**MATH 106-K02: Quantitative Reasoning –Spring 2021**

**Instructor**: Dr. George Whelan

**Email**: gwhelan@gmu.edu

**Office**: GMU Korea Arts and Sciences # 549

**Office Hours**: Thursdays 10:00 am -1:00 pm.

* You can show up at any time during those hours. I will be in my office.
* You can also meet me online. I cannot stay in your course’s blackboard collaborate room during this entire time, since I am teaching multiple courses. If you would like to meet online at this time, please send me an email so that I can know to log in and meet you.
* I am also available other times throughout the week by appointment. Please email me if you would like to schedule a different time to meet.

**Scheduled Class Room**: TBA (see COVID-19 statement)

**Scheduled Class Time**: Tuesdays & Fridays 3:30 pm – 4:15 pm

**Final Exam**: Tuesday, June 15, 4:00 pm - 6:15 pm

**COVID-19**: WE ARE CURRENTLY SCHEDULED TO HOLD ALL OF OUR CLASSES 100% ONLINE.

* This status may change as the semester progresses, since GMU Korea may make a further determination depending on the situation in the larger community. If there is any change in status, you will be notified as soon as the decision is made.
* Our online classes will consist of a mixture of synchronous online meetings through blackboard collaborate, and readings and lecture videos which you will be assigned to complete in your own time. You will be notified throughout the semester what the class's weekly meeting schedule will be.

**Textbook:** Viewing Life Mathematically (Custom for GMU) by Denley, which you can purchase online through Hawkes Learning. When you register it will automatically give you a 21 day free trial. After the free trial, you must purchase the course and text to finish the semester.

In order to complete your textbook purchase, please follow prompts for HAWKES on Blackboard (you might have to search for it under the icons on the left side of the screen in the green section). If you have any difficulty with your purchase, please email me as soon as possible. Your homework assignments and quizzes are time-sensitive, so you do not want to wait!!!

After you have gained access to the Hawkes learning system, you will need to log on to complete your assignments. Each lesson of the software offers three modes:

* **Learn** is an interactive presentation of the material found in your textbook and includes instructional video clips and example problems.
* **Practice** gives you access to unlimited practice problems, provides error- specific feedback for commonly made mistakes, hints for all incorrect answers, and includes an interactive Tutor with Stepby-Step guidance and fully worked out solutions. Note that every question type from Certify can be found in the Practice mode.
* **Certify** is the homework portion of the lesson. After answering the set of questions without exceeding the available strikes (or lives), you will receive a perfect 100% score for your homework. If you are not able to Certify in your attempt, you are able to start a new set of questions over again with no penalty. In the meantime, you may wish to spend more time in the Practice mode before attempting Certify again. You have unlimited attempts in each lesson to receive full credit before the due date.

Additional videos can be found at [www.hawkestv.com](http://secure-web.cisco.com/15jLt3_0CRgUmWPSFFJx_gXVYhLLbliEU2t5HjCAVNBlUwRPdOmVxMh_h6TrPh1huG7ISeih7puVSjusbGCorm-1gqUiSWSN90q11ZfM25h4FxQEIpdHzeUMlSFkPcp-U17oK_laVQ3_yuw6MiUHd3Z0Ku2SxvXuZU8E5bzvQFoD784au04Xxm_0oqKTC1SRZW_uCuVtenGZA-lEUbc7byqqJCnEPxIgjNzOUw_2H-vN06Tozak54CZu0wgx4XryVJGDmSqANSUvvOhAylsLR5CYdTOrS0o5Xbe0EqBTAGskNtp1zQ7UGL1o8DbsKbRrcBQZIP8yle3Q__RG08S9XnxGeWprbQRSovQLiB0vlcCOYS_vyfzLXsMMPAu3yzpmmzvNYv6RP5jZyYJ1vQlmyEQ/http%3A//www.hawkestv.com).

**Course Objectives**: This course meets the quantitative reasoning requirement, one of the Foundation requirements of the University General Education program.  The goal of the Foundation requirement is to help ensure that students are equipped with the tools and techniques necessary to succeed in college and throughout their lives and careers.

The learning objectives for this requirement are:

* Students will be able to interpret quantitative information (i.e., formulas, graphs, tables, models, and schematics) and draw inferences from them.
* Given a quantitative problem, students will be able to formulate the problem quantitatively and use appropriate arithmetical, algebraic, and/or statistical methods to solve the problem.
* Students will be able to evaluate logical arguments using quantitative reasoning.
* Students will be able to communicate and present quantitative results effectively.

The course will introduce the following material: Inductive and Deductive Reasoning, Sets, Logic, Counting, Probability, Statistics, Finance, and any additional topics we may include.

**Calculators**: Calculators are allowed for homeworks, but they will not be allowed for tests. You will not need them.

**Assignments**:

* **Homework**: We will have weekly homework assignments, which will be due on Mondays (the day before our first class of the week). If the due date will be any different, you will be notified. Most weeks the home works will be online through the online HAWKES learning environment. Some weeks we will hold written homework assignments. You will always be notified which assignment is required of you.
* **Quizzes**: We will have quizzes. Most quizzes will be online through the online HAWKES learning environment. Some weeks we will hold written quizzes. You will always be notified which assignment is required of you.
* **Tests**: We will hold three tests, which will be closed-book and closed-notes. We expect to hold our test online, and you will be required to use a lockdown browser. I will be in contact you about the details of how to implement this browser.
* **Final Exam**: We will hold a closed-book, and closed-notes final exam. The final exam will be cumulative, meaning it will cover material from the entire course. You will be notified of the time and place of the final exam.

With the home works, quizzes, three tests, *and* a final exam, we will be having MANY graded assignments. There are two reasons for this: 1) math is learned best by consistent practice (just reading and watching will get you nowhere, you must do the work), and 2) any one assignment does not "make or break" your semester grade. Through consistent effort throughout the *entire* semester, you will do well in this course.

**Test Make-up Policy**: If you must miss a regularly scheduled exam, **YOU MUST NOTIFY ME AHEAD OF TIME**. If you must miss an exam, it is upon you to provide official documentation to justify such an absence (such as a doctor’s note).

**Grading**:

* Home works and Quizzes (including HAWKES average): 20%
* Test 1: 20%
* Test 2: 20%
* Test 3: 20%
* Final Exam: 20%

Final grades will be assigned based on the percentage points earned in the overall course, with:

97 ≤ A+ ≤ 100

93 ≤ A < 96

90 ≤ A- < 92

87 ≤ B+ < 89

83 ≤ B < 86

80 ≤ B- < 82

77 ≤ C+ < 79

73 ≤ C < 76

70 ≤ C- < 72

60 ≤ D <69

0 ≤ F < 59

**Additional Help**: If you require additional help, academic resources are available to you. The Academic Resource Center, GMUK is in the business of looking at your papers and problems to improve your academic achievement in the area of Writing, Mathematics, Accounting, Statistics, and Economics. You are invited to utilize the faculty and student tutor services at a variety of stages in your academic activities, checking to see that your project specifically meets the directions specified by your instructor. While tutors are helping you in your writing or projects, they do help you become conscious of particular error patterns that emerge in your work.

For more information, please contact Professor Eunmee Lee, director of the Academic Resource Center (elee45@gmu.edu, office #638).

**Disability Statement**: If you are a student with a disability and you need academic accommodations, please see me and contact the Office of Disability Resources at 703.993.2474. All academic accommodations must be arranged through that office.

**Academic Integrity**: It is expected that students adhere to the George Mason University Honor Code as it relates to integrity regarding coursework and grades. The Honor Code reads as follows: “To promote a stronger sense of mutual responsibility, respect, trust, and fairness among all members of the George Mason University community and with the desire for greater academic and personal achievement, we, the student members of the university community, have set forth this Honor Code: Student members of the George Mason University community pledge not to cheat, plagiarize, steal, or lie in matters related to academic work.” More information about the Honor Code, including definitions of cheating, lying, and plagiarism, can be found on the Committee of Academic Integrity’s website at <https://masonkorea.gmu.edu/resources-and-services/cai/overview>. Unless otherwise specified, you may work together on worksheets and homework assignments, but you must submit your own solutions.

**Notice of mandatory reporting of sexual assault, interpersonal violence, and stalking**: As a faculty member, I am designated as a “Responsible Employee,” and must report all disclosures of sexual assault, interpersonal violence, and stalking to Mason Korea’s Deputy Title IX Coordinator pursuant to University Policy 1202 and 1412. If you would like to speak confidentially with the Mason Korea counselor, please see <https://masonkorea.gmu.edu/resources-and-services/counseling-and-wellness> for more information. For more information about what Title IX is, please see <https://masonkorea.gmu.edu/resources-and-services/title-ix>***.***

**Tentative schedule (this might change!)**:

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| **Week**  | **Topics** | **Chapter Covered** |
| **Week 1** (Feb 23, 26) | Mathematical Reasoning/Critical Thinking/Problem Solving, Set Theory | Ch1, Ch2 |
| **Week 2** (Mar 2, 5) | Set Theory | Ch 2 |
| **Week 3** (Mar 9, 12) | Set Theory, Logic | Ch 2, Ch 3 |
| **Week 4**(Mar 16, 19) | Logic | Ch 3 |
| **Week 5**(Mar 23, 26) | Logic, TEST I | Ch 3 |
| **Week 6**(Mar 30, Apr 2) | Rates, Ratios, Percentages | Ch 4 |
| **Week 7**(Apr 6, 9) | The Mathematics of Growth | Ch 5 |
| **Week 8**(Apr 13, 16) | Counting and Probability | Ch 7 |
| **Week 9**(Apr 20, 23) | Counting and Probability | Ch 7 |
| **Week 10**(Apr 27, 30) | Counting and Probability, TEST II | Ch 7 |
| **Week 11**(May 7) NO CLASS TUESDAY | Statistics | Ch 8 |
| **Week 12**(May 11, 14) | Statistics | Ch 8 |
| **Week 13**(May 18, 21) | Statistics, Financial Math | Ch 8, Ch 9 |
| **Week 14**(May 25, 28) | Statistics, Financial Math, TEST III | Ch 8, Ch 9 |
| **Week 15**(Jun 1) NO CLASS FRIDAY | FINAL EXAM REVIEW | EVERYTHING! |