

FLORIDA INTERNATIONAL UNIVERSITY  
DEPARTMENT OF MATHEMATICS AND STATISTICS – SPRING TERM 2012

**MGF 1107.U04 SOCIAL CHOICE MATHEMATICS**

3 Credits    *Lecture Time:* **TR 02:00PM to 03:15PM**    *Room* PC-438    *Ref. No.* 14476

*Instructor:* **CARLOS I GIL**

*Office:* Room **DM 413.C**    *Hours:* M [5:15PM–6:15PM]; TH [3:25PM–4:25PM]    *Email:* [gilc@fiu.edu](mailto:gilc@fiu.edu)

**Description:** This course satisfies FIU's core curriculum and general education math requirements and can be used towards an exemption from the CLAST. It is intended to be of interest to students majoring in Political Science, International Relations, History, Social Studies Education, and Public Administration, although any student may take it. Topics include voting methods, weighted voting systems, methods of fair division, methods of apportionment, and game theory. Combinatorics and Expected Value will also be briefly covered.

**Prerequisite:** None listed

**Textbook:** *For All Practical Purposes.* (8<sup>th</sup> Edition or Custom Edition) by COMAP.

**Course Material:** Selected topics from chapters 9, 11, 13, 14, 15.

**Grading:** 1) Three exams (FEB 8<sup>th</sup>; MAR 7<sup>th</sup>; APR 11<sup>st</sup>). 22% each.....66%  
3) Final Exam (R, APR 26<sup>th</sup>, 12:00PM to 2:00PM).....34%

**NOTES:**

- 1) Students must be physically present for all tests and show a valid FIU photo ID to the instructor before exams begin.
- 2) If your score on the final exam is greater than your lowest exam score, then your final exam will replace the lowest score. If your lowest score occurs more than once, only one of them is replaced.
- 3) Absence on an exam day (examples, if you are sick, have an accident, decide to not show up, etc.) will make that exam automatically your lowest exam grade. So, the final exam will replace it. Every exam absence after the first, counts as zero. Absolutely, there will be no makeup exams. All policies apply equally to quizzes and class exercises.
- 4) Absence on the final exam will result in the grade "F" in this course, regardless of your prior performance. It is the student's responsibility to be aware of the final exam schedule prior to the end of the drop-add period with no financial penalties. You must make all necessary arrangements to ensure that you are free of other obligations that might conflict with the final exam in this course. If you cannot attend the final exam as scheduled, then you should drop the course with refund by the date indicated by the Registrar Office (**JAN 17<sup>th</sup>, 2012**). There will not be any makeup exams (no exceptions). Remember that the final exam day is **APR 26<sup>th</sup>, 2012**. You must be available to take the final exam on this day at **12:00PM**. I will not accept excuses such as (not limited to) prior travel plans, non-refundable tickets, vacation plans, work schedules, weddings, family reunions, or the like.
- 5) Exams are combinations of multiple choice and free response questions. Although correct answers are necessary to earn full credit, most of the credit earned from questions will be for the manner that you correctly follow the instructions, show the correct procedure, use correct notation, and the correct thought process to get the answer. Correct answers with little or no supporting work are virtually worthless. Incorrect answers with relevant supporting work (except with some sort of minor error) may be worth almost full credit. Unanswered questions earn zero. It is especially bad to write a series of incorrect steps and computations that miraculously lead to the right answer. This also earns zero credit.
- 6) It is very inappropriate to tell the instructor that some terrible event will occur if you do not get a good grade in this course. It is also very inappropriate to tell the instructor that you need to pass this course no matter what in order to graduate or for some future events. Grades are earned by student performance assessed by the instructor according to FIU and professional standards and not by what the student needs.

**Sample Computation of Grades:**

**Example 1:** Suppose that at the end of the term a student has the following record:

Exam 1: (92); Exam 2: (67); Exam 3: (78); Final Exam: (82).

The final exam (82) replaces the lowest grade (67). The weighted average of all points is:

$$0.22(92 + 82 + 78) + 0.34(82) = \mathbf{83.32} \text{ points.}$$

Therefore, this student earns the grade “B+” in this course.

**Example 2:** Suppose that at the end of the term another student has the following record:

Exam 1: (92); Exam 2: (67); Exam 3: (78); Final Exam: (65).

The final exam (65) cannot replace the lowest grade (67). The weighted average of points is:

$$0.22(92 + 67 + 78) + 0.34(65) = \mathbf{74.24} \text{ points. (Final exam grade is not replaceable)}$$

Therefore, this student earns the grade “C” in this course.

**Grading Scale:** Letter grades will be assigned according to the following scale:

[A: 95 - 100 %]; [A-: 90 - <95%]; [B+: 87 - <90%]; [B: 83 - <87%]; [B-: 80 - <83%]; [C+: 75 - <80%];

[C: 70 - <75%]; [D+: 65 - <70%]; [D: 60 - <65%]; [F: 0 - <60%]

**Assistance:** There is a wide variety of help available at the University Learning Center (GL 120), Office of Multicultural Program and Services (GC 216), AAA Tutorial Office (GC 331A), or at the Biscayne Bay Campus Math Lab (ACI 160).

Please visit or call the above offices to find out more about the way they operate and their hours.

**MORE INFORMATION** can be found online at [http://w3.fiu.edu/math/math\\_help/math\\_help.htm](http://w3.fiu.edu/math/math_help/math_help.htm)

**Note:** Please be advised that the tutors at the above places will not reproduce for you professor’s lectures that you missed. Similarly, during my office hours, I will not reproduce for you lectures that you missed. Lectures are exclusively conducted during the above stipulated lecture time. You must bring specific questions and attempted work.

**Attendance:** Students are expected to attend *all* scheduled class meetings, *must be on time*, and must be physically present in the classroom during exam days. I prefer that you are absent instead of coming late to class. If you cannot make it on time, you should drop out of this course and take it when you can be on time to *all* class meetings. If you leave the classroom during an exam you must return the exam to the instructor before leaving. You might not be allowed back in the classroom for the rest of the examination period. You, the student, are responsible for all material discussed in class, as well as announcements made, handouts, and homework assignments, whether or not you (the student) are present during the class meeting. If you must be absent some day, please find out what took place in class during your absence, prior to returning to class. Unacceptable excuses include (but are not limited to) “I wasn’t here,” “I was unable to make it,” “I was sick,” “I couldn’t get a ride,” “I had to take my cousin to the airport,” “My garage door got stuck,” “My dog ate my homework,” “I had to take my dog to the vet,” “I went to the bank, there was a robbery, and I was taken hostage,” or the like. If you are absent on an exam day, your grade will be zero on that exam. There are no makeup exams (absolutely no exceptions). An absence might be excusable if it is documented with a valid letter from a doctor or health center, a valid letter from the Dean or student’s advisor, or with a valid police report of the student’s accident or incident. All original documentation must be submitted to the instructor upon return to class (no photocopies, no facsimiles will be accepted). The documentation is subject to verification. If the information is valid, I will replace the missing grade with the grade that the student earns on the final exam (please refer to grading policy notes above). If the information cannot be verified or no documentation is submitted, the student will earn zero on every exam (or quiz) associated with such information. Absence on the final exam day without valid excuse and documentation will result in an “F” grade in this course, regardless of your performance prior to the final exam.

**Reading and Writing Components:** Students are required to acquire the highly complex skills of reading mathematics. It is also important that students are able to demonstrate clear writing skills to express their solutions to mathematically based problems. Understanding and using language skills, in the context of Mathematics, is a necessary condition for success in this course.

**Calculator Policy:** The mathematics department prohibits the use of graphing calculators (or any device with the capability of storing information) in this course. When authorized, students may use a nonprogrammable/nongraphing/scientific calculator. *Cellular phones (or the like) cannot be used as calculators.* If you come to exams with the wrong calculator or without calculator, then you must take the exam with no calculator. Calculator sharing is prohibited. Unauthorized use of calculators is also an act of academic misconduct.

**Registration:** It is the student's responsibility (not the instructor's) to make sure that you (the student) are officially registered for this course. Please be sure to obtain a copy of your schedule to verify the class reference number and that you do not owe any fees. If your name does not appear in the roster at the time I enter the grades in the P-S system as being registered and having paid all required fees, you will not receive a grade for this course and you will have to retake it at a later term, regardless of your performance or whether you sat in class the entire term. If the class has no open seats, please make other arrangements, because I do not override the established classroom seat limit at any time for any reason.

**Withdrawal:** If you (the student) must withdraw from this class, it is important that you withdraw by the college's "Last day to withdraw with a *DR* grade" (**MAR 19<sup>th</sup>, 2012**), established by the Registrar's Office. It is the student's responsibility (not the instructor's) to initiate and follow the official withdrawing procedures through the Registrar's Office. Stopping class attendance does not mean that you (the student) withdrew from this course and it will earn you an "F" grade at the end of the term.

**Incomplete Grade Policy:** The incomplete grade (*I*) is almost never given. Do not expect that if you fail exams, you will be able to avoid an "F" grade by requesting an incomplete at the last minute. To qualify for an incomplete, you must: a) be passing the course with a grade "C" or higher; b) be so near the end of the course that you require no further instruction; c) have successfully completed at least 75% of the course work (exams, quizzes, projects); d) have a valid and documented reason for not being able to finish the course due to circumstances beyond the student's control; e) obtain both my approval and the approval of the Mathematics Department. An (*I*) grade cannot be given if in my opinion, it is necessary for the student to repeat the course. The incomplete must be made up by the end of the immediately following major term. If you get the (*I*) in the Fall term, you must complete the work by the end of the immediately following Spring term. If you get the (*I*) in the Spring term, you must complete the work by the end of the immediately following Fall term. There is no extension of the deadline. The student must not register again for the course and must not sit in any class meetings to make up the incomplete. The incomplete simply allows the student to complete all approved work (exams, quizzes, projects) that was missed during the immediately previous major term.

**Classroom Etiquette:** To create and preserve a classroom atmosphere that optimizes teaching and learning, students are expected to conduct themselves at all times in a manner that does not disrupt teaching or learning. You are expected to come prepared to class, to be on time and to remain in the classroom for the duration of the lecture. Talking, eating, sleeping, checking e-mail, using cellular phones/iphones/ipods/blackberries/computers, reading a newspaper, preparing for another class, packing up early, or the like, is disruptive to others around you and to the instructor. Though classroom participation is always welcomed, questions and comments must be relevant to the topic at hand. If you have a question or comment, raise your hand to be recognized. Electronic/communication devices such as cell phones, iphones, ipods, blackberries, computers, etc., must be turned off during class and during examinations. Student conduct which disrupts the learning process shall not be tolerated and may lead to disciplinary action and/or removal from class. Please remember that the unauthorized use of the above mentioned devices (in any form or manner) during examinations is considered an act of Academic Dishonesty. Also, please do not bring children, family members, friends, or food to lectures or to the tutoring offices because they might not be allowed in.

**Academic Misconduct (Academic Dishonesty):** The use of cellular phones (in any form or manner) during examinations or quizzes is considered an act of academic dishonesty. Other acts of academic dishonesty include (but are not limited to) unauthorized use of calculators, cheat sheets, textbooks, class notes, computers, cellular phones/ipods/iphones/blackberries/or other communication/electronic devices, talking to classmates, looking at classmates' papers during exams or quizzes, giving or receiving assistance on an exam, quiz, or homework assignment for which such assistance is not permitted, sending another person (an impostor or a ringer) to take exams for you, falsifying documents to obtain excusal from an exam, plagiarism, tampering, fabrication, etc... Cheating and/or Academic Misconduct are not permitted. Students caught in any act of cheating will be formally charged with Academic Misconduct (Academic Dishonesty). Your calculator, your phone, and your desk may be randomly viewed, cleared, or inspected or you may be asked to move to another place in the classroom if in my opinion there is suspicion of cheating and/or academic dishonesty. The instructor has the right to regard suspicious material in your calculator, your phone, your desk, or in your possession as evidence of cheating. More information about cheating/Academic Misconduct is given in the Student Hand-Book. Penalties for cheating/Academic Misconduct range from an "F" in the course to expulsion from the University.

**MISCELLANEOUS:**

(1) It is your responsibility to save all materials I distribute to you in class and to save all exam papers I return to you. (2) If you have any dispute regarding the grade you receive in this class, you must raise the issue within 45 days of the date classes begin in the next term. Such questions should be addressed directly to me. Please do not bother the Mathematics Department with grades and/or issues unless you have first discussed those issues with me. (3) Absolutely, no makeup exams (no exceptions). If you miss an exam and have a legitimate/valid excuse, then your final exam grade will be used to replace the missing grade. If you do not have a legitimate/valid excuse for being absent on an exam day, your grade on that exam will be zero. If you miss the final exam and do not have a legitimate/valid excuse, you will automatically fail this course with the grade "F," regardless of your performance during the term. (4) Final examinations given this term will be in my office for one year. If you would like to view your final exam, you can do so until **APRIL 25<sup>th</sup>, 2013**. After this date, the final examinations given this term will be shredded and you will no longer have access to your final exam.

**UNIVERSITY CLOSED:** JANUARY 14<sup>th</sup>, 15<sup>th</sup>, 16<sup>th</sup>, (Martin Luther King Holiday); MARCH 12<sup>th</sup> TO MARCH 18<sup>th</sup>, (Spring Break).

This syllabus is not edited once the semester is underway. However, the instructor may alter course policy (including test days) as needed. Modifications are announced in class or on the course webpage: <http://faculty.mdc.edu/cgil/mgf1107.htm> The webpage may be updated frequently. You are responsible for attending class, reading your FIU emails, and noting any changes.