Math 106 Fall '19 Syllabus **Instructor:** Karen Crossin Office: Exploratory 4221

Hybrid/Flipped class – What is that???? This class is designed as a Hybrid class, which means that half of the time you spend in the classroom is being replaced by online lectures and other learning modalities. Having lecture outside class and doing problems in class is referred to as the flipped classroom pedagogical model. You will have support after class through the Hawkes Learning system, but also through our Blackboard discussion board moderated by both a learning assistant and myself, as well as office hours. There are also many lecture videos and videos of worked problems available on blackboard that were made by Math 106 instructors here at Mason.

EMAIL: kcrossin@gmu.edu - I reserve email in this course for questions about grades, or private discussions (not relevant to anyone else in the course). Anything else, post to the discussion board. I answer emails once a day (Monday – Friday). When emailing me, put MATH 106 Wednesday Class followed by **your** first & last name in the subject line. As a general rule you should also provide something meaningful in the subject line. This general rule should be used with ALL emails you send – many emails need a little more than a clear subject line to get the entire point across. I do not open or respond to emails without this information. **Most** math questions are not good to ask over email. Math questions should be asked in the discussion board.

Office hours: To be announced the second week of class.

Text: Viewing Life Mathematically by Denley. This semester we are piloting a new system. The ebook and online homework will be FREE this semester. Follow prompts on Blackboard.

Calculators: You will be required to have a calculator for the course with an $\mathbf{e^x}$ function and factorial function (**!**). We are recommending the TI-83/84 or TI-30II.

Course Description: 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:

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

The course will introduce the following material: Inductive and Deductive Reasoning, Sets, Logic, Counting, Probability, Statistics and Finance.

- **Final Exam In Person: This date and time will be announced during the third week of class and the syllabus will be edited to reflect the scheduled time. Most likely it will be at 7:30 AM on Wednesday December 11th but it might not be until Monday December 16th.**

Tests must be taken on these dates. NO make-up tests will be given. You must present a photo ID for each in person test. Grading: Your grade will be weighted as follows. On Hawkes, your quizzes will be 50% of your grade, and your homework will be 50% of your grade. No tests will be dropped.

Assignment	Weight	Grade	Weight x Grade	Running average
Syllabus quiz	5%			
Calendar Assignment	5%			
In person Test 1	20%			
In person Test 2	20%			
Hawkes HW (Certify)& quizzes	25%			
Final Exam	25%			

Option 2 for grading

Assignment	Weight	Grade	Weight x Grade	Running average
Syllabus quiz	5%			
Calendar Assignment	5%			
In person Test 1	15%			
In person Test 2	15%			
Hawkes HW (Certify), quizzes	20%			
Written notes for Hawkes	5%			
Discussion board collaboration	5%			
In Class Collaboration	15%			
Final Exam	15%			

The grading scale will be: A: 90-100%; B: 80-89%; C: 70-79%; D: 60-69%; F: below 60% .
+ or – may be attached to the grade for the upper or lower 2 points in each range

Lectures: Several seasoned Math 106 instructors from GMU have recorded lecture videos which are available under the course content tab in Blackboard. Watch these videos and take notes as if you were in class. If you do not watch them, you are essentially skipping class. There are also videos on the Hawkes system. Some students in the past have watched both sets of videos. You are an adult, so it is up to you to decide what you would like to do. There are also worksheets with worked solution videos to take the place of the part of class where you would ask homework questions. Please take advantage of the resources available to you!

Online Homework: Your homework grade in this course comes entirely from the HAWKES on line homework system.

Discussion Boards: You are encouraged to participate in the discussion board. Please use the discussion board for ALL content and logistical questions about this course. Make sure you post under the correct forum and either reply to an existing thread or create a new one with a meaningful subject line indicating the unit/ chapter/ section or topic you are discussing. Your post can show your **work**, ask a question or answer a question. I strongly encourage the use of drawings, colors, tables and descriptions of your thought process. Students who regularly participate in the discussion board tend to earn the highest grades –These students frequently submit incorrect work to the discussion board, and get the DISCUSSION started which is where learning frequently happens. Posting “Me Too” does not count.

HOW TO USE HAWKES Each lesson of the software offers three modes:

1. **Learn** is an interactive presentation of the material found in your textbook and includes instructional video clips and example problems.

2. **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.

3. **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.

GETTING HELP

Contact Hawkes with any technical questions, including creating your username and password, finding your Access Code or license number, or completing your work.

Phone: 1.800.426.9538 available Monday-Friday, from 8:00am-10:00pm ET.
Email: support@hawkeslearning.com
Chat: www.hawkeslearning.com/chat Chat support is available 24/7.

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.

Tutoring Center: The Math Tutoring Center is located in the Johnson Center Room 344. Help is available on a walk-in basis. For hours of operation see *http://math.gmu.edu/tutor-center.php*

University Honor Code: You are expected to follow the GMU Honor Code https://oai.gmu.edu/mason-honor-code/

Below is the tentative schedule for the course.

Class Mon	Week	topic	Available	**DUE DATE**	notes
	0	How to use Hawkes	Now	9AM Mon Aug 26	
~~Aug 26~~	1	1.3 Estimating and Evaluating	Now	Wed Sept 4	
	1	2.1 Set Notation	Now	Wed Sept 4	No Monday class this week Labor day :)
Sept 11	2	2.2 Subsets and Venn Diagrams	Now	Wed Sept 11	
	2	2.3 Set Operations	Now	Wed Sept 18	
~~Sept 9~~ Sept 18	3	2.4 Applications & Survey Analysis	Now	Wed Sept 18	Test in TC by Friday Sept 20
~~Sept 16~~ Sept 25	4	3.1 Logic Statements and Their Negations	Fri Sept 13	Wed Sept 25	
	4	3.2 Truth Tables	Fri Sept 13	Wed Sept 25	
~~Sept 23~~ Oct 2	5	3.3 Logical Equivalence and De Morgan's Laws	Fri Sept 20	Wed Oct 2	
	5	3.4 Valid Arguments and Fallacies	Fri Sept 20	Wed Oct 2	Q online due Friday 11:59 Oct 4
~~Sept 30~~ Oct 9	6	4.1 Rates and Unit Rates	Fri Sept 27	Wed Oct 9	
	6	4.2 Ratios	Fri Sept 27	Wed Oct 9	
Oct 16	6	4.3 Proportions and Percentages	Fri Sept 27	Wed Oct 16	
	6	4.4 Using Percentages	Fri Sept 27	Wed Oct 16	Q online due Friday 11:59 Oct 18
~~Oct 7~~ Oct 23	7	7.1 Introduction to Probability	Fri Oct 4	Wed Oct 23	No Monday class this week Columbus day
	7	7.2 Counting	Fri Oct 4	Wed Oct 23	
	~~8~~	~~7.3 Using Counting for Probability~~	~~Fri Oct 11~~	~~Wed Oct 30~~	
	~~8~~	~~7.4 Probability Rules~~	~~Fri Oct 11~~	~~Wed Oct 30~~	
~~Oct 21~~ Oct 30	9	7.5 Expected Value	Fri Oct 18	Wed Nov 6	
	9	How to Critique a Published Study	Fri Oct 18	Wed Nov 6	
	9	8.1 Collecting Data	Fri Oct 18	Wed Nov 6	
~~Oct 28~~ Nov 6	10	8.2 Displaying Data	Fri Oct 25	Wed Nov 13	
	10	8.3 Describing and Analyzing Data	Fri Oct 25	Wed Nov 13	
~~Nov 4~~ Nov 13	11	8.4 Normal Curve	Fri Nov 1	Wed Nov 20	
	11	8.5 Analyzing Graphs	Fri Nov 1	Wed Nov 20	Test in TC by Friday Nov 22
~~Nov 11~~ Nov 20	12	9.1 Personal Finance	Fri Nov 8	Wed Dec 4	
	12	9.2 Interest	Fri Nov 8	Wed Dec 4	
~~Nov 18~~ Nov 27	13	9.3 Saving Money	Fri Nov 15	Wed Dec 4	Thanksgiving week Class only on Mon
	13	9.4 Borrowing $	Fri Nov 15	Wed Dec 4	Q online due Friday 11:59 Dec 6
Dec 4	14	FINAL EXAM REVIEW		N/A	
WED Dec 11		ENGR 1101	ENGR 1101		**Final EXAM 7:30 – 10:15 AM**