

Course Syllabus  
MAT 107–Excursions in Mathematics  
Sections D, E  
Spring 2018  
Dr. John Peter  
Utica College

**Course Description:** MAT 107 is an introduction to a number of mathematical topics in social science, management science, art and nature. We will study the theory of voting (Chapters 1 and 2), basic game theory (Chapter 3), basic graph theory (Chapter 5), and sequences of numbers and shapes that appear in nature (Chapters 9, 11, and 13). The course will be example–driven. In particular, you should leave this course with more than one answer to the question “When am I ever going to have to know this stuff?!”

**Course Learning Goals:**

- In accordance with the Program Learning Goals of the Mathematics Department, students will demonstrate an ability to formulate and solve mathematical problems (PG3) and communicate mathematics in written form (PG4).
- The student should become aware of the important role that mathematics plays in many practical situations and be able to give several relevant examples. Upon completion of this course, the student should:
- *Social Science:*
  - Understand a variety of methods that can be used to determine the outcome of an election, along with criteria for determining the validity of each method.
  - Understand the ways in which power can be distributed among voters in an election and be able to accurately determine such power using numerical techniques.
  - Be able to describe and apply several mathematical methods for determining how competing parties can fairly distribute property.
- *Getting Around:* Understand the basics of graph theory, and how graph theory is used to model and solve certain routing problems.
- *Art and Nature:* Identify the basic rigid motions of objects in the plane, develop an understanding of spiral growth in nature, and be able to explain how this growth is related to Fibonacci numbers and the Golden Ratio.

**Course Webpage:** [https://www.utica.edu/faculty\\_staff/jpeter/mat107des18.cfm](https://www.utica.edu/faculty_staff/jpeter/mat107des18.cfm)

**Required Text:** *Excursions in Modern Mathematics*, 8th edition, by Peter Tannenbaum. ISBN: 978-0-321-82573-5

**Class Meetings:**

- **Section D:** Monday, Wednesday, & Friday from 9:30am to 10:20am in 206 Hubbard
- **Section E:** Monday, Wednesday, & Friday from 10:30am to 11:20am in 107 Hubbard

**Contacting me:** EMAIL: [jwpeter@utica.edu](mailto:jwpeter@utica.edu) (The best way to contact me)  
OFFICE PHONE: 315-792-3730

**Office/Hours:** Room 257 White Halll  
Monday, Tuesday, Thursday, Friday from 11:30AM to 12:30PM  
or By Appointment (made either in person or by email)

**Coursework/Weights:**

Assessment	% of Final Grade
Attendance	5%
Weekly Quizzes (Drop Lowest)	20%
Midterm Exam 1	25%
Midterm Exam 2	25%
Final Exam	25%

**Final Exam Dates/Times:** Sec. D: Saturday, 5/5/2018 at 9am  
Sec. E: Friday, 5/4/2018 at 9am

**NO MAKE-UP WORK WILL BE GIVEN.**

**Grading:** The grading scale will be *no worse* than:

90 – 100% = A/A-      70 – 79% = C+/C/C-      Below 60% = F  
80 – 89% = B+/B/B-      60 – 69% = D+/D

**Secrets to success in this course:**

- Do lots of problems . . . assigned homework and more!
- Come to class
- Read the book
- ASK QUESTIONS!

**Calculators:** For some of the material that we cover you may want to use a scientific calculator. Approved calculators are allowed to be used on quizzes and tests. Devices that DO NOT COUNT as a calculator include (but are not limited to) your cell phone, ipod, laptop, or any other similar contraption that functions as anything other than a calculator. Any device that can access the internet and/or send and receive text messages is specifically prohibited. If you are unsure of whether your calculator is appropriate, or if you would like a recommendation, see me right away!

**Attendance:** It is mandatory that I keep track of your attendance. An attendance sheet will be available for you to sign at the beginning of each class. YOU ARE EXPECTED TO ATTEND EVERY CLASS PERIOD. In the event that you miss class (or are mentally absent from class!) it is your responsibility to keep up with all announcements, syllabus adjustments, and/or policy changes made during scheduled class time and/or sent to you via your Utica College email. Please make sure that your Utica College email is functioning properly, and make every effort to contact me using your Utica College email address (that is, be sure to use the address ending in “@utica.edu”) to avoid confusion. If class must be cancelled for some reason, you will be notified as early as possible via your Utica College email.

**Classroom Etiquette:** Always keep in mind that you are in a college classroom. You and all of the people around you have paid to be here. By simply showing up for class, you are demonstrating that you take very seriously the opportunity to pursue the best learning experience possible. You are expected to treat all people in the classroom with respect, and to come to class prepared to learn. **Disruptive behavior, including (but not limited to) talking, whispering, texting, eating loudly, etc. will negatively impact EVERYONE’S experience and will not be tolerated.**

**Academic Honesty:** Academic honesty is necessary for the free exchange of ideas. Utica College expects academic honesty from all students and Utica College faculty are authorized to assign a wide range of academic penalties for incidents of academic dishonesty. Academic dishonesty includes both cheating and plagiarism. Plagiarism is the intentional or unintentional use of other people’s ideas, words, and/or factual information as your own and without crediting the source. It doesn’t matter if the words come from a book, journal article, web site, or personal letter; if somebody

else originally wrote them you may not use them without attributing them to that individual by appropriately citing the source. Plagiarism also refers to self-plagiarism, or re-purposing material that you've already completed for another course or assignment. Cheating refers to giving and/or receiving unauthorized assistance in taking examinations or creating assigned and/or graded class work. Students who assist other students in, or contribute to, acts of academic dishonesty are subject to the appropriate penalties.

As mentioned above, Utica College faculty are authorized to assign a wide range of academic penalties for incidents of academic dishonesty. Depending on the nature of the offense, the penalty may include a reduced grade or grade of zero for the particular assignment, a grade of F for the course, or the grade of "F for cheating" in the course. Incidents of academic dishonesty are reported to the Vice President for Academic Affairs who will refer any repeat offense, or any particularly egregious first offense, to the Academic Standards Committee which may recommend a more severe penalty than that imposed by the faculty member.

**Disability Disclosure:** Any student who has need of special accommodations in this class due to a documented disability should speak with me as soon as possible, preferably within the first two weeks of class. You should also contact Kateri Henkel, Director of Learning Services in the Academic Support Services Center (315-792-3032 or khenkel@utica.edu) in order to determine eligibility for services and to receive an accommodation letter. We will work with you to help you in your efforts to master the course content in an effective and appropriate way.

**Writing Proficiency:** Students are expected to possess and use adequate writing skills. All written assignments should be well-written and free of grammar, punctuation, and spelling errors. Help is available in the Writing Center located in the library.

**Math and Science Center:** Peer tutors are available in the Math and Science Center located on the first floor of the library. These services are typically available beginning in the second week of a Fall/Spring semester.

### Tentative Course Schedule

1/17: Syllabus / Section 1.1	1/29: Section 1.5
1/19: Section 1.2	1/31: Section 2.1
1/22: Section 1.3	2/2: <b>QUIZ 2</b>
1/24: Section 1.4	2/5: Section 2.2
1/26: <b>QUIZ 1</b>	2/7: Section 2.3

2/9: <b>QUIZ 3</b>	3/26: Section 11.1,11.2
2/12: Section 3.1	3/28: Section 11.3
2/14: Section 3.2	3/30: <b>MIDTERM EXAM 2</b>
2/16: <b>QUIZ 4</b>	4/2: Section 11.4
2/19: Section 3.5	4/4: Section 11.5
2/21: Section 3.6	4/6: <b>QUIZ 8</b>
2/23: <b>MIDTERM EXAM 1</b>	4/9: Section 11.6
2/26: Section 5.1	4/11: Section 11.7
2/28: Section 5.2	4/13: <b>QUIZ 9</b>
3/2: <b>QUIZ 5</b>	4/16: Section 9.1
3/5: Section 5.2 cont'd	4/18: Section 13.1
3/7: Section 5.3	4/20: <b>QUIZ 10</b>
3/9: <b>QUIZ 6</b>	4/23: Section 13.2
3/12 - 3/16: No Class - Spring Break	4/25: Section 13.4
3/19: Section 5.3 cont'd	4/27: <b>QUIZ 11</b>
3/21: Section 5.4	4/30: Review / Last day of classes
3/23: <b>QUIZ 7</b>	

*The author of this syllabus reserves the right to change it at any time during the semester.*