MATH 1332
College Mathematics

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A list of the full committee can be found at:
http://www.austincc.edu/mthdept5/mman06/

Notes for Instructors
2006-2007

There are two texts for MATH 1332. This chapter contains information to develop courses around both texts. The introductory information is relevant to both texts and then there is specific information for each.

Which text? Instructors assigned this course prior to book orders being placed will be able to choose to use Tannenbaum or Bennett & Briggs. Gill Waterston (gwaterst@austincc.edu, 223-8133) keeps the list of instructors who want to teach from Tannenbaum. Instructors who accept this course after book orders are placed will have to teach from the text ordered for the section they're teaching.

Course Purpose: This course is intended to provide students with a survey of topics in mathematics. Some instructors work more towards developing students' quantitative reasoning skills; others tend to show more of the beauty of mathematics as a discipline. Still others of us try to impart a feel for the different ways in which mathematics is used. Everyone does a little bit of all of the above but each of us has our preferences. But, whatever the approach, we try to teach the course in a way that will allow the students to have a positive experience with mathematics.

Students: The students who take this course generally are in nursing, the liberal arts, communication, workforce programs, or some social sciences. Many of them are apprehensive about mathematics, so any techniques you have for dealing with math anxiety will be helpful.

When planning your course, you should consider the type of students who will be enrolling in your section. For example, a section at RVS may have more nursing students; a section at RGC may have more liberal arts majors. Night classes may have more students who want to see the applicability of mathematics. There is no set pattern to enrollment but there are tendencies that you should consider. If you don't know about your potential students, ask someone who has taught MATH 1332 before on that campus.

Assigning a mathematical autobiography is one way for you to know where the students are “coming from” as well as help them feel a part of the class. For the adventurous: you could use the autobiographies to more clearly define what chapters would be beneficial to your students based on areas of study or interests. You would need to plan a first chapter to cover and then develop the remainder of the course based on students' interests or areas of study. This is somewhat uncomfortable (to not have a complete plan at the beginning) but IS a way to make the course more relevant to YOUR students.

Course Objectives: 1) Increase/improve students' quantitative literacy. Students successfully completing the course should be reasonably proficient solving quantitative problems they will experience in their lives. 2) Provide students with an opportunity to experience mathematics as an intellectual exercise and a way of thinking. 3) Provide students with an opportunity to appreciate the visual and intellectual beauty of mathematics.
It is strongly recommended that you keep algebra use to a comfortable minimum since many of the students are highly anxious. Some instructors like to do a little more algebra than others; some sections and chapters require a bit more algebra than others.

**Flexibility:** What makes this course fun (but also difficult) to teach is the flexibility allowed in developing curriculum. We set forth a few requirements but you are free to put your own personality to the course and develop your own course within the constraints of those requirements. There is a sample syllabus to help you put together a course. It is NOT the mandated curriculum. Feel free to follow the samples exactly but also feel free to make changes as you see fit.

**Prerequisite:** Students who have satisfied the TSI requirement by passing the THEA, COMPASS, or ASSET, or by ACC courses have satisfied the math prerequisite requirement for this course. A student who is exempt from TSI or satisfied the TSI requirement in another way must also pass one of those tests unless he or she has passed high school Algebra II to satisfy the prerequisite.

**Resources:** There is a video series (*For All Practical Purposes*) that contains some topics found in each of the texts. Copies of these videos are located in every LRS; you may check them out to show in your classes. Other relevant videos include *Powers of Ten, Against All Odds* (statistics series), and *Donald in Mathematics Land*. Both *For All Practical Purposes* and *Against All Odds* are available for online viewing at [http://www.learner.org/resources/](http://www.learner.org/resources/)

**Assessment:** You should give four to six major assessments, at least three of which must be exams. For the balance you may want to consider an alternative form of assessment. Be prepared to submit copies of all of your major assessments to the Department as part of the evaluation process.

**Tests:** Many of the people who teach this course give some of their tests in the Testing Center and have some kind of retesting policy. If you use the testing center, at least two (and preferably three) versions of the test should be available. You cannot give the last test in the testing center. Most of us do not give comprehensive finals, simply a regular test over the last chapters covered. If you use items from the publishers’ text banks, use them as a guide for your own questions and not verbatim.

**Make-up Tests/Retesting:** If you have a retesting policy, be sure to include it in your first day handouts. Many instructors allow students to count one retest in the final average. Students may retest on more than one test, but only one can count. We recommend that you should schedule time periods for retests, but do not allow retests for the Final Test due to it being the end of the semester.

**Alternative Assessments:** You may want to consider implementing alternative forms of assessment such as research papers, book reviews, term projects, topical projects (group or individual), computer assignments, oral reports, or group testing. Non-test assessments are often anxiety-relieving for MATH 1332 students. However, you should be prepared to explain how each of your alternative forms of assessment is measuring appropriate learning outcomes for mathematics (may be required as part of the evaluation process).

**Group Activities:** This is a great course in which to include group activities. The syllabus is reasonable and many of the topics lend themselves to the students working in groups. Also realize that a group activity can be as simple as asking the students to discuss an article pertaining to a topic.
Take-home tests: A well-structured take-home exam allows students to take “ownership” of information when they are required to do some independent research (available in the textbook or the learning resource center at their campus or on the internet) to answer some of the questions.

Homework Quizzes: You may choose to have homework quizzes that carry the same weight as a test grade.

Reports, projects, etc: When students give oral reports on their projects, other classmates and their teacher learn more information than one teacher could put together as supplemental information. If the oral reports are at the end of the semester, a penalty needs to be assigned to the students who do not attend after they have given their report. When students know from the beginning of the semester that attendance is required the last week of the semester, they can’t say “I’ve already bought my ticket to leave Austin because I didn’t know I had to come to class after I gave my report.”

If it is your first time to have students do reports, projects, or group activities, it is probably best to give no more than 10% of the total grade for the reports. When written reports are assigned, consider assigning a grade for the proposed topic, the outline of the proposed report, the first draft, and the final draft. Less misunderstanding occurs than when you think you understood their topic and then they turn in something you hadn’t anticipated. Stress the importance of knowing how to use material given (for example, a formula), rather than rote memorization of formulas. Stress the necessity for learning the language (basic definitions) of the topic being covered.

Pretest: We encourage you to give this to the students the first day. Some instructors give it as a take-home quiz. It is important for the instructor to know what the students know (and don’t know) coming into the course. The pretest is located at the very end of this portion of the Mathematics Manual; it is relevant for courses using either text.

Additional notes for the Tannenbaum text


Additional Materials:
TestGen (ISBN 0-13-187379-2)

Resources: There is a publisher’s website where you will find good ideas, projects, activities, and other materials. www.prenhall.com/tannenbaum.

Syllabus: You need to complete at least 8 chapters (or sections equivalent to 8 chapters) of your choice. Be sure to cover material (at least one chapter) from each of the four parts (four chapter units). You may want consider using the recommended syllabus; it was planned to make using this text comfortable for most instructors.

Tutoring: Not all tutors in the Learning Labs are readily prepared to tutor this course. Students should check with the labs to determine which tutors are comfortable with this course and then check those tutors’ schedules.
Notes on Chapters in the sample syllabus
Chapter 9 is a great chapter for student projects, papers, or oral presentations.
If the students read in advance, Chapter 13 could be discussed in one day. Chapter 13 exercises are
great for small group discussions. Chapter 13 could also be omitted or extended.

Suggested Homework (for Tannenbaum sample syllabus):

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<thead>
<tr>
<th>Chapter</th>
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Suggested Homework (for other chapters):

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<th>Chapter</th>
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<td>1, 7, 11, 15, 19, 23, 31, 35, 39, 41, 43, 47, 49, 53, 57, 59, 61, 63, 69</td>
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Technology: You will need a scientific or business calculator; it should have a $y^x$ or $x^y$ key and a square root key. Graphing calculators are fine but not necessary. You may be working in a computer lab depending on availability and the instructor's discretion.

COURSE DESCRIPTION: MATH 1332 TOPICS IN MATHEMATICS (3-3-0). A course designed for non-mathematics and non-science majors. Topics may include, but are not limited to, sets, logic, number theory, geometric concepts, and an introduction to probability and statistics.

Prerequisite: Students who have satisfied the TSI math requirement by passing the THEA, COMPASS, or ASSET, or by ACC courses have satisfied the math prerequisite requirement for this course. A student who is exempt from TSI or satisfied the TSI requirement is another way must also pass one of those tests unless he or she has passed high school Algebra II to satisfy the prerequisite.

INSTRUCTIONAL METHODOLOGY
This course is taught in the classroom primarily as a lecture/discussion course.

COURSE RATIONALE MATH 1332
This course is intended to provide non-mathematics and non-science majors with a survey of topics in mathematics. The emphasis may be towards developing students' quantitative reasoning skills, illustrating the beauty of mathematics as a discipline, and/or imparting a feel for the different ways in which mathematics is used. The students who take this course generally are in nursing, the liberal arts, communication, workforce programs, or some social sciences. This course may be used to satisfy the Core Curriculum and the General Education Mathematics requirements.

COMMON COURSE OBJECTIVES: 1) Increase/improve your quantitative literacy. 2) Provide you with an opportunity to experience mathematics as an intellectual exercise and a way of thinking. 3) Provide you with an opportunity to appreciate the visual and intellectual beauty of mathematics.

COURSE EVALUATION/GRADING SCHEME
Grading criteria must be clearly explained in the syllabus. The criteria should specify the number of exams and other graded material (homework, assignments, projects, etc.). Instructors should discuss the format and administration of exams. Guidelines for other graded materials, such as homework or projects, should also be included in the syllabus.
Time: You cannot learn mathematics by listening to someone talk about it. You learn math by thinking about and working on mathematical problems. And this takes time. If you allow yourself plenty of time to think about the material, you will find it much more interesting and enjoyable. A reasonable amount of time (for any college class, but especially for math) is three hours outside of class for every hour in class. You have made up your schedule this semester to include your classes at certain times every week. You should now include on that schedule certain regular hours for study—three hours of study for each hour you are in class. If you do not do this, you will not do as well in school as you are capable of, and you will find it more frustrating than it should be.

Course-Specific Support Services
ACC main campuses have Learning Labs that offer free first-come first-serve tutoring in mathematics courses. The locations, contact information and hours of availability of the Learning Labs are posted at: http://www.austincc.edu/tutor

Attendance Policy (if no attendance policy, students must be told that)
Attendance is required in this course. Students who miss more than 4 classes may be withdrawn.

Withdrawal Policy (including the withdrawal deadline for the semester)
It is the student's responsibility to initiate all withdrawals in this course. The instructor may withdraw students for excessive absences (4) but makes no commitment to do this for the student. After the withdrawal date, neither the student nor the instructor may initiate a withdrawal.

Incomplete Grade Policy
Incomplete grades (I) will be given only in very rare circumstances. Generally, to receive a grade of "I", a student must have taken all examinations, be passing, and after the last date to withdraw, have a personal tragedy occur which prevents course completion.

COURSE POLICIES
The syllabus should contain the following policies of the instructor:
• missed exam policy
• policy about late work (if applicable)
• class participation expectations
• reinstatement policy (if applicable)

The following policies are listed in First Day Handout section in front part of the Math Manual. Go to www.austincc.edu/mthdept5/mman06/statements.html. Insert the full statement for each of the following in your syllabus:
Statement on Scholastic Dishonesty

Recommended Statement on Scholastic Dishonesty Penalty

Recommended Statement on Student Discipline

Statement on Students with Disabilities

Statement on Academic Freedom
### Tannenbaum Calendar:

<table>
<thead>
<tr>
<th>Week</th>
<th>16-week Chapters</th>
<th>11-week Chapters</th>
<th>5 1/2-week Chapters</th>
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<td>Ch 6, Exam</td>
<td>Ch 14, Ch. 16</td>
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*Please note: schedule changes may occur during the semester. Any changes will be announced in class.*

### TESTING CENTER POLICY

ACC Testing Center policies can be found at: [http://www.austincc.edu/testctr/](http://www.austincc.edu/testctr/)

Instructor will add any personal policy on the use of the testing center.

### STUDENT SERVICES

The web address for student services is: [http://www.austincc.edu/rss/index.htm](http://www.austincc.edu/rss/index.htm)

The ACC student handbook can be found at: [http://www.austincc.edu/handbook](http://www.austincc.edu/handbook)

### INSTRUCTIONAL SERVICES

The web address is: [http://www.austincc.edu/faculty/newsemester/](http://www.austincc.edu/faculty/newsemester/)

then click on “Campus Based Student Support Overview”.

*Additional information about ACC's mathematics curriculum and faculty is available on the Internet at [http://www.austincc.edu/math/](http://www.austincc.edu/math/).*