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Purpose

This syllabus provides course information, which includes materials required for the course, the course description, and student learning outcomes (LOs) to help you navigate the course and complete requirements.

Policies

Technology Requirements
This is an online course and the following technological resources are required:

- Computer/Internet access and connection: high-speed preferred (not dial up)
- Speakers so you can hear audio enhanced assignments throughout the semester
- Headset/Microphone
- Webcam
- Microsoft Word, Excel, and PowerPoint

This course may also require the following:

As a student enrolled at Texas A&M University-Commerce, you have access to an email account via myLeo - all my emails sent from eCollege (and all other university emails) will go to this account, so please be sure to check it regularly. Conversely, you are to email me via the eCollege email system or your myLeo email as our spam filters will catch Yahoo, Hotmail, etc.

Our campus is optimized to work in a Microsoft Windows environment. This means our courses work best if you are using a Windows operating system (XP or newer) and a recent version of Microsoft Internet Explorer (6.0, 7.0, or 8.0).

Your courses will also work with Macintosh OS X along with a recent version of Safari 2.0 or better. Along with Internet Explorer and Safari, eCollege also supports the Firefox browser (3.0) on both Windows and Mac operating systems.

It is strongly recommended that you perform a "Browser Test" prior to the start of your course. To launch a browser test, login in to eCollege, click on the 'myCourses' tab, and then select the "Browser Test" link under Support Services.

Access and Navigation
This course will be facilitated using eCollege, the Learning Management System used by Texas A&M University-Commerce. To get started with the course, go to: https://leo.tamu-commerce.edu/login.aspx.

You will need your CWID and password to log in to the course. If you do not know your CWID or have forgotten your password, contact Technology Services at 903.468.6000 or helpdesk@tamucommerce.edu.

eCollege Student Technical Support
Texas A&M University-Commerce provides students technical support in the use of eCollege. The student help desk may be reached by the following means 24 hours a day, seven days a week.

- Chat Support: Click on 'Live Support' on the tool bar within your course to chat with an eCollege Representative.
- Phone: 1-866-656-5511 (Toll Free) to speak with eCollege Technical Support Representative.
- Email: helpdesk@online.tamuc.org to initiate a support request with eCollege Technical Support Representative.
- Help: Click on the 'Help' button on the toolbar for information regarding working with eCollege (i.e. How to submit to Dropbox, How to post to discussions, etc.)

Course Concerns
If you have questions pertaining to the content of this course (e.g., questions about an exam, about course due dates, etc.), please contact your instructor via email, through the "Virtual Office," or during office hours.

Other Questions/Concerns
Contact the appropriate TAMU-C department related to your questions/concerns. If you are unable to reach the appropriate department with questions regarding your course enrollment, billing, advising, or financial aid, please call 903-886-5511 between the hours of 8:00 a.m.- 5:00 p.m., Monday through Friday.)

Communication and Support
Email is the best way to communicate as it is checked throughout the day. However, in order to avoid duplication of questions and answers I prefer that you post all class related questions in the Virtual Office course tab. It is likely that your peers will have the same question. Emails of a personal nature should be sent to my email address via eCollege.

Or if you want to talk via phone, you may contact me via Google voice at 903-326-3006. Please do not call before 9 am or after 9 pm.

Course and University Procedures/Policies

Academic Honesty Policy
Texas A&M University-Commerce does not tolerate plagiarism and other forms of academic dishonesty. Conduct that violates generally accepted standards of academic honesty is defined as academic dishonesty. "Academic dishonesty" includes, but is not limited to, plagiarism (the appropriation or stealing of the ideas or words of another and passing them off as one's own), cheating on exams or other course assignments, collusion (the unauthorized collaboration with others in preparing course assignments), and abuse (destruction, defacing, or removal) of resource material. Violation of these academic standards may result in removal or failure. Please see the TAMU Catalog.

Dropping the Class
If you need to adjust your schedule by dropping this course, please contact your Academic Coach. Please be aware that dropping your course may impact your financial aid, veterans and military benefits, three peat, 45-hour, and 30-hour rules. It is the student's responsibility to drop the course. If you fail to officially drop the class, a failing grade shall be assigned.

Incompletes
If you receive a grade of "I" or Incomplete you have one full term to complete the items that remain incomplete. If you have not submitted the necessary assignments by the end of the next full term your grade automatically converts to an "F."

Student Withdrawal
A student wishing to withdraw from all courses before the end of a term for which he/she is registered must clear his or her record by filing an application for voluntary withdrawal. Please contact your Academic Coach.

This action must be taken by the date stated in the Academic Calendar as the last day to drop a class or withdraw. Any student who withdraws from the university is subject to the conditions outlined in the section regarding Scholastic Probation or Suspension in the university catalog. It is the student's responsibility to withdraw from classes if he or she does not plan to attend during the semester in he/she has enrolled. A student has one year from the first day of a semester to appeal a withdrawal refund. Courses withdrawn are counted as attempted hours and count towards the three-peat, 45-hour and 30-hour rules and financial aid and veterans and military benefits.

Instructor Withdrawal
Your instructor of record reserves the right to withdraw a student from his or her course based on inadequate access to and progress in the online course materials.

Students with Disabilities
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services
Texas A&M University-Commerce
Gee Library 132
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
StudentDisabilityServices@tamuc.edu
Student Disability Resources & Services

Student Conduct
All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. (See 'Code of Student Conduct' from Student Guide Handbook)

Course Home

Course Objective: Examine key concepts in logic and basic computations to develop an aptitude for practical mathematics.

Basic mathematical skills are useful in real life. For instance, you use these skills to calculate interest owed on your credit card bills, balance a monthly budget, or estimate fuel consumption of a vehicle. Evaluating statements using logic constructs is also a part of mathematical skills that can be very useful for communicating effectively, making predictions, and drawing conclusions.

These skills can also be used to make important decisions in life. A thorough knowledge of mathematics is certainly beneficial for many professions in service sectors, business, technology, and educational fields. The strategy of this course is to develop some of these mathematical skills by learning some of the core concepts of reasoning processes; logic statements; systems of numerals, bases, and computational methods; the metric system; numbers and their properties; arithmetic; and geometric sequences. The course covers the following topics: Critical Thinking, Logic, System of Numeration, the Metric System, and Number Theory and the Real Number System.

Content	Description	Notes
Syllabus	The first learning outcome discusses the various reasoning processes involved in critical thinking and the guidelines for approaching the problems. The second learning outcome discusses how to decipher logic symbols and logic statements, construct truth tables, perform logic operations, and become familiar with reasoning using logic. The third learning outcome discusses the history of numeration, various numbering systems, computations on different base numerals, and other computational methods. The fourth learning outcome discusses metric units for length, mass and temperature, the conversion process, and dimensional analysis. The fifth learning outcome discusses number theory, the numbers and their properties, how the numbers can be used in sequences to formulate patterns, and how these patterns can be used for the study of nature and in other various technological applications.	You have maximum responsibility for your learning and involvement in the course. It is important that you review the syllabus and keep up with the course materials and deadlines.

Pretest

The Pretest for this Math course assesses your knowledge of critical thinking, logic, systems of numeration, the metric system, and number theory and the real number system.

The purpose of the Pretest is to provide a baseline understanding of your knowledge in this competency. The pretest is required for the course. Passing grades for all competencies and assignments for this course are a score of 80 points or higher.

Content	Description	Time	Value	Notes
Pretest	Measures your competency of learning outcomes through essay, short answer, and multiple choice questions.	120 minutes	100 points	

Learning Outcome 1: Critical Thinking

Learning Outcome: Apply logical reasoning processes to arrive at conclusions.

We face problems in our lives every day. In order to successfully tackle these problems, we require a certain aptitude for assessing problems, performing critical reasoning, and then arriving at conclusions. In this learning outcome, you learn how to develop effective reasoning skills, what processes are involved in assessing certain kinds of problems, and the guidelines for approaching them.

Content	Description	Notes
Reading 1.1	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications* (9th ed., pp. 1-5). Boston, MA: Pearson Education.	Do you ever wonder why fingerprints are used for identification purposes? How do we know that no two persons have the same fingerprints? What is the reasoning process behind it? Read this lesson about different reasoning processes to learn how to qualify statements (evidences) and arrive at conclusions.
Exercise 1.1	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications* (9th ed., pp. 5-7). Boston, MA: Pearson Education. • Practice Your Skills: 11-14, p. 5 • Problem Solving: 29-39 (odd numbers), p. 6	Based on the lesson reading "Critical Thinking Skills," in which you learned how to qualify statements and arrive at conclusions, complete this exercise to practice your inductive and deductive reasoning

		skills.
Multimedia 1.1	Review Video – Chapter 1, Section 2	Suppose you are on a family trip and you are running low on money. You are worried, but you do not want to take out your calculator and start calculating your expenses. At least you don't want to appear stingy in front of your kids. Wouldn't it be great if you could just estimate your expenses in your head? Well, watch this video to learn how to do just that!
Exercise 1.2	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications* (9th ed., p. 14). Boston, MA: Pearson Education. Problem Solving: 13, 15, 17, 27, and 47, p. 14	Based on the video presentation that you watched about how to make estimations in order to simplify the computation, complete this exercise to practice your estimation technique.
Assignment 1.1	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications* (9th ed., p. 19). Boston, MA: Pearson Education. Internet/Research Activities: 60, p. 19	This assignment asks you to estimate the water usage in your household. Then, write a report comparing your household water usage with that of the national average usage provided by the EPA.
Reading 1.2	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications* (9th ed., pp. 20-28). Boston, MA: Pearson Education.	Developing good problem-solving skills can help you find solutions to problems that you experience in everyday life. Read this material to learn about what skills you need for problem solving.
Exercise 1.3	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications* (9th ed., p. 28). Boston, MA: Pearson Education.	Complete this exercise to practice the problem-solving skills based on the set of guidelines that

	Practice the skills/Problem Solving: 1-8, p. 28	you covered in the reading titled "Problem Solving."
Assignment 1.2	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications* (9th ed., p. 34). Boston, MA: Pearson Education. Challenge Problems: 62, 63, p. 34	In this assignment, you solve two difficult problems: one on insurance policies and the other on a sport puzzle to demonstrate your competency in problem solving.

Learning Outcome 2: Logic

Learning Outcome: Understand logic statements and perform logic operations.

The study of logic enhances your ability to reason. It enables you to develop patterns of logical thinking for effective communication and decision-making. In this learning outcome, you learn about logic symbols, logic statements, truth tables used to decipher logic statements, how to perform logic operations, and more importantly, you become familiar with reasoning using logic.

Content	Description	Notes
Reading 2.1	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications* (9th ed., pp. 93-101). Boston, MA: Pearson Education.	Logic statements are used in advertising, legal documents, instruction guides, almost everywhere – often as persuasion tools. Statements like "melts in your mouth, not in your hands" have seamlessly threaded a powerful logic statement that persuades you to buy M&M's®! This topic introduces you to the art of evaluating logic statements using mathematics. Read this lesson to learn about logical connectives and how to represent statements using logic symbols.
Multimedia 2.1	Review Video – Chapter 3, Sections 3.2 and 3.3	In the reading "Statements and Logical

		Connectives," you learned how to represent a statement using logic symbols. Here you learn how to evaluate the compound statements using truth tables. Watch this video about truth tables to learn when the logic statements are true.
Exercise 2.1	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications* (9th ed., pp. 114-116, 124-126). Boston, MA: Pearson Education. • Practice skills/Problem Solving: 13-17, 37-43, 53-57 (odd numbers), pp. 114-116 • Practice the skills: 17-21, 47-51 (odd numbers), pp. 124-126	In the video presentation "Truth Tables for Negation, Conjunction, and Disjunction," you learned how to construct a truth table. Now complete this exercise to practice writing symbolic statements and constructing truth tables.
Multimedia 2.2	Review Video – Chapter 3, Sections 3.4 and 3.5	Equivalent statements are one of the frequently used logic statements that appear in political rhetoric, advertising claims, and legal documents. Watch this video to learn about these statements and how to use De Morgan's Laws to check whether the statements are equivalent.
Reading 2.2	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications* (9th ed., pp. 140-147). Boston, MA: Pearson Education.	One of the most important applications of logic is the ability to arrive at a conclusion by analyzing a given set of statements. This is a useful tool in the decision-making process. Read this material for an overview on how to use your knowledge of logic to evaluate statements (or facts) and draw

		conclusions.
Exercise 2.2	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications* (9th ed., pp. 136-138, 148-150). Boston, MA: Pearson Education. • Practice skills/Problem Solving: 11-15, 49-53, 61-65 (odd numbers), pp. 136-138 • Problem Solving: 53-57, 59-63 (odd numbers), pp. 148-150	Based on the material you covered on equivalent statements from the video presentation "Equivalent Statements" and on drawing logical conclusions from a given set of statements from reading "Symbolic Arguments," complete this exercise to practice De Morgan's Laws for checking equivalent statements and testing the argument's validity.
Discussion 2.1	Freedom of Speech	The First Amendment to the US Constitution guarantees that Americans have the freedom of speech. There are, however, limits to what we may say or write. For example, companies are limited in what they can say or write to advertise their products. The Federal Trade Commission (FTC) states that "ads must be truthful and not misleading; that advertisers must have evidence to back up their assertions; and that ads cannot be unfair." Drawing from your understanding of logic statements and symbols, discuss, in your opinion, whether it is okay for the FTC to regulate the advertising market or whether the companies should be allowed to advertise their product however they want.
Reading 2.3	Angel, A. R., Abbott, C. D., & Runde, D. C.	No one likes to be a

	(2012). *A survey of mathematics with applications* (9th ed., pp. 150-154, 156-160). Boston, MA: Pearson Education.	loser. Here is a little secret on how to make an irrefutable argument. Read the materials. Then, you apply the same logic construct to your argument as you do to operate circuit systems in your electronics. Now that is cool!
Exercise 2.3	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications* (9th ed., pp. 155, 161). Boston, MA: Pearson Education. • Practice skills/Problem Solving: 14-19, p. 155 • Practice skills/Problem Solving: 57, 11, 13, 19, p. 161	Based on the lesson reading "Euler Diagrams and Syllogistic Arguments," complete this exercise to practice using the Euler diagram, writing symbolic statements that represent circuits, and constructing truth tables.
Assignment 2.1	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications* (9th ed., p. 168). Boston, MA: Pearson Education. Project: 1, p. 168	Based on the reading "Switching Circuits," where you learned the application of logic in analyzing circuits, complete this assignment to demonstrate your mastery in logic gate operation.

Learning Outcome 3: System of Numeration

Learning Outcome: Develop understanding of number systems and bases, and competency to carry computations across different bases.

The Hindu-Arabic number system that we use today is only one of the many systems that have been used in the history of human civilization. Knowledge about systems of numerations, therefore, provides you with good historical perspective. Furthermore, the knowledge of number systems allows you to gain a deeper understanding of mathematics and its fundamentals. Considering the wide application of base numerals (binary, octal, and hexadecimal) in computers and virtually all electronics, knowledge of fundamental mathematics is certainly more rewarding when choosing a career in computer programming, electronics, and other related fields. This topic covers the history of numeration, various numbering systems, computations on different base numerals, and other computational methods.

Content	Description	Notes
Reading 3.1	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications* (9th ed., pp. 169-176). Boston, MA: Pearson Education.	Read these pages to learn about the additive, multiplicative, and ciphered numeral systems. This topic is important because it provides you with underlying concepts used in mathematical applications.
Exercise 3.1	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications* (9th ed., pp. 176, 178). Boston, MA: Pearson Education. • Practice the Skills: 11, 17, 21, 33, 37, 45, 57, 65, 69, 71, p. 176 • Concept/Writing Exercise: 77, 78, p. 178	Based on your knowledge of additive, multiplicative, and ciphered numerals, complete this exercise to practice writing using numeral systems.
Reading 3.2	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications* (9th ed., pp. 178-183). Boston, MA: Pearson Education.	Do you know the popular game show "The Price is Right" is based on the concept of place value? Read the lesson material to learn more about the place-value numerations and the number system we use today.
Exercise 3.2	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications* (9th ed., pp. 183-184). Boston, MA: Pearson Education. • Warm-up Exercises: 5-12 (odd numbers), p. 183 • Practice the skills: 13, 17, 21, 25, 27, 35, 37, 41, 43, 45, 49, p. 184	Complete the exercise to practice your skills in place-value numerals.
Reading 3.3	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications*. (9th ed., pp. 185-190, 192-198). Boston, MA: Pearson Education.	Bases other than the decimal system are widely used in technology. All electronic devices

Content	Description	Notes
		operate on binary, octal, and hexadecimal base numerals. Read this material about these bases and the computations involved in carrying operations from one base of numerals to another.
Multimedia 3.1	Review Videos – Chapter 4, Sections 4.3 and 4.4	Watch these short demonstration videos to enhance your knowledge of performing computations across bases.
Assignment 3.1	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications*. (9th ed., pp. 199-200). Boston, MA: Pearson Education. Challenge Problems: 67-71, pp. 199-200	Based on the reading "Other Bases" and demonstration videos (Base 16 to Base 10 and Base 2, Base 2 to Base 10, Base 8 to Base 10 conversion, Adding in Base 2, Multiplying in Base 7), complete this assignment to demonstrate your computational skill in other bases.

Learning Outcome 4: The Metric System

Learning Outcome: Demonstrate competency to work in the metric system.

Metric is the standard measurement system used by the scientific community as well as most countries. Outside the United States it is difficult to have any quantitative sense without knowing metric units. For example, distance in most countries is measured in terms of kilometers (km), and temperature is recorded in degrees Celsius. If you are familiar with only the US standard, you would not have a sense of temperature or distance without the understanding of the metric system. In this learning outcome you learn metric units for length, mass, and temperature. You also learn the conversion process and dimensional analysis.

Content	Description	Notes
Reading 4.1	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications* (9th ed., pp. 435-440, 443-449).	The metric system is a standard unit of measurement. All of

	Boston, MA: Pearson Education.	the research and technology industries, among others, use this system of measurement. Read these pages for an overview of basic terms and conversions in the metric system.
Multimedia 4.1	Animation – Chapter 8, Section 8.1	Watch the animation video and complete the interactive examples to practice basic terms and conversion in the metric system.
Assignment 4.1	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications* (9th ed., p. 462). Boston, MA: Pearson Education. Internet / Research Activities: 75, p. 462	This assignment requires you to perform research on the use of the metric system by a company that exports goods. By completing the assignment, you gain knowledge on how often the metric system is used in the business industry and in what capacity. Complete the assignment to gain knowledge on the development of the metric system in Europe.
Reading 4.2	Angel, A.R., Abbott, C.D., & Runde, D.C. (2012). *A survey of mathematics with applications* (9th ed., pp. 454-459). Boston, MA: Pearson Education.	In the United States, the preferred unit for weight is pounds, and for temperature it is degrees Fahrenheit. Because other countries use the metric system, a lack of understanding of metric units can be a business or even personal disadvantage. Read this material to learn about the metric measurement system for mass and temperature, and to perform dimensional

		analysis and unit conversion to, and from, the metric system.
Exercise 4.1	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications* (9th ed., pp. 461, 469-470). Boston, MA: Pearson Education. • Problem Solving: 59, 63-65, p. 461 • Practice the Skills: 11-15, 27-30, pp. 469-470	Use your knowledge of the metric system covered in the reading assignment to complete the exercise on unit conversions of mass and temperature.
Assignment 4.2	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications* (9th ed., p. 477). Boston, MA: Pearson Education. Projects: 1, 2, p. 477	Complete this assignment to understand the importance of the metric system in the medical profession.

Learning Outcome 5: Number Theory and the Real Number System

Learning Outcome: Demonstrate competency in using magnitude in the context of place values, fractions, and numbers written in scientific notation.

Numbers were invented primarily for describing the natural world. Today, our technology relies on numbers to operate. From the description of nature to the application in technology, numbers are everywhere! In this learning outcome, you review number theory, study the numbers and their properties, and identify how the numbers can be used in series and sequences to formulate patterns, and how these patterns can be used for the study of nature and other various applications.

Content	Description	Notes
Reading 5.1	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications* (9th ed., pp. 209-217, 221-226). Boston, MA: Pearson Education.	To call your friends, you select numbers. To watch a different television program, you switch to different channels indexed by numbers. To record your temperature, you use numbers, and the list goes on. Numbers are used in almost everything we do. To study how numbers take

		on a variety of roles in our lives, read the material on number theory and integer operations.
Exercise 5.1	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications* (9th ed., pp. 218-219, 227-228). Boston, MA: Pearson Education. • Practice the Skills: 15, 21, 33, 41, 47, 53, p. 218 • Problem Solving: 61, 65, 67, 71, p. 219 • Practice the Skills: 7, 11, 19, 21, 23, 33, 43, 51, p. 227 • Problem Solving: 71, 73, p. 228	Based on your knowledge of number theory and integers, complete the following exercise on numbers and integer operations.
Reading 5.2	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications* (9th ed., pp. 229-239, 243-249). Boston, MA: Pearson Education.	You might remember using fractions like "¾ cup of flour" from a recipe. These are rational numbers. There are equally important numbers that cannot be written as fractions, for example $\sqrt{2}$. They are called irrational numbers. Read these pages to learn about rational and irrational numbers, and how to perform arithmetic operations using these numbers.
Exercise 5.2	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications* (9th ed., pp. 239-241, 249-251). Boston, MA: Pearson Education. • Practice the Skills: 15, 21, 25, 27-30, 57, 65, 69, 75, pp. 239-240 • Problem Solving: 97–103 (odd numbers), pp. 240-241 • Practice the Skills: 9, 13, 15, 27, 31, 35, 43, 47, 57, 65, pp. 249-250 • Problem Solving Skills: 79, 85, pp.	Complete the exercise to practice your skill with rational and irrational numbers, identification, and performing arithmetic operations.

	250-251	
Reading 5.3	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications* (9th ed., pp. 252-256, 259-266). Boston, MA: Pearson Education.	Scientific notations are used in many fields of study, and the properties of real numbers are vital in many areas of mathematics, such as algebra. Read these pages to learn about the properties of real numbers, rules of exponents, and scientific notations.
Multimedia 5.1	Animation video – Chapter 5, Section 5.6	Watch the animation video and complete the interactive examples for practice with rules of exponents and scientific notations.
Reading 5.4	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications* (9th ed., pp. 270-275, 278-282). Boston, MA: Pearson Education.	Sequences are patterns of numbers, and they can have many applications such as modeling population growth, disease control, and several others. Read this material for an overview of arithmetic, geometric, and Fibonacci sequences.
Multimedia 5.2	Animation videos – Chapter 5, Section 5.7	Watch these interactive videos and practice your skill on arithmetic and geometric sequences.
Discussion 5.1	Fibonacci Sequence	The Fibonacci sequence and the related topic of the golden ratio appear in many places in nature and play an important role in geometry, art, and music. A number of studies have tried to explain why the

		Fibonacci sequence and related items are linked to so many real-life situations. Based on the readings, discuss your own understanding of the Fibonacci sequence and how it plays an important role in the various fields. You can also use examples of the Fibonacci sequence to support your statement.
Assignment 5.1	Angel, A. R., Abbott, C. D., & Runde, D. C. (2012). *A survey of mathematics with applications* (9th ed., p. 290). Boston, MA: Pearson Education. Project: 3, p. 290	Complete this assignment to demonstrate your problem-solving skills using geometric and arithmetic operations.

Dropbox Instructions

Please submit your Assignments to the Dropbox in order to receive faculty feedback. To submit to the Dropbox, click on the Dropbox tab at the top of the course content frame. Click on the Submit an Assignment link. Choose the designated Dropbox Basket title for the assignment. Click the Add Attachments button to browse for the assignment document on your computer that you would like to submit. After attaching the document, you may add comments to your instructor in the Comments field if you wish, then click the Submit button.

Discussions

You are expected to participate/post in each discussion thread/activity in the module. Responses are not merely a restatement of information or ideas already presented. You are expected to present new ideas for consideration, pose questions to explore a topic deeper, and/or add to perspectives presented.

To respond to the discussion topic: If you're the first to enter the Discussion, there will only be a **Respond** button. Otherwise, you will see other's postings below. Click on the **+ Expand All** button to view all of the entries made by your fellow learner or click each one, one at a time. Please pose your response and then return later, or tomorrow, to read and respond to your classmates.

Posttest

The Posttest for this Math course assesses your knowledge of critical thinking, logic, systems of numeration, the metric system, and number theory and the real number system.

The Posttest is an assessment of your knowledge of the material required for the competency. A score of 80 points or higher is required to demonstrate competency.

If you score less than 80 points on any competency you will have an opportunity to review the material and re-take the competency Posttest. You may take the Posttest assessment up to three times. If you have not passed the competency in three attempts, you will work with an Academic Coach to determine another method of fulfilling the program requirements in this subject. In order to demonstrate competency, a score of 80 points or higher is required.

If the term ends prior to you being able to demonstrate competency you will receive a grade of "I" and be required to complete the remaining competencies in the next term.

Content	Description	Time	Value	Notes
Posttest	Measures your competency of learning outcomes through essay, short answer, and multiple choice questions.	180 minutes	100 points	