Primary Syllabus:

Finite Mathematics Course Syllabus
MGF 1106
3 Credit Hours

This course is part of the University of South Florida’s Foundations of Knowledge and Learning Core Curriculum. It is certified for Mathematics and Quantitative Reasoning and for the following dimensions: Critical Thinking, Inquiry-based Learning, Scientific Process, and Quantitative Literacy.

INSTRUCTOR:

Name _____________
Email Address ______
Office & Hrs. _______
Phone _____________

REQUIRED TEXT & SUPPLEMENTAL RESOURCES:

2. *Eduspace* (Online Tutorial) which requires students to purchase a student access code.
   Once you obtain the student access code you can register online at [http://www.eduspace.com](http://www.eduspace.com). You will also need the Eduspace course code which can be found at your Blackboard finite math course site.
3. *Classroom Performance System – Clickers* (CPS) which requires students to purchase a hand-held student response pad. Once you obtain the student response pad you can register online at [http://www.einstruction.com/](http://www.einstruction.com/). You will also need the CPS course code which can be found at your Blackboard finite math course site.

The USF Tampa Campus Bookstore has these three requirements. If you purchase a new book, *Eduspace* will be part of the package. If you buy a used book, you must purchase the *Eduspace* student access code separately. The *CPS* pad must be purchased separately.

COURSE DESCRIPTION:

This course features topics that demonstrate basic mathematical ideas used to analyze and problem solve questions of individual or societal need. Topics include Mathematical Logic, Sets, Counting Techniques, Probability, statistics, and Geometry.
COURSE CONTENT:

Chapters 1, 2, 3, 8, 10, 11, and 12 of the text will be covered.
- Chapter 1: Problem Solving
- Chapter 2: Sets
- Chapter 3: Logic
- Chapter 8: Geometry
- Chapter 10: Counting Techniques
- Chapter 11: Probability
- Chapter 12: Statistics

COURSE OBJECTIVES:

Knowledge:
1. Students will understand and apply the appropriate formula for set operations including union, intersection, complement, and set difference when solving problems involving sets.
2. Students will understand, apply, and interpret Venn diagrams when solving applications involving two or more sets.
3. Students will understand, write, and explain symbolic logic when working with conjunctions, disjunctions, and conditional compound statements.
4. Students will understand, apply, and interpret truth tables and Euler diagrams in determining the validity of a statement or argument.
5. Students will understand and apply the appropriate formulas for calculating distances, areas, and volumes when solving metric geometry problems.
6. Students will understand, construct, and interpret information involving bar, line, and circle graphs in an application setting.
7. Students will understand and apply the appropriate use of the formulas for permutations, combinations, and/or the fundamental counting principle when solving problems involving counting methods.
8. Students will understand, apply, and interpret the outcomes to problems involving the probability and/or the mathematical odds of the occurrence of an event.
9. Students will understand and apply the appropriate formula for calculating the mean, median, mode, range, and standard deviation when analyzing a set of data.
10. Students will understand, interpret, and explain the appropriate outcome when solving a problem involving normally distributed data.

Skills:
Students will develop skills in the following areas:
1. critical thinking
2. inquiry
3. problem-solving
4. self-assessment
5. communication

STUDENT OUTCOMES:
Students successfully completing MGF 1106 will:
1. in Knowledge Objectives 1, 5, 7, and 9, be able to correctly apply the appropriate formula for solving a problem from a given set of information involving the topics of sets, geometry, counting methods, or statistics.
   For Example: Given a set of data, the student will be able to compute the mean, median, mode, range, and standard deviation.
2. in Knowledge Objectives 2, 4, 6, and 8, be able to correctly interpret outcomes for solving applications involving Venn diagrams, truth tables, Euler diagrams, bar graphs, line graphs, and circle graphs.
   For Example: Given the argument with premise statements, “All USF graduates are ambitious, and Joe is a USF graduate,” the student will be able to infer a valid conclusion to the argument.
3. in Knowledge Objectives 3 and 10, be able to correctly explain symbolic logic and information pertaining to normally distributed data.
   For Example: Given a set of SAT scores that are normally distributed, the student will be able to use their knowledge of z-scores to explain why a verbal score of 420 may or may not be better than a math score of 380.
4. in Skill Objective 1, be able to apply critical thinking when interpreting the results to the calculations of the formulas associated with the topics in this course.
   For Example: Given the odds in favor of winning a certain amount of money in a game of chance, the student will be able to compute the probability of the event and interpret whether or not the mathematical odds would be in his favor.
5. in Skill Objectives 2 and 3, be able to identify and use the steps necessary for inquiry and appropriate problem-solving techniques when solving applications involving the topics in this course.
   For Example: Given a pattern or sequence and asked to find the next one in the sequence, the student will be able to use inductive reasoning to apply the “RSTUV” method for solving the problem. (R, read the problem several times; S, select the unknown; T, think of a plan; U, use the techniques being studied to carry out the plan; and V, verify the answer)
6. in Skill Objective 4, be able to identify what they have learned and what they are still unsure of in the various topics of this course.
   For Example: Given the topic, “sets”, the student will be able to construct a concept map to identify what concepts they learned and understand regarding finite sets and what concepts they still don’t comprehend.
7. in Skill Objective 5, be able to explain both in written and oral form the processes associated with solving applications in this course.
   For Example: Given a set of data regarding a proposed budget, the student will be able to use the information to construct a circle graph and explain the outcomes in both written and oral formats.

**COURSE DESIGN:**

**Lecture Class** is a large group that meets twice a week for 1 hr. and 15 min. each time. The lecture instructor will do the following:
1. Present the course material
2. Practice problems with students
3. Facilitate interactive group learning experiences
4. Give Chapter Tests

Small Group Sessions meet once a week for 1 hr. and 15 min. The T.A. will do the following:
1. Take attendance
2. Answer homework questions on the odd problems in the textbook (see list at the end of the syllabus)
3. Facilitate small group collaborative learning experiences and projects
4. Give Quizzes

On-Line Graded Work will be completed on an Internet-based site called Eduspace. It is linked on your blackboard course site and can also be accessed at http://www.eduspace.com.
1. Graded Section Practices due on the Tuesday after the week it is introduced in the lecture class.

**MATH PREREQUISITES:**
C (2.0) or better in MAT 1033, or SAT Math score of 440 or better, or ACT Math Score of 19 or better, or Elementary Algebra CPT score of 72 or better.

**COMPUTER REQUIREMENTS:**

Must have internet access (preferably a high speed connection). Your computer must be at least a 500 MH processor with the necessary java plug-ins. You can use the Browser Wizard on the USF Academic Computing site (https://my.usf.edu) to verify if you have the necessary plug-ins. You may use AOL as your internet connection but sometimes it is not compatible with Blackboard and will cause problems. Internet Explorer, Netscape, or Mozilla all seem to be compatible browsers and you can find information about downloading them at the “My USF” tab at https://my.usf.edu.

**TECHNICAL REQUIREMENTS:**

Be able to work with the following hardware applications on a PC:
- Save files
- Locate files
- Register for online resources
- Add plug ins
- Problem solve technology issues
- Contact and work with Technology help desk personnel

Be familiar with the following types of software:
- Web browser
- Blackboard
- Search engine
• E-mail
• Discussion boards

**To forward your USF email to the email address that you normally check:**

1. Go to the USF Web email log-in at [https://mailbox.acomp.usf.edu/](https://mailbox.acomp.usf.edu/) and enter your net ID username, password, and USF mail server (mail.usf.edu for example)
2. This should take you to the inbox of your assigned USF email account. Select the “Options” link at the top and then the “Email Forwarding” link. Enter your email forwarding address in the box and click the “change settings” link.

**CALCULATOR:** A scientific calculator is required for this course. You should not need a graphing calculator, but you are allowed to use one. You are not allowed to use a cell phone as a calculator. Cell phones must be turned off and out of visual sight for all classes and tests.

**GORDON RULE/GENERAL EDUCATION:**

This course fulfills 3 hours of the Gordon Rule Computation requirement and also 3 hours of the General Education Quantitative Methods requirement, provided a grade of C-minus or better is achieved.

**CLAST:** The topics in this course are representative of many of those on the Mathematics subtest of the CLAST (College Level Academic Skills Test).

**MISCELLANEOUS POLICIES:**

- Cheating will not be tolerated. The University policy on Academic Dishonesty is explained at the following website [http://www.ugs.usf.edu/catalogs/0506/adadap.htm](http://www.ugs.usf.edu/catalogs/0506/adadap.htm)
- Students who must miss a class period due to a major religious observance must notify the instructor of this absence in writing.
- Any student with a disability is encouraged to meet privately with the instructor during the first week of classes to discuss accommodations. The student must bring a current Memorandum of Accommodations from the Office of Student Disability Services (SVC 1133). This is a prerequisite for receiving accommodations. Exam accommodations through the Office of Student Disability Services require two weeks advance notice. All course handouts are available in alternate format if requested in the student’s Memorandum of Accommodations. Exam accommodations through the Office of Student Disability Services (SDS) require two weeks advance notice. Note: If you need extra time on exams, you must make arrangements to take your exams with the SDS office. You cannot receive extra time if you choose to take your exams with the course instructor.
• Turn your cell phones off and keep them out of visual site during the lecture sessions
• You are encouraged to take notes and may tape the lectures, but neither your notes nor your tapes are to be sold.
• The last day to withdraw from this course and receive a tuition refund is _________ (by 5 p.m.)
• The last day to withdraw from this course and receive a grade of “W” is _________ (by 5 p.m.).
• S-U Policy: Gordon Rule courses may not be taken on an S-U basis.
• A grade of “I” indicates incomplete work and will only be assigned when most of the coursework has already been completed with a passing grade. See the website http://www.ugs.usf.edu/catalogs/0506/gradetc.htm for further information.

**GETTING HELP:**

• There is a **Student Solutions Manual** available with the textbook. It contains answers to all the odd-numbered problems. There is also a Study Guide that has detailed explanations and worked-out practice problems.
• There are guided practice exercises available with the internet resource, *Eduspace.* (linked from our Blackboard course site)
• USF has a **website** for Finite Math with links to slide presentations, net cast videos, and practice tests at [http://mathcenter.usf.edu](http://mathcenter.usf.edu)
• The **Math Center**, located in **BEH 102**, will be open M-F and hours will be posted. It provides the use of computers for all the Internet-based practice sites for this course.
• There is a **Math Tutor Lab** in **PHY 107**. The hours of operation will be posted. The purpose of the lab is to answer generic questions on the course material. You may also ask questions about odd-numbered exercises.
• Arrange to meet your instructor.
• Academic Computing located on the 1st floor of the Tampa Campus library will be available for student technical support: (974-1222) in Tampa or toll-free (1-866-974-1222 statewide), electronic mail ([help-ac@usf.edu](mailto:help-ac@usf.edu)), walk-ins and on-site services. To access online guides go to [http://www.acomp.usf.edu/help.html](http://www.acomp.usf.edu/help.html), select the “Interactive Video Guides” link, and then choose your preferred guide.

**GRADING POLICY:**

To maximize your learning you should spend at least **9 hours per week** reading, practicing, studying, and discussing this course. Your grade will be a composite of the following: (see Semester Schedule below for all due dates).
Lecture Class – meets ____________ from ___ to _____ in ________________

Small Group Class – see your schedule for room & time

Your grade will consist of Participation in the Lecture Class and Small Group Class, Chapter Tests in Lecture Class, and a Comprehensive Departmental Final Exam

Participation Points – May include some of the following:

• Attendance in lecture class and small group class is MANDATORY
  You are allowed to miss 2 classes with no grade penalty. If you are on official school business (govt., athletics, etc) with appropriate documentation, then your absence does not count.

• Lecture and Small Class Activities
  The activities will vary and will include such things as making concept maps, having group discussions, writing test questions, using Excel to create graphs and analyze data, and presenting group projects that solve an application relating math and the real world.

• Lecture Class Clicker Participation – Course code will be posted on Blackboard.
  Periodically, during lecture class you will be given some problems to work and participate by responding with a clicker (remote wireless responder). This will be counted as a grade beginning the 3rd week of the semester.

• Small Class Quizzes

• Eduspace Online Homework – Course code will be posted on Blackboard
  Graded tutorials by section number at http://www.eduspace.com. You may take these graded section homeworks multiple times.

Final Exam

The Final Exam will be a comprehensive departmental exam and all questions will be multiple choice. The date and time for this exam are ___________________ (See note below about time conflicts.). Your instructor will notify you of its location during the last week of classes. The common final exam counts as 25% of your grade. The remaining 75% of your grade will be specified in the Grade Distribution (below).

Time Conflicts with the scheduled Final Exam time:

• Students who normally work during the scheduled time of the final exam are expected to make arrangements with their employer to get time off.

• Students who have another final exam scheduled during this same time period will be permitted to take a makeup. You must submit proof that a conflict exists.

• Students who miss the exam for other reasons (serious illness, death in family, etc) will be considered on a case-by-case basis. In all cases verification of the student’s excuse will be required; make-ups will be permitted only for
circumstances deemed beyond the student’s control. Students should contact their instructor immediately upon realizing they will miss the exam.

**Final Grades:** The University’s +/- grading policy will be used in assigning final grades. If your overall percentage of total points falls into the following range, you will receive the corresponding grade:

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**FINITE SEMESTER SCHEDULE F07**

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<tr>
<th>Wk #</th>
<th>Lecture Dates</th>
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<th>Tests</th>
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List of Recommended Homework from the Text book

Ch 1
1.1: 11, 13, 17, 19, 29, 31, 39

Ch 2
2.1: 1, 3, 5, 7, 9, 11, 13, 25, 26, 27, 31, 33, 35, 37, 39, 41, 43, 47, 49, 51, 53, 59, 61, 67, 69, 70
2.2: 1, 2, 3, 7, 15, 17, 19, 23, 25, 29, 31, 33, 35, 37, 39, 43, 45, 51, 55, 57, 83, 87, 89, 91, 93
2.3: 3, 5, 9, 11, 15, 17, 19, 23, 25, 27, 29, 33, 35, 36, 37, 41, 42, 43, 45, 47, 61, 63, 65
2.4: 1, 3, 5, 7, 9, 11, 13, 15, 17, 21, 23, 25, 27, 29, 31, 32, 33, 34

Chapter 2 Practice Test: Try doing Problems 1-20. (The answers are on pp. 103-104.)

Ch 3
3.1: 1 thru 19 odd, 27 thru 55 odd
3.2: 1, 3, 7, 13, 15, 17, 21, 23, 27, 29, 31, 35, 37, 39, 41, 43, 45, 51
3.3: 3, 5, 7, 9, 11, 13, 17, 21, 23, 25, 29, 31, 35, 37, 49, 51, 53, 55, 61, 67
3.4: 1, 3, 7, 9, 11, 13, 15, 27, 29, 31, 35, 37, 39, 43, 45, 47, 49, 51
3.5: 1, 9, 11, 13, 17, 19, 21, 25, 27, 29, 31, 33, 57, 58, 59
3.6: 1, 3, 7, 11, 17, 21, 23, 25, 37, 39, 41, 43

Chapter 3 Practice Test: Try doing Problems 1 thru 24.

Ch 8
8.1: 27 thru 61 odd
8.2: 25, 27, 29, 31, 33, 35, 39, 47, 49, 51, 53
8.3: 1 thru 31 odd, 39
8.4: 1 thru 33 odd, 39, 41, 47
8.5: 9, 11, 21 (skip part b), 25, 27, 31, 33, 35, 37, 47, 48, 49

Chapter 8 Practice Test: 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20

Ch 10
10.1: 1, 5, 7, 9, 11, 13, 17, 19, 21, 23, 27, 29, 42, 43, 45
10.2: 1, 5, 9, 11, 13, 15, 21, 23, 25, 27, 29, 33, 35, 37, 39, 41, 43
10.3: 3, 7, 15, 21, 23, 27, 33, 37
10.4: 1, 7, 9, 11, 13, 15, 17, 19, 21, 25
Chapter 10 Practice Test: Try Problems 1 thru 25 EXCEPT 3, 14, 20, 24, and 25

Ch 11
11.1: 1 thru 19 odd, 25, 27, 29, 31, 33, 35
11.2: 1, 3, 5, 11, 13, 15, 17, 23, 25, 27, 28, 31
11.3: 5 thru 19 odd, 21, 24, 25, 27, 29, 31, 40, 41, 42
11.4: 1, 3, 5, 9, 11, 13, 15, 17, 19, 23
11.2: Use tree diagrams to solve 19, 21, 33, 34, 35
11.5: 3, 5, 7, 11, 19, 23, 25
11.6: 1, 3, 5, 7, 9, 11, 15, 17, 19, 23, 27, 29, 33, 34, 25, 37

Chapter 11 Practice Test: Try Problems 1 thru 20.

Ch 12
12.1: 3, 5, 11, 13, 17, 19, 23, 25, 27, 29 (skip frequency polygons)
12.2: 1, 3, 5, 11, 13, 15, 17, 25, 31, 35
12.3: 1, 9, 11 (skip e and f), 15, 17, 27
12.4: 1, 3, 5, 7, 9, 13, 15, 17, 19, 21, 23, 25, 29, 31, 33, 41, 43
12.5: 1, 3, 7, 11, 17, 21, 25, 33, 39
12.6: 3, 5, 7, 19, 21, 27
12.7: 1, 3, 5, 7, 11, 15, 17

Chapter 12 Practice Test: 1, 2, 3a, 4 thru 16, 17, 19, 20, 21, 22