitleIX@uvu.edu – 800 W University Pkwy, Orem, 84058, Suite BA 203.

Religious Accommodation

UVU values and acknowledges the array of worldviews, faiths, and religions represented in our student body, and as such provides supportive accommodations for students. Religious belief or conscience broadly includes religious, non-religious, theistic, or non-theistic moral or ethical beliefs as well as participation in religious holidays, observances, or activities. Accommodations may include scheduling or due-date modifications or make-up assignments for missed class work.

To seek a religious accommodation, a student must provide written notice to the instructor and the Director of Accessibility Services at accessibilityservices@uvu.edu. If the accommodation relates to a scheduling conflict, the notice should include the date, time, and brief description of the difficulty posed by the conflict. Such requests should be made as soon as the student is aware of the prospective scheduling conflict.

While religious expression is welcome throughout campus, UVU also has a [specially dedicated space](#) for meditation, prayer, reflection, or other forms of religious expression.