Updated: 3-27-18

Tentative Summer Semester 2018 Course Syllabus for MATH F113X F61: Concepts and Contemporary Applications of Mathematics (CRN: 51284)

Teacher: Miss Lorinda Fattic  
email: lfattic@alaska.edu  
Time: noon - 1:50 pm Monday - Thursday  
Start Date: May 21, 2018  
End Date: June 29, 2018  
Office Phone: 907-474-5443 (rarely check)  
Office Hours: Friday noon to 1:50 (GRU 401) & TBA  
Location: Ernest Gruening 401  
Office: Chapman 106

Best Way of Contact: Email is the best way to contact me or right after class.

Grading Policy: Grades will be based on weighted percentages. See table below.

<table>
<thead>
<tr>
<th>Assignment Type</th>
<th>Number of Assignments</th>
<th>Individual Points</th>
<th>Weighted Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online Home Work</td>
<td>15</td>
<td>10</td>
<td>15%</td>
</tr>
<tr>
<td>In Class Activities</td>
<td>varies</td>
<td>varies</td>
<td>5%</td>
</tr>
<tr>
<td>Comprehensive Final</td>
<td>1</td>
<td>100</td>
<td>20%</td>
</tr>
<tr>
<td>Mid-Term Exams</td>
<td>3</td>
<td>300</td>
<td>40%</td>
</tr>
<tr>
<td>Paper Quizzes</td>
<td>15</td>
<td>20</td>
<td>20%</td>
</tr>
</tbody>
</table>

100.0%

Minimum Percent | 90% | 80% | 70% | 60% | Below 60%
--- | --- | --- | --- | --- | ---
Points | 900 | 800 | 700 | 600 | 0
Letter | A   | B   | C   | D   | F

It is recommended that you keep all work until you receive your final grade. You need to earn a grade of 70% or better in this course to receive core credit.

Late Work Policy: Late work is subject to a 20% grade reduction on homework and will not be accepted after the exam for that covers that particular chapter. Quizzes are not allowed to be made up.

Responsibility: It is your responsibility to know what is going on in this class, stay current on assignments and communicate to the teacher. If you are not meeting this you are subject to instructor withdrawal for unsatisfactory performance.

Textbook & Online Homework: (Pearson ©201)  
Excursions in Modern Mathematics 9th edition  
Author: Peter Tannenbaum  

Online Homework: MyMathLab (includes e-book)  
Class Code: fattic53647
Strongly Suggested Material:
1) Two-line scientific display calculator.
2) Math notebook to take notes during lectures and to keep track of how you solve problems.
3) Desmos - ipad/iphone app or android app or online at www.desmos.com (not allowed on tests)

Course Description: Applications of mathematics in modern society. Topics include voting systems, management science, probability and statistics. Problem solving emphasized. UAOnline UAF Course Catalog

Pre-requisite: DEVM F105; or DEVM F105N; or DEVM F105G, DEVM F105H, and DEVM F105J; or placement.

Course Attributes: UAF Core Mathematics Req.

Study Sessions: Generally, on Friday same time as class (noon - 1:50pm) in the same classroom (GRU 401). A makeup quiz will be given at the end of the study session

Homework: 15 assignments can be completed online and is worth 10 points per assignment. Generally due the following day at noon. Online assignments will be based on the percentage given in MyMath Lab. For example if it says you have 87.9% you will receive a score of 8.8.

Quizzes: Generally given around the end of each class and study session (unless a test is scheduled) worth 20 points per quiz. If you come to the optional study session you can make a low scoring quiz. Quizzes will not be allowed to be made up. Scores on 15 quizzes will make up your weighted quiz grade.

Exams: 3 exams worth 100 points. The final exam is comprehensive, is on Thursday June 28 during class, and is worth 100 points. Exam 1 & 3 are worth 150 points. Exam 2 is worth 100 points.

Instructional Strategies: Lecture, active learning, tests, quizzes, and homework.

Course Goals (general):
1. Students are able to master problem solving skills
2. Students learn to manipulate abstract symbols
3. Students learn a broad spectrum of mathematical applications
   a. Basic statistics
   b. Graph theory and its applications
   c. Probability
   d. Social choice and voting systems

Student Learning Outcomes:
1. Finding the winner of an election using the four methods: Plurality, Borda Count, Plurality with elimination and pairwise comparisons
2. Identify winning coalitions of a weighted voting system
3. Calculate the Banzhaf power index
4. Calculate the Shapley-Shubik power index
5. Find mean, median, range, and quartiles of a data set
6. Create a box plot of a data set
7. Find the standard deviation of a data set
8. Compute the probability of an event
9. Find the probability space for a random phenomena
10. Find probability using permutations and/or combinations
11. Calculate the mean and standard deviation of a given statistic
12. Find the mean and standard deviation of a normal curve
13. Use the 68-95-99.7 rule to calculate normal probabilities

UAF Support Services:
The University has many student support programs. If you need assistance, please contact any of the following service programs or departments.

UANOline:  http://uaonline.alaska.edu/  Your resource for transcripts, accounts, and other personal information.

Disability Services:  I encourage students with documented disabilities, including nonvisible disabilities such as chronic diseases, learning disabilities, head injury, attention deficit/hyperactive disorder, psychiatric disabilities, to contact me by email, phone or in person within the first two week of class to talk about possible reasonable accommodations.

UAF Office of Disability Services
Whitaker Building, Room 208
612 N. Chandalar, PO Box 755590
University of Alaska Fairbanks
Fairbanks, Alaska 99775-5590
Phone: (907) 474-5655 | TTY: (907) 474-1827 | Fax: (907) 474-5688 |
E-mail: uaf-disabilityservices@alaska.edu
Website: http://www.uaf.edu/disability/

EEO – Equal Employment Opportunity/Title IX: University of Alaska Board of Regents have clearly stated in BOR Policy that discrimination, harassment and violence will not be tolerated on any campus of the University of Alaska. If you believe you are experiencing discrimination or any form of harassment including sexual harassment/misconduct/assault, you are encouraged to report that behavior. If you disclose sexual harassment or sexual violence to a faculty member or any university employee, they must notify the UAF Title IX Coordinator about the basic facts of the incident. Your choices for disclosure include:

1. You may confidentially disclose and access confidential counseling by contacting the UAF Health & Counseling Center at 474-7043;
2. You may access support and file a Title IX report by contacting the UAF Title IX Coordinator at 474-6600;
3. You may file a criminal complaint by contacting the University Police Department at 474-7721.
**Academic Honesty**: Students will be required to conduct themselves honestly and responsibly, and will be expected to respect the rights of others. Any student suspected of not adhering to this code will have the following action taken. 1) Student will be given a verbal warning, 2) Work will not be accepted and/or student will be asked to leave the class, 3) Student will be dropped from the class. (If this is after the withdrawal date, the student will receive an F.)

**Academic Policies:**
1. Incomplete Grade: Incomplete (I) will only be given in cases where the student has completed the majority of a course with a grade of C or better, but for personal reasons beyond his/her control has been unable to complete the course during the regular term. Negligence or indifference are not acceptable reasons for the granting of an incomplete grade. After one year an incomplete grade will turn into an F (this is a UAF policy).

2. Late Withdrawals: A withdrawal after the deadline will normally be granted only in cases where the student is performing satisfactorily in a course, but has exceptional reasons, beyond his/her control, for being unable to complete the course. These exceptional reasons should be detailed in writing to the instructor, department head and dean.

3. No Early Final Examinations: Final examinations shall not be held earlier than the date and time published in the official term schedule. Normally, a student will not be allowed to take a final exam early. Exceptions can be made by individual instructors, but should only be allowed in exceptional circumstances and in a manner which doesn’t endanger the security of the exam. I will not be giving early final exams.

4. Retention of Final Exams: The originals of all final examinations shall be retained by the instructor for at least one year.

**Important Dates to Remember:**
- **May 21**: First Day of Class
- **May 23**: Last day for Student/Faculty initiated Withdrawals “W” not on transcript
- **May 28**: Memorial Day No Classes
- **June 28**: Final Exam During Class Time

Tentative Outline: 

Tentative Outline – Subject to Change
<table>
<thead>
<tr>
<th>Time</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
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<tbody>
<tr>
<td>noon</td>
<td>21-May</td>
<td>22-May</td>
<td>23-May</td>
<td>24-May</td>
<td>25-May</td>
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<tr>
<td>1:50</td>
<td>Intro 1.1 - 1.2, 1.5</td>
<td>1.3 - 1.4, 1.6</td>
<td>2.1 - 2.2</td>
<td>2.3 - 2.4</td>
<td>Study Session - Review for Exam 1 (optional)</td>
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<tr>
<td>Lecture Topic (Gruening 401)</td>
<td>Assignment Due Dates</td>
<td>HW 1 &amp; Quiz 1</td>
<td>HW 2 &amp; Quiz 2</td>
<td>HW 3 &amp; Quiz 3</td>
<td>HW 4 make up Quiz</td>
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<tr>
<td>Monday 28-May</td>
<td>No Class Memorial Day</td>
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<tr>
<td>Tuesday 29-May</td>
<td>Review for Exam 1/Exam 1 (Chapter 1 &amp; 2)</td>
<td>Exam 1</td>
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<tr>
<td>Wednesday 30-May</td>
<td>9.1-9.2</td>
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<td>HW 5 &amp; Quiz 4</td>
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<tr>
<td>Thursday 31-May</td>
<td>9.3-9.4</td>
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<td>make up Quiz</td>
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<tr>
<td>Friday 1-Jun</td>
<td>Study Session - Chapter 9 (optional)</td>
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<td>HW 6 &amp; Quiz 5</td>
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<tr>
<td>Monday 4-Jun</td>
<td>10.1-10.3</td>
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<td>HW 7 &amp; Quiz 6</td>
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<tr>
<td>Tuesday 5-Jun</td>
<td>10.4-10.5</td>
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<td>HW 8 &amp; Quiz 7</td>
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<tr>
<td>Wednesday 6-Jun</td>
<td>Chapter 14</td>
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<td>HW 9 &amp; Quiz 8</td>
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<tr>
<td>Thursday 7-Jun</td>
<td>Review for Exam 2/Catch-Up</td>
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<td>make up Quiz</td>
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<tr>
<td>Friday 8-Jun</td>
<td>Study Session - Review for Exam 2 (optional)</td>
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<td>Monday 11-Jun</td>
<td>Exam 2</td>
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<tr>
<td>Tuesday 12-Jun</td>
<td>Chapter 15</td>
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<tr>
<td>Wednesday 13-Jun</td>
<td>16.1 - 16.3</td>
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<td>HW 10 &amp; Quiz 9</td>
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<td>Thursday 14-Jun</td>
<td>16.4-16.5</td>
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<td>HW 11 &amp; Quiz 10</td>
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<td>Friday 15-Jun</td>
<td>Study Session - chapter 15 &amp; 16 (optional)</td>
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<td>make up Quiz</td>
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<tr>
<td>Monday 18-Jun</td>
<td>17.1 - 17.2</td>
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<td>HW 12 &amp; Quiz 11</td>
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<td>Tuesday 19-Jun</td>
<td>17.3-17.4</td>
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<td>HW 13 &amp; Quiz 12</td>
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<tr>
<td>Wednesday 20-Jun</td>
<td>Class Activity</td>
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<td>HW 14 &amp; Quiz 13</td>
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<tr>
<td>Thursday 21-Jun</td>
<td>Review for Exam 3/Catch-Up</td>
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<tr>
<td>Friday 22-Jun</td>
<td>Study Session - Review for Exam 3 (optional)</td>
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<td>make up Quiz</td>
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<td>Monday 25-Jun</td>
<td>Exam 3</td>
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<tr>
<td>Tuesday 26-Jun</td>
<td>Review for Final</td>
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<td>HW 15 &amp; Quiz 14</td>
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<tr>
<td>Wednesday 27-Jun</td>
<td>Review for Final</td>
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<tr>
<td>Thursday 28-Jun</td>
<td>Final Exam (noon to 1:50)</td>
<td>Final</td>
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<tr>
<td>Friday 29-Jun</td>
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