MAT 102 – College Mathematics

Cedar Crest College
Fall 2006, MAT 102 80, Th 7:00-9:30, CUR 353

Instructor

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Office Hours

Tue: 12:30-2:00
Wed: 4:00-6:30
Thu: 12:30-2:00, 4:00-6:30

Course Description

A nontechnical presentation of mathematical topics essential to the student of the arts, humanities, or social sciences. The following are studied: elementary set theory, logic, number systems, probability and statistics and measurement and applications of mathematics to various disciplines. A scientific calculator is required. This course is appropriate for secondary education students (not math majors); some content is based on the Pre-Professional Skills Test in Mathematics (PRAXIS).

Prerequisites

None.

Textbook and Other Resources

Bluman; *Mathematics in Our World*; McGraw Hill, 2005. ISBN: 0-07-295611-9. (Includes *MathZone Student Access Kit*, required.)

A scientific calculator is required. The Texas Instruments *TI-30Xa* is a good affordable choice, retailing in the $10 to $15 range.

Internet access with an up-to-date web browser is necessary for *MathZone*. On-campus facilities are available for students without Internet access.

Course Objectives

- Understanding of a variety of mathematical concepts applicable to practical situations.
- Recognize situations where certain mathematical techniques would be applied.
- Be able to apply mathematical techniques to real world problems.

Assessment

The final grade for the course will be based on the following assessment items:

- Tests (3): 75%
- Homework, weekly: 25%

A final average is calculated according to the weights above and are rounded to the nearest full percent. The final grade is assigned according to the following scale:

- 93-100: A
- 90-92: A-
- 87-89: B+
- 83-86: B
- 80-82: B-
- 77-79: C+
- 73-76: C
- 70-72: C-
- 67-69: D+
- 60-66: D
- 0-59: F

Homework

Homework is assigned each week, and involves problems related to the week's class material. Homework is assigned on MathZone. The assignment will include practice problems and a short quiz for each section. Quizzes may be taken up to 3 times, and the quiz results will serve as the homework grade.

Tests

Three tests will be given throughout the semester, with each testing on one of the three major topic areas for the course. Tests are written and taken during the first 50 minutes of class on designated testing dates. Test problems are similar to those assigned for homework.

Policies

Attendance

Regular attendance is an important factor contributing to the student's success in the class. Although much of the material covered in class comes from the textbook, some course content comes from the instructor's notes or other resources, and may be delivered only in lecture form. The student is responsible for all material covered in class, and should arrange to get notes from another student in the event of absence from class. The instructor's notes are not available for perusal by the students.

Your instructor keeps an attendance record for the class, however this record does not directly affect the student's grade. If a student has excessive absence and is not showing responsibility for the course material, a report of concern will be issued to the Advising Center.

If the student is absent on the day of a test, quiz, or other in-class assessment event, arrangements for a makeup must be made in advance. Failure to do so will result in a grade of zero for the test. Exceptions are granted only in extreme cases with proper documentation.

Due Dates and Late Work

Your instructor will announce the date and time that each assignment is due. This information will also appear on your instructor's web site. Note that, for some classes, assignment due dates might not correspond to class meeting dates.

By turning in assignments on time your work will be graded and returned in a timely manner (usually within one week), and with comments as appropriate.

Late work will be accepted up to two weeks past the due date, but no later than the last day of classes. Late work will be subject to any or all of the following:

- A penalty of 20% of the total possible score will be assessed (unless otherwise noted under assessment details).
- The assignment may be graded without comment.
- The assignment will be graded and returned at the instructor's convenience, possibly as late as the end of the semester.

Any work that is not turned in within two weeks of the due date will receive a grade of zero.

Honor Philosophy

The *Cedar Crest College Student Guide* includes the following under *Honor Philosophy*, *Community Standards for Academic Conduct*, *Academic Integrity*:

> Academic integrity and ethics remain steadfast, withstanding technological change. Cedar Crest College academic standards therefore apply to all academic work, including, but not limited to, handwritten or computer-generated documents, video or audio recordings, and telecommunications.
>
> All Cedar Crest students shall:

- Only submit work which is his/her own.
- Adhere to the rules of acknowledging outside sources, as defined by the instructor, never plagiarizing or misrepresenting intellectual property.
- Neither seek nor receive aid from another student, converse with one another when inappropriate, nor use materials not authorized by the instructor.
- Follow the instructions of the professor in any academic situation or environment, including taking of examinations, the following of laboratory procedures, the preparation of papers, and the proper and respectful use of sharing of College facilities and resources, including library and computing resources.
- Abide by the Cedar Crest Computer Use Policy.
- If a student perceives a violation of the Academic Standards, he/she will go to their instructor.
- If you are unable to resolve the problem with the instructor, you should go to the chair of the department. If you need further assistance after consultation with the instructor and the chair, you should see the Provost.

Unless specifically designated by the instructor, assignments for this course are individual assignments, not group projects. It is reasonable and appropriate for students to discuss an assignment outside of class, but the actual assignment work is to be one's own. It is not appropriate to collaborate on assignments, nor is it appropriate to copy another student's assignment, alter its appearance, and present it as one's own individual work. Such behavior is plagiarism and a violation of the Honor Philosophy, and will result in a grade of zero for the assignment. A second offense will result in a grade of F for the course.

Class Cancellations

College-wide class cancellations are announced on the regular media outlets and on the college inclement weather hotline (610-606-4629). In the rare event your instructor must cancel an individual class, every effort will be made to notify students via e-mail of the class cancellation. You instructor collects contact information at the start of the semester for this purpose. Please be advised that advance notice of an individual class cancellation is not always possible.

When a class is canceled, whether college-wide or individual, the following contingencies are in effect:

- If class is canceled on a day that a test is scheduled, the test will be given at the next class meeting.
- If the class meeting immediately preceding a scheduled test date is canceled, the test will be postponed by one class meeting.
- If an assignment is due at the beginning of a class meeting, and that class is canceled, check your instructor's web site for information on when the assignment is due.

Students with Disabilities

Students with documented disabilities who may need academic accommodations should discuss these needs with their professors during the first two weeks of class. Students with disabilities who wish to request accommodations should contact the Advising Center.

Release of Confidential Information

In order to remain in compliance with the Family Educational Rights and Privacy Act (FERPA), the following policies will be in effect with regard to the release of information related to the student's academic record (i.e. grades):

- Your instructor may personally discuss such information with you, and may do so via telephone.
- Your instructor will not leave such information on an answering machine or voice mail system.
- Your instructor will not release such information to any third parties (such as a parent or spouse) without the student's written consent. If you wish to make such arrangements, please contact the Advising Center.
- Your instructor will reply to requests for such information via e-mail only to e-mail addresses within the cedarcrest.edu domain. Replies to addresses hosted at other domains will be denied.
- Your instructor will post final grades on Campus Web as soon as final grades are calculated. This is the earliest method by which this information becomes available.

- You may provide your instructor with a self-addressed stamped envelope for return of materials at the end of the semester. However, the student must personally deliver the envelope to the instructor. Envelopes delivered via other means will not be used.

Extra Credit

Your instructor may, at his option, offer the class an extra credit assignment, based on the overall need of the class. How such an assignment affects the grade will be determined if and when the extra credit assignment is offered. Individual requests for extra credit will not be granted.

Incomplete Grades

The College Catalog includes the following policy with regard to incomplete grades:

> A temporary grade of incomplete (I) is given only to a student who is doing passing work in a course but who, for reasons beyond the student's control, is not able to complete a major assignment or examination by the deadline for submitting grades.

The Provost's Office has further clarified this policy to faculty in the following statement:

> Note, in particular, the phrase “beyond the student's control”, which indicates an event such as an accident, injury, or catastrophic personal situation that prevents the student from completing a single assignment or examination at the very end of the semester; a student's failure to complete past or current work resulting form neglect or poor time management is not an appropriate justification for an incomplete grade. Note also that a student who is currently failing a course should not be given an incomplete.

Final Exam

Your obligations for this course include attendance at the final exam, on the day and time scheduled by the Registrar’s Office. You should not make travel arrangements until the final exam schedule is published; if you must make plans early, you should schedule your travel after the last final exam day.

Classroom Protocol

The Cedar Crest College Student Guide includes the following under Honor Philosophy, Community Standards for Academic Conduct, Classroom Protocol:

> Appropriate classroom behavior is implicit in the Cedar Crest Honor Code. Such behavior is defined and guided by complete protection for the rights of all students and faculty to a courteous, respectful classroom environment. That environment is free from distractions such as late arrivals, early departures, inappropriate conversations, and any other behavior that might disrupt instruction and/or compromise students' access to their Cedar Crest College education.

Generally, disruptive behavior in the classroom is any behavior that interferes with the process of learning. At Cedar Crest College, it is the right of every student and faculty member to engage in a classroom experience free from disruptive behavior.

What is disruptive to one person might not be disruptive to another, so the final authority on disruptive behavior is the faculty member. Faculty members have the authority to address disruptive behavior in the manner they see fit under the guidelines set forth in the College Catalog (please see the section on “Classroom Protocol”).

Disruptive behavior may be viewed on a continuum ranging from the isolated incidents of mildly annoying or irritating behavior to more clearly disruptive, dangerous, and/or violent behavior.

Examples of disruptive behavior may include the following:

- Persistent speaking without permission
- Use of electronic devices, cell phones, or pagers during class
- Threats or harassment of any kind

- Poor personal hygiene
- Revealing dress
- Working on homework for other classes
- Inappropriate personal disclosures during class (sharing too much information)
- Sleeping in class
- Entering class late or leaving early (without permission)
- Eating/drinking in class without permission
- Disputing authority and arguing with faculty and other students
- Physical disruptions or physical altercations

Additionally, classroom participants should note that basic human courtesy is an expectation when interacting with faculty members, staff, and other students. What constitutes basic courtesy varies from one individual to the next, but the following guidelines are appropriate for nearly any situation and are certainly expected in the academic setting.

Class Visitors

Anyone not registered for the course who wishes to sit in as a visitor must obtain permission from the instructor in advance. Class visitors are to adhere to the same classroom protocol as is expected from registered members of the class. For classes held in a computer classroom, visitors will not be permitted to use the computers in the classroom.

Verbal Communications

Faculty members are not part of your social circle or peer group and should not be addressed as such. On the first day of class, faculty members will introduce themselves and express how you should address them. Addressing a faculty member by his or her first name is not acceptable unless the faculty member invites you to do so.

When addressing a faculty member in person, use a positive, respectful approach. Ideally, you should meet with faculty members during their scheduled office hours and not at the beginning or end of class unless the interaction will be brief.

When using the telephone, be sure to identify yourself at the beginning of the conversation. Be brief and concise, particularly when leaving a voice mail message.

Written Communications

When sending email, remember that your writing conveys an image of you and demonstrates respect for the recipient. Treat email as you would any other written correspondence: Begin with the appropriate greeting, use complete sentences with good grammar and spelling, use a friendly and polite tone, and expect that faculty members will return your correspondence when they are able. Expecting an “instant response” is not realistic.

Course Schedule

The following is a tentative schedule for the course, and may be adjusted as necessary throughout the semester.

Dates	***Topic***	***Reading (Textbook Sections)***
8/31	The Nature of Sets Subsets and Set Operations	2-1, 2-2
9/7	Venn Diagrams Using Sets to Solve Problems Infinite Sets	2-3, 2-4, 2-5
9/14	Statements Truth Tables Types of Statements	3-1, 3-2, 3-3
9/21	Arguments Euler Circles	3-4, 3-5
9/28	Early and Modern Numeration Systems Base Number Systems Operations in Base Numbers	4-1, 4-2, 4-3
10/5	**Online Class** (no class meeting) The Natural Numbers The Integers The Rational Numbers	5-1, 5-2, 5-3
10/12	**Test 1** (Chapters 2, 3) The Irrational Numbers The Real Numbers	5-4, 5-5
10/19	Fundamental Concepts of Algebra Solving Linear Equations Applications of Linear Equations	7-1, 7-2, 7-3
10/26	Solving Linear Inqequalities Ratio, Proportion, and Variation Solving Quadratic Equations	7-4, 7-5, 7-6
11/2	**Online Class** (no class meeting) Basic Concepts of Probability Tree Diagrams, Tables, and Sample Spaces	11-1, 11-2
11/9	**Test 2** (Chapters 4, 5, 7) Odds and Expectation The Addition Rules for Probability	11-3, 11-4
11/16	The Multiplication Rules and Conditional Probability The Fundamental Counting Rule and Permutations Combinations	11-5, 11-6, 11-7
11/30	The Nature of Statistics and Organizing Data Picturing Data Measures of Average	12-1, 12-2, 12-3
12/7	Measures of Variation Measures of Position	12-4, 12-5
TBA	**Test 3** (Chapters 11, 12)	