

Course Syllabus MTH 132 Section 101 Fall 2018

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| Course Title: | Precalculus with Science Applications | |
| Course Number: | MTH 132 -- Section 101 -- CRN 3014 -- Credit: 5 Hours | |
| Textbook: | Algebra & Trigonometry by Stewart, 4th edition, ISBN 978-1-305-07174-2 | |
| Sections Covered: | P.6-P.8, 1.1-1.8, 2.1-2.8, 3.1-3.7, 4.1-4.5, 5.1-5.6, 6.1-6.5, 7.1-7.5, 8.1-8.3, 9.1, 9.2, 10.1-10.3, 11.1-11.4, 13.1-13.3 | |
| Course Description: | Functions used in calculus including polynomial, rational, exponential, logarithmic, and trigonometric. Systems of equations and inequalities, conic sections, polar and parametric equations, sequences and series, Binomial Theorem. | |
| Calculator: | Calculator is not required for this course but TI-83 or higher is recommended. | |
| Prerequisites: | ACT Math 24 or SAT 560, or a grade of C or higher in MTH 127 or MTH 130 | |
| Meeting Time: | MTWRF: 8:00 – 8:50 AM | |
| Classroom: | SH 529 | |
| Instructor: | Dr. Basant Karna | |
| Office: | Smith Hall 715 | |
| Office Hours: | MTWRF 9:00-10:00 AM, others by appointment | |
| Phone/Email: | Phone: (304) 696-4332, Email: karna@marshall.edu | |
| Webpage: | http://www.science.marshall.edu/karna/ | |
| Course Objectives: | The objectives of this course are to provide students with a clear understanding of Polynomial, Rational, Exponential, Logarithmic, Trigonometric functions and their graphs. Furthermore, students will learn about trigonometric identities and equations, the laws of Sines and Cosines, graph of polar equations, vectors, systems of linear equations and inequalities, partial fractions, conic sections etc. | |
| Course Contents: | <ul style="list-style-type: none"> - Algebra and Geometry Review - Equations and Graphs, Functions - Polynomial and Rational Functions - Exponential and Logarithmic Functions - Trigonometric Functions - Trigonometric Identities and Equations - Systems of Equations and Inequalities - Polar Coordinates and Parametric Equations - Vectors in Two Dimensions - Matrices and Determinants | |
| Course Student Learning Outcomes | How student will practice each outcome in this course | How student achievement of each outcome will be assessed |
| Student will demonstrate and apply knowledge of properties of functions, including polynomial, rational, exponential, logarithmic and trigonometric. | Students will practice this outcome by doing homework and in class activities. | Class work, board work, weekly quizzes, three exams, and the final exam. |
| Student will perform basic operations and solve applications using vector algebra. | Students will practice this outcome by doing homework and in class activities. | Class work, board work, weekly quizzes, three exams, and the final exam. |
| Students will use properties of arithmetic and geometric sequences and series to identify terms, find sums and solve applications. | Students will practice this outcome by doing homework and in class activities. | Class work, board work, weekly quizzes, three exams, and the final exam. |

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| Attendance Policy: | Attendance is required and you must come with your text. Attendance will be taken every class day either by sign-in-sheet or by quiz. Having more than 25% absences may result in a course grade of F ! Absences which can be excused include illness, emergencies, or participation in another university activity. Excused absences must be approved by the office of the dean of students. | | | | | | | | | | | | | | |
| Grading Policy: | <p>A. <i>Quizzes</i>: Throughout the semester, there will be 5 quizzes given during the last 15 minutes of the class on Fridays. Problems in quizzes will be given from assigned homework problems (textbook will not be allowed).</p> <p>B. <i>Exams</i>: There will be 3 exams given in class during the semester.</p> <p>C. <i>Homework Problems</i>: Homework problems will be assigned and collected. You are responsible for reading the text, working the exercises, coming to office hours for help when you're stuck, and being aware of the dates for the exams.</p> <p>D. <i>Final Exam</i>: There will be a two-hour final exam on December 10, 2018.</p> | | | | | | | | | | | | | | |
| Points Distribution: | <table> <tr> <td>Attendance</td><td>25 Pts</td></tr> <tr> <td>5 Homework Assignments</td><td>25 Pts</td></tr> <tr> <td>Quizzes(5)</td><td>50 Pts</td></tr> <tr> <td>3 Exams</td><td>300 Pts</td></tr> <tr> <td>Final Exam</td><td>100 Pts</td></tr> <tr> <td colspan="2">-----</td></tr> <tr> <td>Total Points:</td><td>500 Pts</td></tr> </table> | Attendance | 25 Pts | 5 Homework Assignments | 25 Pts | Quizzes(5) | 50 Pts | 3 Exams | 300 Pts | Final Exam | 100 Pts | ----- | | Total Points: | 500 Pts |
| Attendance | 25 Pts | | | | | | | | | | | | | | |
| 5 Homework Assignments | 25 Pts | | | | | | | | | | | | | | |
| Quizzes(5) | 50 Pts | | | | | | | | | | | | | | |
| 3 Exams | 300 Pts | | | | | | | | | | | | | | |
| Final Exam | 100 Pts | | | | | | | | | | | | | | |
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| Total Points: | 500 Pts | | | | | | | | | | | | | | |
| Grades | <p>The semester grade will be based on the percentage of the 500 total possible points, using the following scale.</p> <p>A: 90 -100 % , B: 80 - 89 % , C: 70 - 79 % , D: 60 - 69 % , F: 0 - 59 %</p> <p>Note: The class score will be posted on MUOnline: http://www.marshall.edu/muonline/</p> | | | | | | | | | | | | | | |
| Make-ups: | <p>A. <i>Quizzes</i>: For unavoidable missed quizzes with valid documentation, I will give you make up quiz within a week of the original quiz date (two quizzes).</p> <p>B. <i>Exams</i>: Making up a missed exam is possible only if you receive prior permission from me and only for serious and unavoidable circumstances. Make-ups must be taken within a week of the original exam date. You can't make up a make-up exam.</p> <p>C. <i>Final</i>: If you don't take final exam, you will receive an "F" for the class.</p> | | | | | | | | | | | | | | |
| Exam Dates | <p>Exam 1 – Sep 21, Exam 2 – Oct 19, Exam 3 – Nov 16 (Fridays)</p> <p>Quizzes: Q1-Aug 31, Q2-Sep 14, Q3-Oct 5, Q4-Nov 2, Q5-Nov 30 (Fridays)</p> <p>Final Exam: December 10 @ 8:00 AM (Monday)</p> | | | | | | | | | | | | | | |
| Important Dates: | <ul style="list-style-type: none"> ▪ August 27, Monday – "W" Withdrawal period begins ▪ September 3, Monday – Labor Day – No Class ▪ October 26, Friday – Last day to drop ▪ November 19, Monday – November 24, Saturday – Thanksgiving Break ▪ December 7, Friday – Last class day | | | | | | | | | | | | | | |
| Disruptive Actions: | If your actions become disruptive or distracting for me or another student, you will be asked to cease your behavior. If you choose to continue, you will be asked to leave. Disruptive behavior may include, but are not limited to the following: cell phone use in class, talking during class, and the use of iPods or MP3 players during class. These will count as unexcused absences . | | | | | | | | | | | | | | |
| Free Tutoring: | Free tutoring in Smith Hall 625 (10:00 - 4:00 PM, 5:00 - 6:30 PM from Monday to Thursday and 10:00 – 12:00 PM on Friday). | | | | | | | | | | | | | | |

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| University Policies | By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to http://www.marshall.edu/academic-affairs/policies/ Academic Dishonesty/ Excused Absence Policy for Undergraduates/ Computing Services Acceptable Use/ Inclement Weather/ Dead Week/ Students with Disabilities/ Academic Forgiveness/ Academic Probation and Suspension/ Academic Rights and Responsibilities of Students/ Affirmative Action/ Sexual Harassment |
| Disable Students: | For University policies and the procedures for obtaining services, please go to <u>MU Academic Affairs: University Policies</u> and read the section, Students with Disabilities . http://www.marshall.edu/academic-affairs/policies/ |
| Coming Late: | Students should come on time and stay in the class for entire class. If you are late by more than 5 minutes, you will be considered to be absent. |

Teaching Outline (Tentative)

| Week | Sections Covered |
|-------------|---|
| 1 | P.6, P.7, P.8, 1.1, 1.2 |
| 2 | 1.2, 1.3, 1.4, 1.5, Quiz #1 |
| 3 | 1.6, 1.7, 1.8, 2.1, 2.2 |
| 4 | 2.3, 2.4, 2.5, 2.6, 2.7, Quiz #2 |
| 5 | 2.8, 3.1, 3.2, Review for Exam 1, Exam 1 on September 21 (Sections P.6-2.8) |
| 6 | 3.3, 3.4, 3.5, 3.6 |
| 7 | 3.7, 4.1, 4.2, 4.3, Quiz #3 |
| 8 | 4.4, 4.5, 5.1, 5.2, 5.3 |
| 9 | 5.4, 5.5, 5.6, Review for Exam 2, Exam 2 on October 19 (Sections 3.1-5.6) |
| 10 | 6.1, 6.2, 6.3, 6.4, 6.5 |
| 11 | 7.1, 7.2, 7.3, 7.4, Quiz #4 |
| 12 | 7.5, 8.1, 8.2, 8.3 |
| 13 | 9.1, 9.2, 10.1, Review for Exam 3, Exam 3 on November 16 (Sections 6.1-8.3) |
| 14 | Thanksgiving Break (No Class) |
| 15 | 10.2, 10.3, 10.5, 11.1, 11.2, Quiz #5 |
| 16 | 11.3, 11.4, 13.1, 13.2, 13.3 |
| 17 | Final Exam: December 10 @ 8:00 AM(Friday) |

Homework Problems (Tentative)

| SectionsProblems | SectionsProblems |
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| <p>----- HW 1 -----</p> <p>P.6: 9,11,15,19,25,29,31,37,41,47,49,61,75,87,101</p> <p>P.7: 13,19,21,25,27,31,33,35,41,53,49,59,65</p> <p>P.8: 7,11,15,21,27,33,41,49,51,55,63,89</p> <p>1.1: 21,23,25,27,29,31,33,39,41,43</p> <p>1.2: 9,11,49,51,73,75,91,93,95,97</p> <p>1.3: 23,27,31,33,35,37,40,43,59,67</p> <p>1.4: 5,9,17,19,27,33,37,47,49,57</p> <p>1.5: 19,29,33,41,49,53,61,63,65,67</p> <p>1.6: 7,13,21,23,25,31,37,43,49,59</p> <p>----- HW 2 -----</p> <p>1.7: 13,17,25,27,33,39,47,55,57,59</p> <p>1.8: 5,9,13,15,17,27,29,31,33,39</p> <p>2.1: 19,21,25,31,33,43,47,55,57,59</p> <p>2.2: 33-43 (odd),51,53,55</p> <p>2.3: 7,9,13,15,21,31,33,43,45,47</p> <p>2.4: 7,9,11,13,15,17,19,21,23,25</p> <p>2.5: 7,11,15,19,23,33,35,39</p> <p>2.6: 29-43 (odd),83,85</p> <p>2.7: 11,15,27,29,33,47,49,51,53,55</p> <p>2.8: 13,17,25,37,51,53,55,57,85,87</p> <p>----- HW 3 -----</p> <p>3.1: 9,11,13,15, 17,25,27,29,47,51</p> <p>3.2: 5-19 (odd),51, 53</p> <p>3.3: 15,17,19,21,25,27,29,39,53,55</p> <p>3.4: 11,13,15,17,29,31,45,47,49,65</p> <p>3.5: 27,37,39, 47-59 (odd)</p> <p>3.6: 21,31,33,35,37,43,45,57,63,73</p> <p>3.7: 3,5,7,9,11,17,19,21,23,25</p> <p>4.1: 7,9,11,13,21,23,27,29,31,33</p> <p>4.2: 3-15 (odd), 23,27,29</p> <p>4.3: 25,27,29,35,37,39,49,51,61,65</p> <p>4.4: 23,33,35, 37,39,49,51,53,55,57</p> <p>4.5: 3,21,23,35,39,49,51,59,63,67</p> | <p>----- HW 4 -----</p> <p>5.1: 5,9,17,19,31,35,37,53,55,63</p> <p>5.2: 3,5,15,17,23,29,31,33,37,39</p> <p>5.3: 13,17,25,27,37,39,47,49,51,53</p> <p>5.4: 5,7,9,17,19,23,25,27,39,43</p> <p>5.5: 9-23(odd),31,33</p> <p>5.6: 11,13,15,17,19,27,29,31,39,51</p> <p>6.1: 3,9,11,15,21,23,27,37,41,47,51</p> <p>6.2: 5,7,63-77 (odd)</p> <p>6.3: 5,19,23,31,33,35,37,47,49,51</p> <p>----- HW 5 -----</p> <p>6.4: 9,11,19,23,29,31,35,37,39,41</p> <p>6.5: 3-21 (odd)</p> <p>7.1: 3,7,13,15,17,37,45,51,55,65</p> <p>7.2: 3,5,15,17,21,25,27,29,31,33</p> <p>7.3: 73-91 (odd)</p> <p>7.4: 5,7,25,27,29,39,41,43,45,47</p> <p>7.5: 3,5,17,23,31,33,39,43,47,53</p> <p>8.1: 5,9,29,31,37,39,45,47,51,55</p> <p>8.2: 3,5,7,23-35 (odd)</p> <p>8.3: 29,31,33,49,51,57,59,65,67,77</p> <p>----- HW 6 (Optional) -----</p> <p>9.1: 13,15,17,27,31,37,41,43,47,49</p> <p>9.2: 5-23 (odd)</p> <p>10.1: 5,7,9,11,13,21,23,25,27,29</p> <p>10.2: 17-35 (odd)</p> <p>10.3: 13-25 (odd),37,41,43</p> <p>10.5: 31-49 (odd)</p> <p>11.1: 39-57 (odd)</p> <p>11.2: 9-27 (odd)</p> <p>11.3: 11-19 (odd),39-47 (odd)</p> <p>11.4: 5,9,15,21,25,29,41</p> <p>13.1: 3,5,15,17,27,29,31,47,53,67</p> <p>13.2: 7,11,13,27,33,35,37,51,53,55</p> <p>13.3: 5,9,11,23, 29,59,61,63,65,69</p> |

Turn in at least **boldface** problems.

Due dates are Mondays after the Sections are covered.