

THE NEW SCHOOL

Quantitative Reasoning I Fall 2022 LMTH 1950 3 credits

Section K

Tue, Thu: 12:20 pm – 1:35 pm in 65 W 11th St, Rm 050

CRN 13252

The New School

Eugene Lang College for Liberal Arts

Department of Natural Sciences & Mathematics

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Office hours: To be determined in the first class

Course Description

This is a quantitative literacy course, comprising basic mathematics skills and the ability to reasoning with numerical data from the real world. Topics include critical estimation of media information, analysis of personal finance, basic statistics with Excel, an introduction to statistical reasoning and probability, as well as linear modeling.

Learning Outcomes

By the end of the course, students should be comfortable in working with numerical data in various contexts and be able to construct logically consistent arguments. Specifically, students should be able to:

- Perform basic calculations and measurements, and critically read and assess the validity of quantitative information
- Conduct analysis of personal finance
- Use Excel to organize, analyze, and visualize data, and to perform basic calculations;
- Summarize numerical data and draw key insights from it, and conduct simple hypothesis tests.
- Understand the basics of probability and how to compute it in various contexts;
- Construct and present an argument using quantitative evidence.
- Communicate arguments in appropriate format (words, tables, graphs, formulas, etc.)

Course Texts and Resources

Jeffrey Bennett and William Briggs, 2015, *Using and understanding mathematics: a quantitative reasoning approach, 6th edition*

Bolker and Mast, 2015, *Common Sense Mathematics*

Supplementary articles and lesson notes will be available on Canvas

Course Policies

Materials and Supplies

We will be using technology in the classroom frequently. In some sections you will need to bring a **tablet** or a **laptop** that can be used to access Excel. Excel is available for free for students as part of the Microsoft Office 365 suite. You can find instructions for accessing and downloading at <https://it.newschool.edu/services/collaboration/office-365>. If you do not have a laptop, as a TNS student, you may check one out from 6 East 16th Street, room 606 or from the fifth floor of the University Center. See <https://it.newschool.edu/services/learning-resources/technology-labs/laptop-reservation-faq> for more information. I will inform you if laptops are needed for a specific class meeting. You will also need a calculator, but your cell phone should suffice.

Canvas

We will be using Canvas extensively for communication and course materials, as well as homework and term project submissions. Please make sure to get acquainted with its functionality. If you have any questions or problems with Canvas please let me know as soon as possible.

Homework Assignments

Homework will be assigned at the end of the most class periods and should be completed before the due dates (usually the following Tuesday). Even if you are absent from class, it is your responsibility to submit the assignment by the deadline. Practicing the material outside of class is essential to learning and mastering quantitative reasoning. Therefore, you should plan to set aside some time each week to work on the homework. **You may collaborate with your classmates on the homework, but you must submit your work separately.** Also, I may select students randomly and ask them to lead the homework review of the following week.

For any homework, please show all necessary steps for your reasoning. Please don't just submit the final number. Your homework will be graded primarily based on your effort and reasoning process (70%) and partly on correctness (30%).

Please submit all your work by the due date, late submission will be accepted with penalty (4 points initially and 2 points for each additional day).

Online Quizzes

Quizzes will be assigned periodically on Canvas. **You may take each quiz up to three times;** only the highest score will count. You may work on these quizzes with your classmates.

Quizzes serve as checks for your own understanding of the concepts, which will directly relate to your performance on the post-assessment and projects. Therefore, it's in your best interest to make sure you understand all responses you submit for the quizzes. For all assignments, including quizzes, you must be able to explain your reasoning behind any work you submit. All due dates will be clearly indicated on the course Canvas webpage and announced in class.

Class Participation & Preparation

Please make a maximum effort to attend each class and arrive on time. We will frequently be working on problems in class. Just as missing classes can lower your grade, so can coming unprepared to work. Also, **do not distract yourself or others with electronic devices during class**. Repeated violations will impact your class participation grade. I fully understand that emergencies arise sometime. If you must deal with an emergency, please step outside of the classroom to minimize distraction to your classmates.

Post-Course Assessment

To parallel the pre-course assessment taken before class began, there will be a post-course assessment administered online near the end of the course. It is an open-resource assessment that you may take at home in the time allotted. More details will be given later in the semester.

Projects

There will be two projects, which are the main methods of assessment for this course. Detailed descriptions of the projects will be posted on Canvas, along with a scoring rubric later in the semester.

Delays/Cancellations

In very rare instances, I may be delayed arriving to class. If I have not arrived by the time class is scheduled to start, **please wait a minimum of fifteen minutes** for my arrival. In the event I must miss class entirely, a sign will be posted at the classroom and/or an announcement will be made on Canvas indicating your assignment for the next class meeting.

Final Grade Calculation

Participation & Preparation	10%
Online Quizzes	15%
Hand-in Assignments	25%
Mid-term Project (group)	25%
Final Project (group)	25%
Online Post-Course Assessment(bonus points)	5%

Grading Scale

Letter grade cutoffs will be no higher than A: 93, A-: 90 B+: 87, B: 83, B-: 80, C+: 77, C: 73, C-: 70, D: 60.

University Resources

The university provides many resources to help students achieve academic and artistic excellence. These resources include:

The University (and associated) Libraries: <http://library.newschool.edu>

The University Learning Center

For assistance with coursework assigned during the semester, you are encouraged to schedule tutoring sessions at the University Learning Center (ULC). Individual appointments are offered in

Writing (all levels), **Math**, Adobe, **Computer Programming**, Oral Presentations and Time Management. Sessions are interactive, with both tutor and student participating. Appointments can be scheduled on Starfish or you can stop by for a walk-in session. The ULC is located on the 6th floor of 66 West 12th Street. Academic and skill-building workshops are also offered. For a complete list of services, workshops, and general information, visit www.newschool.edu/learning-center.

Student Disability Service

In keeping with the university's policy of providing equal access for students with disabilities, any student with a disability who needs academic accommodations is welcome to meet with me privately. All conversations will be kept confidential. Students requesting any accommodations will also need to contact Student Disability Service (SDS). SDS will conduct an intake and, if appropriate, the Director will provide an academic accommodation notification letter for you to bring to me. At that point, I will review the letter with you and discuss these accommodations in relation to this course. Please visit www.newschool.edu/student-disability-services/.

Student Ombuds

The Student Ombuds office provides students assistance in resolving conflicts, disputes or complaints on an informal basis. This office is independent, neutral, and confidential. Please visit <http://www.newschool.edu/intercultural-support/ombuds/>.

The New School Food Pantry

Food insecurity is a serious issue and one that our campus seeks to address. Our food pantry is a free service open to all students that provides food at designated pick up times – generally Tuesday evenings and Friday afternoons at the 12th floor cafe in 6 East 16th St. Please visit <https://www.newschool.edu/student-support-crisis-management/student-food-pantry-faq/> for more information.

Physical and Mental Health Services

Student Health and Support Services offer counseling, medical services, and crisis management support, along with many other wellness resources and events like mindfulness practice, pet therapy, and yoga for anxiety and depression. For more information visit <https://www.newschool.edu/campus-community/health-wellness-support/>.

University, Divisional/School, and Program Policies

Academic Honesty and Integrity

Compromising your academic integrity may lead to serious consequences, including (but not limited to) one or more of the following: failure of the assignment, failure of the course, academic warning, disciplinary probation, suspension from the university, or dismissal from the university. Students are responsible for understanding the University's policy on academic honesty and integrity and must make use of proper citations of sources for writing papers, creating, presenting, and performing their work, taking examinations, and doing research. It is the responsibility of students to learn the procedures specific to their discipline for correctly and appropriately differentiating their own work from that of others. The full text of the policy, including adjudication procedures, is found at <http://www.newschool.edu/policies>.

Resources regarding what plagiarism is and how to avoid it can be found on the Learning Center's website: <http://www.newschool.edu/university-learning-center/avoiding-plagiarism.pdf>.

Intellectual Property Rights: <http://www.newschool.edu/provost/accreditation-policies>

Grade Policies: <http://www.newschool.edu/registrar/academic-policies>

Class Attendance

As per the college's attendance policy:

Absences may justify some grade reduction and **a total of four absences mandate a reduction of one letter grade for the course. More than four absences mandate a failing grade for the course.** Extenuating circumstances include: an extended illness requiring hospitalization or visit to a physician (with documentation); a family emergency, e.g. serious illness (with written explanation); observance of a religious holiday.

The attendance and lateness policies are enforced as of the first day of classes for all registered students. If registered during the first week of the add/drop period, the student is responsible for any missed assignments and coursework.

For significant lateness (more than 15 minutes), the instructor may consider the tardiness as an absence for the day. Students failing a course due to attendance should consult with an academic advisor to discuss options. Divisional and/or departmental/program policies serve as minimal guidelines, but policies may contain additional elements determined by the faculty member.

Student Course Ratings

During the last two weeks of the semester, students are asked to provide feedback for each of their courses through an online survey. They cannot view grades until providing feedback or officially declining to do so. Course evaluations are a vital space where students can speak about the learning experience. It is an important process which provides valuable data about the successful delivery and support of a course or topic to both the faculty and administrators. Instructors rely on course rating surveys for feedback on the course and teaching methods, so they can understand what aspects of the class are most successful in teaching students, and what aspects might be improved or changed in the future. Without this information, it can be difficult for an instructor to reflect upon and improve teaching methods and course design. In addition, program/department chairs and other administrators review course surveys. Instructions are available online at <http://www.newschool.edu/provost/course-evaluations-student-instructions.pdf>.

Tentative Course Schedule

Week	Topics	Reading
1	Course Introduction, Estimation	Bolker&Mast(2015), Chapter 1; Bennett&Briggs (2015) (BB henceforth), Prologue
2	Units and Unit Conversion	BB Chapter 2A, 2B, and 2C
3	Numbers in the Real World	BB Chapter 3A, 3B
4	Index Numbers and Inflation	BB Chapter 3D
5	Managing Money	BB Chapter 4A, 4B, and 4D
6	Managing Money	BB Chapter 4A, 4B, and 4D
7	Excel and Midterm Project	
8	Statistical Reasoning	BB Chapter 5A, 5B, and 5C
9	Statistics and Inference	BB Chapter 6A, 6B, 6C, and 6D
10	Statistics and Inference	BB Chapter 6A, 6B, 6C, and 6D
11	Introduction to Probability	BB Chapter 7A, 7B, 7C, and 7E
12	Data Modeling	BB Chapter 9A, 9B, and 9C
13	Thanksgiving Holiday	
14	Final Project	