



## Course Syllabus – Contemporary Mathematics

### Math 1332.501 – Fall 2016

**Department:** Mathematics and Engineering

**Instructor:** Denise Johansen

**Discipline:** Mathematics

**Office:** PC 101G; (806)716-4632

**Course Number:** Math 1332

**Cell/Text:** (513)227-0095

**Course Title:** Contemporary Mathematics

**Email:** djohansen@southplainscollege.edu

**Credit:** 3 **Lecture:** 3 **Lab:** 0

**Time/Place:** TR 6pm-7:15pm/PC 116

**Office Hours:** MW 10:15am-11am and 12:15pm-1:30pm, TR 10am-11am and 4:15pm-5:15pm, or by appointment

**This course satisfies a core curriculum requirement:** Yes - mathematics

**Prerequisites:** Successful completion (C or better) of Math0320 or 2 units of high school algebra

**Textbook (Optional):** *College Mathematics*, Cheryl Cleaves and Margie Hobbs, 2014, 9<sup>th</sup> Edition, Prentice Hall/Pearson Education.

**Supplies:** MyMathLab access required (Course ID: **johansen80224**); a non-graphing scientific calculator (such as a TI-30) that is NOT your phone will be allowed.

**Course Description:** This course is designed specifically for those students who will terminate their mathematical training with one or two courses in mathematics. It includes the fundamentals and principles of algebra; introduction to geometry and trigonometry; use of graphs, proportions, percentages, and logarithms; and heavy emphasis on applications.

**Course Requirements:** To maximize the potential to complete this course, a student should attend all class meetings, take notes and participate in class, complete all homework assignments and examinations including final examinations.

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## Course Evaluation:

- There will be in-class assignments collected daily. By their very nature, in-class assignments can NOT be made up. The in-class average is worth 10% of your grade, and the lowest 2 in-class grades will be dropped.
- Daily online homework assignments will be due weekly on Tuesdays. Late homework will be accepted with 10% per day late submission penalty! The homework average is worth 10% of your grade, and the lowest 3 homework grades will be dropped.
- Daily pre-class assignments will be posted, worth 5% of your grade. The lowest 2 PreClass grades will be dropped.
- There will be 6 online Quizzes to be **completed on your own and without references**. The quiz average is worth 10% of your grade, and the lowest quiz grade will be dropped.
- There will be 3 in-class hour exams. These will each be worth 15% of your grade.
- There will be 1 in-class cumulative final exam on **Tuesday, December 13<sup>th</sup> from 5:30pm-7:30pm**, worth 20% of your grade.

## Letter Grades:

90% - 100%	A
80% - 89%	B
70% - 79%	C
60% - 69%	D
59% & below	F

## Student Learning Outcomes/Competencies:

Upon completion of this course and receiving a passing grade, the student will be able to:

1. Apply the arithmetic of real numbers and the concepts of ratio and proportion, percent, variation, and measure to practical problems.
2. Be able to manipulate polynomial, radical, exponential, and logarithmic expressions.
3. Find the solution set for linear equations in one or two variables, quadratic equations in one variable, and exponential equations in one variable, and apply these techniques to practical problems.
4. Find the solution to a 2x2 system of linear equations, and apply this technique to practical problems.
5. Recognize different geometric shapes and calculate area and volume.
6. Use the six trigonometric functions to solve right triangles and oblique triangles, and be able to apply these techniques to practical problems.
7. Organize statistical data, depict the data graphically, and find measures of central tendency, variation, and position. Solve simple probability and counting problems.

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## Core Objectives:

### Communication Skills:

effective development, interpretation, and expression of ideas through written, oral, and visual communication.

- Develop, interpret, and express ideas through written communication
- Develop, interpret, and express ideas through oral communication
- Develop, interpret, and express ideas through visual communication

### Critical Thinking:

creative thinking, innovation, inquiry, analysis, evaluation, and synthesis of information.

- Generate and communicate ideas by combining, changing, and reapplying existing information
- Gather and assess information relevant to a question
- Analyze, evaluate, and synthesize information

### Empirical and Quantitative Competency Skills:

the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

- Manipulate and analyze numerical data and arrive at an informed conclusion
- Manipulate and analyze observable facts and arrive at an informed conclusion

**Attendance Policy:** Students are expected to attend all classes in order to be successful in a course. The student may be administratively withdrawn from the course when absences become excessive as defined in the course syllabus. [*Absences for this course are considered excessive if you have 4 in a row or a total of 7. If you reach 4 consecutive absences or a total of 7 absences, you will be administratively withdrawn from the class with a grade of 'X' or 'F'.*]

When an unavoidable reason for class absence arises, such as illness, an official trip authorized by the college or an official activity, the instructor may permit the student to make up work missed. It is the student's responsibility to complete work missed within a reasonable period of time as determined by the instructor. Students are officially enrolled in all courses for which they pay tuition and fees at the time of registration. Should a student, for any reason, delay in reporting to a class after official enrollment, absences will be attributed to the student from the first class meeting.

Students who enroll in a course but have "Never Attended" by the official census date, as reported by the faculty member, will be administratively dropped by the Office of Admissions and Records. A student who does not meet the attendance requirements of a class as stated in the course syllabus and does not officially withdraw from that course by the official census date of the semester, may be administratively withdrawn from that course and receive a grade of "X" or "F" as

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determined by the instructor. Instructors are responsible for clearly stating their administrative drop policy in the course syllabus, and it is the student's responsibility to be aware of that policy.

It is the student's responsibility to verify administrative drops for excessive absences through MySPC using his or her student online account. If it is determined that a student is awarded financial aid for a class or classes in which the student never attended or participated, the financial aid award will be adjusted in accordance with the classes in which the student did attend/participate and the student will owe any balance resulting from the adjustment.

**Last day to drop is Thursday, November 17<sup>th</sup>.**

### **SPC School Holidays:**

Monday, 9/5, Labor Day

Friday, 10/14, Fall Break

Wednesday-Friday, 11/23-11/25, Thanksgiving Break

**Dress Code:** Reasonable standards of decency apply to the college community. The student should dress in a manner which does not distract from the academic atmosphere. Revealing attire or clothing carrying obscene or offensive slogans is not permitted. In all academic buildings, classrooms, offices, the Student Center, and dining facilities, students are required to wear shirts and shoes.

**Language:** Please be respectful of others and use language that is appropriate to the workplace.

**Campus Carry:** The Texas Campus Concealed Carry law went into effect on university campuses on August 1<sup>st</sup>, 2016. The law does NOT go into effect for community colleges until August 1<sup>st</sup>, 2017. Therefore, NO firearms of any kind are allowed on South Plains College property, regardless of your Concealed Carry status.

**Equal Opportunity:** South Plains College strives to accommodate the individual needs of all students in order to enhance their opportunities for success in the context of a comprehensive community college setting. It is the policy of South Plains College to offer all educational and employment opportunities without regard to race, color, national origin, religion, gender, disability, or age.

**Disability Statement:** Students with disabilities, including but not limited to physical, psychiatric, or learning disabilities, who wish to request accommodations in this class should notify the Special Services Office early in the semester so that the appropriate arrangements may be made. In accordance with federal law, a student requesting accommodations must provide acceptable documentation of his/her disability to the Special Services Office. For more information, call or visit the Disability Services Office at Levelland (Student Health & Wellness Office) 806-716-2577, Reese Center (Building 8) 806-716-4675, or Plainview Center (Main Office) 806-716-4302 or 806-296-9611.

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## COURSE OUTLINE / CALENDAR\*

Problems are assigned online for each section of the textbook that we cover. To access online assignments, you must have an access code (you can buy a code for MyMathLab bundled with your textbook or you can buy just the code at [www.mymathlab.com](http://www.mymathlab.com)) and register for our course (Course ID: **johansen80224**) at [www.mymathlab.com](http://www.mymathlab.com). Assignments have due dates, and you will lose 10% per day for work completed after the due date passes. To master the material and prepare for the exams, you **MUST** work extra problems!

\* Assignments and deadlines are subject to change at instructor's discretion, and all changes will be announced in class and posted in MyMathLab.

Date	Content	Required Readings
Week 1 8/30 9/1	<b>Syllabus, Order of Operations, &amp; Review of Fractions (Part 1)</b> <ul style="list-style-type: none"> <li>• Syllabus Overview</li> <li>• Order of Operations and Problem Solving</li> <li>• Equivalent Fractions and Decimals</li> <li>• Adding and Subtracting Fractions and Mixed Numbers</li> </ul>	<u>Readings</u> Chapter 1: 1.3 Chapter 2: 2.2-2.3
Week 2 9/6 9/8	<b>Review of Fractions (Part 2) &amp; Percents</b> <ul style="list-style-type: none"> <li>• Multiplying and Dividing Fractions and Mixed Numbers</li> <li>• Percent and Number Equivalents</li> <li>• Percentage Problems</li> <li>• Increase and Decrease</li> </ul>	<u>Readings</u> Chapter 2: 2.4 Chapter 3: 3.1-3.3
Week 3 9/13 9/15	<b>Measurement, Linear Equations and Inequalities, &amp; Review for Exam I</b> <ul style="list-style-type: none"> <li>• The U.S. Customary System of Measurement</li> <li>• Introduction to the Metric System</li> <li>• Time, Temperature, and Other Measures</li> <li>• Metric-U.S. Customary Comparisons</li> <li>• Solving Linear Equations</li> <li>• Solving Linear Equations with Fractions and Decimals</li> <li>• Review for Exam I (Chapters 1-4, 7)</li> </ul>	<u>Readings</u> <b>Quiz 1 Due</b> (Ch. 1-3) Chapter 4: 4.1-4.4 Chapter 7: 7.2-7.3
Week 4 9/20 9/22	<b>Exam I &amp; Formulas, Proportion, and Variation (Part 1)</b> <ul style="list-style-type: none"> <li>• <b>Exam I (Chapters 1-4, 7)</b></li> <li>• Proportion</li> <li>• Direct and Joint Variation</li> </ul>	<u>Readings</u> <b>Quiz 2 Due</b> (Ch. 4 & 7) Chapter 8: 8.2-8.3

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<p>Week 5</p> <p>9/27</p> <p>9/29</p>	<p><b>Formulas, Proportion, and Variation (Part 2) &amp; Linear Equations, Functions, and Inequalities in Two Variables (Part 1)</b></p> <ul style="list-style-type: none"> <li>• Inverse and Combined Variation</li> <li>• Graphical Representation of Linear Equations and Functions</li> <li>• Graphing Linear Equations and Inequalities in Two Variables Using Alternative Methods</li> </ul>	<p><b><u>Readings</u></b>            Chapter 8: 8.4            Chapter 9: 9.1-9.2</p>
<p>Week 6</p> <p>10/4</p> <p>10/6</p>	<p><b>Linear Equations, Functions, and Inequalities in Two Variables (Part 2) &amp; Systems of Linear Equations and Inequalities</b></p> <ul style="list-style-type: none"> <li>• Slope</li> <li>• Linear Equation of a Line</li> <li>• Solving Systems of Linear Equations and Inequalities Graphically</li> <li>• Solving Systems of Linear Equations Using the Addition Method</li> <li>• Solving Systems of Linear Equations Using the Substitution Method</li> <li>• Problem Solving Using Systems of Linear Equations</li> </ul>	<p><b><u>Readings</u></b>            Chapter 9: 9.3-9.4            Chapter 10: 10.1-10.4</p>
<p>Week 7</p> <p>10/11</p> <p>10/13</p>	<p><b>Quadratic and Other Nonlinear Equations and Inequalities &amp; Review for Exam II</b></p> <ul style="list-style-type: none"> <li>• Solving Quadratic Equations by Completing the Square or Using the Formula</li> <li>• Review for Exam II</li> </ul>	<p><b><u>Readings</u></b>  <b>Quiz 3 Due</b> (Ch. 8-9)            Chapter 15: 15.3</p>
<p>Week 8</p> <p>10/18</p> <p>10/20</p>	<p><b>Exam II &amp; Exponential and Logarithmic Equations (Part 1)</b></p> <ul style="list-style-type: none"> <li>• <b>Exam II (Chapters 8-10, 15)</b></li> <li>• Exponential Expressions, Equations, and Formulas</li> </ul>	<p><b><u>Readings</u></b>            Chapter 16: 16.1</p>
<p>Week 9</p> <p>10/25</p> <p>10/27</p>	<p><b>Exponential and Logarithmic Equations (Part 2) &amp; Geometry (Part 1)</b></p> <ul style="list-style-type: none"> <li>• Logarithmic Expressions, Equations, and Formulas</li> <li>• Polygons</li> <li>• Circles and Radians</li> </ul>	<p><b><u>Readings</u></b>            Chapter 16: 16.2            Chapter 17: 17.2-17.3</p>

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<p>Week 10 11/1 11/3</p>	<p><b>Geometry (Part 2) &amp; Triangles (Part 1)</b></p> <ul style="list-style-type: none"> <li>• Volume and Surface Area</li> <li>• Special Triangle Relationships</li> <li>• Pythagorean Theorem</li> </ul>	<p><b><u>Readings</u></b> Chapter 17: 17.4 Chapter 18: 18.1-18.2</p>
<p>Week 11 11/8  11/10</p>	<p><b>Triangles (Part 2) &amp; Right-Triangle Trigonometry</b></p> <ul style="list-style-type: none"> <li>• Distance and Midpoints</li> <li>• Trigonometric Functions</li> <li>• Solving Right Triangles Using the Sine, Cosine, and Tangent Functions</li> </ul>	<p><b><u>Readings</u></b> <b>Quiz 4 Due</b> (Ch. 16-17) Chapter 18: 18.4 Chapter 19: 19.1-19.2</p>
<p>Week 12 11/15  11/17</p>	<p><b>Trigonometry with Any Angle &amp; Review for Exam III</b></p> <ul style="list-style-type: none"> <li>• Law of Sines</li> <li>• Law of Cosines</li> <li>• Review for Exam III</li> </ul>	<p><b><u>Readings</u></b> <b>Quiz 5 Due</b> (Ch. 18-19) Chapter 20: 20.4-20.5</p>
<p>Week 13 11/22 11/24</p>	<p><b>Exam III</b></p> <ul style="list-style-type: none"> <li>• <b>Exam III (Chapters 16-20)</b></li> <li>• <b>Thanksgiving Holiday – No Classes!</b></li> </ul>	<p><b><u>Readings</u></b></p>
<p>Week 14 11/29  12/1</p>	<p><b>Statistics (Part 1)</b></p> <ul style="list-style-type: none"> <li>• Reading Circle, Bar, and Line Graphs</li> <li>• Measures of Central Tendency</li> <li>• Measures of Dispersion</li> </ul>	<p><b><u>Readings</u></b> Chapter 6: 6.1-6.3</p>
<p>Week 15 12/6 12/8</p>	<p><b>Statistics (Part 2) &amp; Review for Final Exam</b></p> <ul style="list-style-type: none"> <li>• Counting Techniques and Simple Probabilities</li> <li>• Review for Final Exam</li> </ul>	<p><b><u>Readings</u></b> Chapter 6: 6.4</p>
<p>Week 16 12/13</p>	<p><b>Final Exam</b></p> <ul style="list-style-type: none"> <li>• <b>Final Exam, 5:30pm-7:30pm</b></li> </ul>	<p><b><u>Readings</u></b> <b>Quiz 6 Due</b> (Ch. 6)</p>

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