

MTH 152 Mathematics for the Liberal Arts II – Summer 2012

Division of Languages, Mathematics, and Sciences
Tidewater Community College, Chesapeake Campus

Discipline Prefix: MTH	Course Number: 152	Course Title: Mathematics for the Liberal Arts II	
	Course Section: N04C		
Credit Hours: 3	Lecture Hours: 3	Clinical Hours: 0	Lab Hours: 0
Contact Hours: 3	Studio Hours: 0	Repeatable for Credit: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Semester: Summer 2012	Meeting Days/Time/Location: Mondays and Wednesdays from 6:00 p.m. – 8:00 p.m. Room 2032 Whitehurst Building, Chesapeake Campus		

Instructor Information:

Name: Carl W. Seward
Office Location: 133A Pass Building, Chesapeake Campus
Office Hours: By Appointment
Contact Information: 757-338-3568
Course Website: <http://faculty.tcc.edu/cseward/>
Blackboard site: <http://learn.vccs.edu>
Instructor email address: cseward@tcc.edu

Course Information

Course Description:

This course presents topics in functions, combinatorics, probability, statistics, and algebraic systems.

Prerequisites and/or Co-requisites:

MTE 5 or the equivalent by placement test.

Required Course Texts and Supplementary Materials:

- Textbook: Thinking Mathematically 5th edition by Robert Blitzer, Prentice Hall, 2011. Includes MyMathLab (ISBN 0-321-645855), or a Loose-leaf version bundled with MyMathLab (ISBN 0-321-706056)
- Student Access Kit for MyMathLab if student is using the online version of the textbook (ISBN 0-321-19991-X)
- Scientific (with Mean and Standard Deviation function keys), or graphing calculator

Course Learning Outcomes:

After completion of this course, the student will be able to:

1. Identify the steps in a general problem-solving strategy
2. Explain the pitfalls of inductive reasoning in decision making
3. Explain the differences between a linear and an exponential function
4. Use linear and exponential functions in problem solving
5. Differentiate between basic counting problems, permutations, and combinations
6. With the aid of a calculation utility, compute factorials, permutations, and combination
7. Use the appropriate method to calculate theoretical, empirical, and subjective probabilities
8. With data in a two-way contingency table, calculate probabilities for simple and compound events, including “and,” “or,” and “given” (conditional) situations
9. Identify types of statistical studies and their uses graphs, histograms, and line graphs
10. Interpret data presented in frequency tables, bar and pie graphs, histograms, and line graphs
11. Define statistical inference
12. Explain how the margin of error affects statistical inference
13. Identify types of consumer credit
14. Compute and compare simple and compound interest

Topics Covered in the Course:

Chapter 1 Problem Solving and Critical thinking

- 1.1 Inductive and Deductive Reasoning
- 1.2 Estimation, Graphs, and Mathematical Models
- 1.3 Problem Solving

Chapter 6 Algebra: Equations and Inequalities

- 6.1 Algebraic Expressions and Formulas
- 6.2 Linear Equations in One Variable and Proportions
- 6.3 Applications of Linear Equations
- 6.4 Linear Inequalities in One Variable
- 6.5 Quadratic Equations

Chapter 7 Algebra: graphs, Functions, and Linear Systems

- 7.1 Graphing and Functions
- 7.2 Linear Functions and Their Graphs
- 7.3 Systems of Linear Equations in Two Variables
- 7.4 Linear Inequalities in Two Variables
- 7.5 Linear Programming
- 7.6 Modeling Data: Exponential, Logarithmic, and Quadratic Functions

Chapter 8 Consumer Mathematics and Financial Management

- 8.1 Percent, Sales Tax, and Income Tax
- 8.2 Simple Interest
- 8.3 compound Interest

- 8.4 Annuities, Stocks, and Bonds
- 8.5 Installment Loans, Amortization, and Credit Cards

Chapter 11 Counting Methods and Probability Theory

- 11.1 The Fundamental Counting Principle
- 11.2 Permutations
- 11.3 Combinations
- 11.4 Fundamentals of Probability
- 11.5 Probability with Fundamental Counting Principle, Permutations, and Combinations
- 11.6 Events Involving Not and Or: Odds
- 11.7 Events Involving And: Conditional Probability
- 11.8 Expected Value

Chapter 12 Statistics

- 12.1 Sampling, Frequency Distributions, and Graphs
- 12.2 Measures of Central Tendency
- 12.3 Measures of dispersion
- 12.4 The Normal Distribution
- 12.5 Problem Solving with the Normal distribution
- 12.6 Scatter Plots, Correlation, and Regression Lines

Description of Assignments/Assessments:

Homework in this course will be assigned through MyMathLab, so students are **REQUIRED** to have individual access to MyMathLab. In addition to homework, there will be four tests and a final exam given in this course.

Course Schedule:

The following course schedule may change due to the progression of the course. The course schedule may change at the discretion of the instructor; however, students will be notified in writing when any changes/additions are made to the schedule.

Monday, May 21, 2012	Orientation to the Course Inductive and Deductive Reasoning
Wednesday, May 23, 2012	Estimation, Graphs, and Mathematical Models Problem Solving
Monday, May 28, 2012	Memorial Day (College Closed)
Wednesday, May 30, 2012	Algebraic Expressions and Formulas Linear Equations in One Variable and Proportions Linear Inequalities in One Variable

Monday, June 4, 2012	Quadratic Equations Review for Test 1
Wednesday, June 6, 2012	Test 1
Monday, June 11, 2012	Graphing and Functions Linear Functions and Their Graphs
Wednesday, June 13, 2012	Systems of Linear Equations in Two Variables
Monday, June 18, 2012	Linear Inequalities in Two Variables
Wednesday, June 20, 2012	Modeling Data: Exponential, Logarithmic, and Quadratic Functions
Monday, June 25, 2012	Review for Test 2
Wednesday, June 27, 2012	Test 2
Monday, July 2, 2012	Percent, Sales Tax, and Income Tax Simple Interest Compound Interest
Wednesday, July 4, 2012	Independence Day Holiday (College Closed)
Monday, July 9, 2012	The Fundamental Counting Principle Permutations Combinations
Wednesday, July 11, 2012	Fundamentals of Probability Probability with the Fundamental Counting Principle
Monday, July 16, 2012	Sampling, Frequency Distributions, and Graphs Measures of Central Tendency Measures of Dispersion
Wednesday, July 18, 2012	Review for Test 3
Monday, July 23, 2012	Test 3
Wednesday, July 25, 2012	Final Exam Review Day
Monday, July 30, 2012	Final Exam Day

Blackboard and Course Communication:

1. Students should check their BlackBoard accounts as well as their e-mail accounts every Monday, Wednesday and Friday (at the very minimum) for course updates and/or announcements.
2. Students should feel free to e-mail the instructor as they deem appropriate. The instructor will respond to you within 48-hours. Please send e-mails to cseward@tcc.edu

Course Policies

- 1. Attendance Policy:** All students are expected to be present and on time at all scheduled class meetings. Instructors are not required to admit a student who arrives late to the classroom. A student who adds a class or registers after the first day of classes is counted absent from all class meetings missed.

If a student is absent more than 15 percent of scheduled instructional time, attendance may be defined as unsatisfactory. This calculation includes absences occurring during the add/drop period. See also the Withdrawal Policy in this syllabus for more information. Per the college's attendance policy, faculty has the right to develop a more stringent policy as well. Students who do not attend or participate in class by the deadline to drop for tuition refund may be deleted from the course.

- 2. Late Work/Make-up Exam Policy:** Late work will be accepted at the sole discretion of the instructor. Students who may miss a test in the course will need to see the instructor one-on-one before or after class to discuss make-up test arrangements. Students who miss the final exam risk receiving an incomplete (I) grade for the course. If there is a mitigating situation, please see the instructor one-on-one.
- 3. Statement on Classroom Behavior:** TCC is committed to maintaining a social and physical environment conducive to carrying out its education mission. Therefore, all members of the TCC community are expected to demonstrate standards for civility.
 - Be moderate in speaking. Loud, obscene, argumentative, or threatening speech is disruptive to teaching and learning and is offensive to others. It has no place in an academic setting.
 - Resolve any disagreements in a positive, non-combative manner. Request the assistance of college authorities if needed.
 - Show respect for the comfort of others in an educational setting by observing acceptable standards for personal cleanliness and dress.
- 4. Electronic Devices Policy:** Cell phones, pagers, and other communication devices are prohibited from use in classrooms, laboratories, and libraries, unless authorized by the appropriate faculty or staff. Although soundless communication devices such as cell phones

and pagers are permissible in classrooms, college offices, and/or meeting rooms, they must not be answered during class.

- 5. Disposition of Classes for Emergency Shutdown of the College:** In the event of an emergency shutdown of the college, the president and her executive staff may elect to conclude the term in session if eighty-five percent or more of that term has been completed. If the term in session is concluded, faculty shall compute final grades of students based on coursework completed at that point.

Grade Policy:

There are four categories of grades in my class, each with its respective percentage value of your total grade in this course:

Class Attendance	10%
Homework (using MyMathLab)	20%
Test	40%
Final Exam	30%

Based on the progression of the course, the grade distribution for each assignment may change. However, if changes are made, I will notify students in a timely manner and in writing. Final grades are made available to each student within the Student Information System (SIS) now web delivered via MyTCC or SIS.

Academic Policies

Students are responsible for being aware of the policies, procedures, and student responsibilities contained within the current edition of the *TCC Catalog* and *Student Handbook*. Students should familiarize themselves with the college's policies regarding misconduct and inclement weather found in the *Student Handbook*.

Withdrawal Policy:

Students who wish to withdraw without academic penalty should contact a counselor to determine the appropriate procedure. Withdrawals through completion of 60 percent of a session will result in a **W** grade. After 60 percent of a session is completed, a withdrawal will result in a grade of **F** in a credit course or a grade of **U** in a developmental course, except under mitigating circumstances that must be documented by the instructor and approved by the academic dean. Dynamic session classes have unique refund and withdrawal dates. Contact a campus Enrollment Services Office for more information, or visit <http://www.tcc.edu/students/calendar/academic/Dynamic.htm>.

A student who drops after the last day to withdraw does not receive a "W." He/she receives an "F," in which case there is both an academic and financial penalty. A student who withdraws by the deadline faces a financial penalty, but not an academic penalty.

May 31, 2012	Deadline to drop for tuition refund
July 3, 2012	Deadline to withdraw without academic penalty and to receive a grade of W for the course

Academic Integrity:

TCC will expect students to demonstrate personal and academic integrity, to be open to new ideas, and to share in a community where individuals from diverse backgrounds and cultures help one another grow intellectually, socially, and personally.

TCC expects students to achieve, not just to get by. And while many caring and talented faculty and staff are here to help, students must take responsibility for their own learning. Students should strive for a high level of academic performance and to be responsible, contributing citizens within the college and in outside communities. Above all, TCC wants students to develop a love of learning that will last a lifetime, along with a life-long interest in maintaining emotional and physical wellness.

Statement on Plagiarism and Academic Misconduct:

Academic misconduct includes, but is not limited to, the following actions: cheating on an examination or quiz—either giving or receiving information; copying information from another person for graded assignments; using unauthorized materials during tests; collaboration during examinations; buying, selling or stealing examinations; arranging a substitute for oneself during examinations; substituting for another person, or arranging such a substitution; plagiarism—the intentional or accidental presentation of another’s words or ideas; collusion with another person or persons in submitting work for credit in class or lab, unless such collaboration is approved in advance by the instructor.

Faculty members who have reliable evidence of academic misconduct will (1) investigate the matter, and (2) review the facts of the matter and the proposed penalty with the appropriate academic dean. They may then take one or more of the following actions:

- Require the work to be accomplished again
- Give no credit for the test, paper, or exercise
- Assign a grade of **F**, **U**, or **W** for the course
- Refer the matter to the campus Dean for Student Services or designee for possible disciplinary sanction through the college’s disciplinary procedure

If the faculty member chooses to refer the matter to the campus Dean for Student Services or designee for disposition, the Plenary Disciplinary Procedure shall be followed, and the student’s dismissal from the college is a possibility.

Disability Services:

Students who have documented, diagnosed disabilities, and who need special accommodations for tests, etc., are advised to see the Disabilities Services staff in Student Services so that the instructor may be notified of what accommodations are appropriate in each case. Requests for accommodations should be made to the designated campus disability services counselor at least

45 days before classes begin. Documentation must be provided to support the need for accommodations.

For assistance with disabilities, contact the campus Disabilities Counselor/Provider or the Coordinator of Learning Disabilities Services: call 822-1213, visit Student Services/Development, or visit the Disability Services webpage at <http://www.tcc.edu/students/specialized/disabilityservices/index.htm>

Emergency Procedures:

In the event of a bomb threat, tornado, or fire, students and staff may be asked to evacuate the building or move to a secure location within the building. Evacuation routes for movement to an external location or to a shelter within the building are posted at the front of the room. Students should review the maps and make sure that the exit route and assembly location for the building are clearly understood. If assistance is required during an evacuation, please let the instructor know at the end of the first class.

Tidewater Community College uses TCC Alerts to immediately contact and inform faculty, staff and students of a major crisis or emergency. TCC Alerts delivers important emergency alerts, notifications, and updates via:

- Email account (work, home, other)
- Cell phone
- Pager
- Smartphone/PDA (BlackBerry, Treo & other handhelds)

When an incident or emergency occurs, authorized senders will be instantly notified via TCC Alerts. TCC Alerts is a personal connection to real-time updates, instructions on where to go, what to do, or what not to do, who to contact, and other important information. New users may also register by sending a text message to **411911** keyword: **TIDEWATER**.

Student Success Resources

The following resources are available to TCC students. See the *Student Handbook* or visit <http://www.tcc.edu/forms/handbook/> for more information about student services and locations.

Learning Resource Centers:

Each campus houses a library and media resources in a Learning Resources Center (LRC). A separate slide and print library is located at the Visual Arts Center. The Learning Resources Centers contain research materials in both print and electronic format to support the courses, curricula, and mission of the college. Library materials include books, newspapers, magazines, journals and an extensive collection of indexes, abstracts and full text databases. Media resources include videotapes, audiotapes, films, CD-ROM/DVD, computer files, and other audiovisual materials. Visit this site for more information: www.tcc.edu/lrc/

Academic Support Services:

Each campus provides various kinds of academic assistance. One-on-one tutoring, math and computer labs, and other forms of individual and group assistance may be available. Students can also find free help for writing, from short questions about commas and comma splices to a comprehensive review of research papers in progress, in the Writing Centers.

Online Help Desk:

Visit the following Distance Learning Resources for Students website for information about computer skills, technical support, library services for online students, and much more: <http://www.tcc.edu/students/dtls/>

Important Websites:

- College Website: www.tcc.edu
- Blackboard and Student E-mail: <https://tcc.my.vccs.edu/jsp/home.jsp>
- Student Handbook: <http://www.tcc.edu/forms/handbook/>
- TCC *Catalog*: <http://www.tcc.edu/forms/catalog/>
- Class Schedule: <http://www.tcc.edu/schedule/>
(or log-in to SIS for current course offerings)
- Academic Calendar: <http://www.tcc.edu/students/calendar/academic/index.htm>
- Distance Learning Resources: <http://www.tcc.edu/students/dtls/>