**MAT 102 – A Survey of Mathematical Ideas**
**Math 188 (Optional) – Supplement to Survey of Mathematical Ideas**

**Spring 2009**

| Course ID | Room | Unit | Days | Start Time | End Time |
|---|---|---|---|---|---|
| MAT 102 - 1 | A206 | 4 | T, Th | 01:00 PM | 02:50 PM |
| MAT 188 - 1 | A206 | 1 | T, Th | 02:55 PM | 03:20 PM |

**INSTRUCTOR**: Helen Shen

**PHONE**: 530-541-4660, Extension 364

**E-MAIL**: shen@ltcc.edu

**OFFICE:** A204

**OFFICE HOURS**: Mon. & Wed. 12:30 – 1:30 PM
Tue. & Thur. 3:00 – 4:30 PM

**LTCC MATH PAGE**: http://www.ltcc.edu/academics.asp?scatID=5&catID=34

**REQUIRED TEXT**: *Mathematics, A Practical Odyssey*, 6th Edition, By Johnson/ Mowry

**OPTIONAL**: *The Student Manual to Mathematics, A Practical Odyssey,* 6th ed, By Johnson/Mowry

**COUSE DESCRIPTION**: This course provides a survey of a variety of branches of mathematics including inductive and deductive reasoning, business and finance math, perimeter and area, The Pythagorean theorem, an introduction to right triangle trigonometry, exponential growth and decay, logarithms, probability and statistics. An emphasis will be placed on overcoming the fear of mathematics and seeing the use of mathematics in the "real world".

**PREREQUISITE:** A grade of C or better in MAT 154A or MAT 154AA or an equivalent course, or a satisfactory score on the Mathematics Assessment Test.

**CALCULATOR**: You will need a scientific calculator for this course. The TI-30X IIS is one such calculator that is inexpensive.

**TUTORING:** Tutoring is available at no cost in A201 (Math Success Center) on a drop-in basis. Students will earn 0.5 point toward the total grade for every 10 hours in MSC or DRC. However, if any student misses more than two classes, no lab credit will be granted.

**STUDENT LEARNING OUTCOMES**:
1. Apply combinatorics and the rules of probability to real life situations.
2. Analyze statistical information and the 'Normal' distribution to make conclusions based on data.

3. Incorporate the mathematics of finance to be consumer-wise.
4. Utilize trigonometric formulas to solve problems involving triangles.
5. Develop exponential growth and decay models.

**GRADING POLICY:** Method of Student Evaluation

**MAT102**

| | |
|---|---|
| Homework (24 sections at 5 points each) | 120 points |
| Quizzes* (Two at 40 points each) | 80 points |
| Exams* (Three at 120 points each) | 360 points |
| Final (Covers entire course content) | 200 points |

Your letter grade will be based on your percentage of the 760 possible points.

| | |
|---|---|
| A | 90-100% |
| B | 80-89% |
| C | 70-79% |
| D | 60-69% |
| F | less than 60% |

**MAT188**

This optional class is taken Credit/No Credit. Grade is based on attendance. 70% attendance is passing grade.

**CHECKING YOUR GRADE ONLINE:** To retrieve your grade information online, follow these steps:

- www.gradesource.com
- student reports
- Instructor Name: Shen
- Click on your class: Math 102
- Your secret number is on your Quiz #1

**EXAM POLICY**: Grading will be based on progress towards the final answer, and the demonstration of understanding of the concept that is being tested. The more you show me with steps and detail, the better your chances for partial credit. You provide me the communication and detail in your answers; and I will give you the best grade I can based on that communication and answer. You can use one page of notes, front and back, for quizzes, exams and the final.

**MAKE-UP POLICY**: For **Quizzes, Chapter Exams, and the Final**, make-up is possible if the absence is excused; there is a 10% penalty if the absence is not excused. The make-up test needs to be taken before the next class. The absence is excused for medical emergencies with the doctor's note. You can take your test early if you know you are going to miss the class.

For **Homework,** you must show your work to get credit, half credit for completion and half credit for selected problems. Homework will be accepted late up to one week after it is assigned for half credit. You can turn in your homework early if you know you are going to miss the class. You can consult a classmate, a tutor, your instructor, or anyone for assistance on the homework.

**COMMUNICATION POLICY**:

You can communicate with me either by coming to class or office hours, sending an e-mail, or calling on the phone. I will respond to your e-mails in a timely manner, and I will do my best to return your calls (you need to make sure to leave your number clearly). If you miss the class, it is your responsibility to pick up the class handouts or obtain the information either from your classmates or from me during the office hours.

I have students work together to help each other. Please feel free to ask me directly if you like to work with me one-on-one.

- **Please see me if you do not understand my policies.**
- Since English is my secondary language, please be sure to ask me if you have any difficulty understanding math due to my accent. I will be happy to clarify.

**ACADEMIC DISHOESTY:**

Academic dishonesty of any form will not be tolerated. Students caught cheating on exams or quizzes will receive a score of zero on the assignment for the first offense and a course grade of F for the second offense.

**LEARNING DISABILITIES:**

If you have a certified learning disability, be sure to discuss your special needs with me during the first week of class. Learning disabilities will be accommodated.

**REGISTRATION:**

- You must register for this class at the Office of Admissions and Records.
- The last day to drop the class with no record is **Friday, May 1**.
- The last day to declare CR/No Credit is **Friday, May 1**.
- The last day to drop the class for a "W' grade is **Friday, May 22**.
- After May 22, if you are enrolled, you will receive some kind of grade.
- **It is your responsibility to drop the class in order to avoid a grade. You can choose Credit/Non-Credit for the class before the date specified on the schedule.** I will drop a student from the class if the student misses more than four classes and is unable to keep up with the learning.

**FINANCIAL ASSISTANCE:**

If you need help paying for your books or other expenses, call our financial aid officer, America Ramirez, at 541-4660 x236, email her at Ramirez@ltcc.edu, or drop by A100.

**HOW TO SUCCEED IN A MATH CLASS:**

1) Read your textbook before class.
2) Choose to attend all class periods and be on time.
3) Exchange names and phone number with classmates.
4) Learn from your mistakes and be patient with yourself.
5) Don't be afraid of asking questions.
6) Know how to get help if you need it.
7) Organize your class materials.
8) Do your homework.
9) Check your work.
10) Hand in assignments on time.

# Tentative Lecture Schedule for Math 102

**Be sure to use class time, office hours, and the MSC to get all of your questions answered.**
**For your homework, make sure you separate each section on the different pages and separate each problem on the different lines. There will be one point deduction for each section if the grader cannot read your answers. ALWAYS WRITE THE HOMEWORK # AND SECTION #s FOR EACH HOMEWORK; MAKE SURE TO WRITE THE DATE THAT YOU TURN IN IF YOU TURN IN HOMEWORK LATE.**

**In response to students' requests, I am experimenting on shorter homework assignments. However, if tests show the lower-than-normal learning, I'm reserving the option to lengthen the assignments in order for students to succeed.**

**EOO means Every Other Odd (i.e. #1, 5, 9, 13...)**

| Date | Section | Topic | Homework |
|---|---|---|---|
| T 4/7 | Appendix E | Introductions, Discussion of Syllabus | |
| | 8.1 | Dimensional Analysis | #3,6,7,11,13,14,15,16 |
| | | Perimeter and Area | #2,5,7,9,11,19,23,33 |
| Th 4/9 | 8.5 | Right Triangle Trigonometry | #1,5,9,21,27,30,35 |
| | 5.1 | Simple Interest | #3,7,11,17,23,31,37,41a~d |
| | | | **Turn in Homework #1 (Sections Appendix E, 8.1, 8.5, & 5.1) On Apr. 14** |
| T 4/14 | 5.2 | Compound Interest | #5,7,13,19,25,33,35,37,41 |
| | 5.3 | Annuities | #1,5,7,13,33,35 |
| T 4/6 | 5.4 | Amortized Loans | #5,9,12,16,22 |
| | | Review | **Turn in Homework #2 (Sections 5.2-5.4) On Apr. 21** |
| T 4/21 | | **Quiz #1 (Sections 8.1, 8.5, & 5.1–5.4)** | |
| | 10.0A | Review of Exponentials and Logarithms | #1,3,5,9,13,19,25,27,39,43,47 |
| Th 4/23 | 10.0B | Review of Properties of Logarithms | #1-31 Odd, #33-49 EOO |
| T 4/28 | 10.1 | Exponential Growth | #1,3,13,23 |
| | 10.2 | Exponential Decay | #1,9,19,27 |
| | | | **Turn in Homework #3 (Sections 10.0A, 10.0B & 10.1-10.2) on Apr. 30** |
| Th 4/30 | | Review for Exam #1 | |
| T 5/5 | | **Exam #1 (Sections 8.1, 8.5, 5.1–5.4, & 10.0-10.2)** | |

| | | | |
|---|---|---|---|
| Th 5/7 | 2.1<br>2.3 | Sets and Set Operations<br>Introduction to Combinatorics | #2,7, #17-26 All, #27<br>#2,5,16,22,23,33,43<br>**Turn in Homework #5 (Sections 2.1 & 2.3) on May 12** |
| T 5/12 | 2.4<br>3.1<br>3.2 | Permutation and Combinations<br>History of Probability<br>Basic Terms of Probability | #1,15,18,25,30,33<br>Read<br># 1,2,5,7,9,11,13,21,45,47,61,68,70,71,72 |
| Th 5/14 | 3.3<br>3.4 | Basic Rules of Probability<br>Combinatorics and Probability | #1,3,9,13,27,30,40,48<br>#5a-c,7,15, #19-26 All<br>**Turn in Homework #6 (Sections 2.4 & 3.1-3.4) on May 19** |
| T 5/19 | | **Quiz #2 (Sections 1.1, 2.1, & 2.3-2.4)** | |
| Th 5/21 | 3.5<br>3.6 | Expected Value<br>Conditional Probability | #13,19,33,34,35,37 |
| T 5/26 | 3.6 | Continued<br>Review for Exam #2 | #3,9,15,23,41,43,46, #57-60 All, #63<br>**Turn in Homework #7 (Sections 3.5-3.6) on May 28** |
| Th 5/28 | | **Exam #2 (Sections 1.1, 2.1, 2.3-2.4, & 3.2-3.6)** | |
| T 6/2 | 4.1<br>4.2 | Population, Sample, and Data<br>Measures of Central Tendency | #1,8,16,17<br>#2,11,17,21,28 |
| Th 6/4 | 4.3 | Measures of Dispersion | #1,7,13,15,17<br>**Turn in Homework #8 (Sections 4.1-4.3) on Jun. 9** |
| T 6/9 | 4.4 | The Normal Distribution | #1,3,5,6,7,8,9,11,13,17,20,23,24<br>**Turn in Homework #9 (Sections 4.4) on Jun. 16** |
| Th 6/11 | | Review for Exam #3 | |
| T 6/16 | | **Exam #3 (Sections 4.1-4.4)** | |
| Th 6/18 | | Review for Final Exam | |
| Th 6/25 | | **Cumulative Final Exam (1:00-2:50pm) Noted time** | |