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| **COURSE SYLLABUS-Fall 2017**  **MAC1140: PRECALCULUS (CRN 10291)**  **3 Credit Hours**  Department of Mathematics  Valencia College, West Campus |

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| Instructor: | | Kristina Kraakmo | Email: | Kkraakmo@mail.valenciacollege.edu | |
| Term: | | Fall 2017 | Office: | 4-210 | |
| Class Meeting Days:  Class Meeting Time:  Class Location: | | MW  1:00-2:15pm  7-231 | Office Hours: | M/W: 4:00-5:15pm  T/R: 1:00-3:15pm  F: 10:00-1:00 Online Hours | |
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# Course Description

* This course is an algebra preparation for the calculus sequence. Topics include a symbolic, graphical, and numerical analysis of polynomials, exponential, logarithmic, power, and rational functions, as well as matrices, sequences, mathematical induction, binomial theorem, and conic sections. Applications emphasizing connections with other disciplines and with the real world will be included. Technological tools will be utilized in addition to analytical methods. A minimum grade of C is required if MAC1140 is used to satisfy the Gordon Rule and general education requirements. Credit is not given for both MAC1140 and MAC1132, not for MAC 1140 and MAC1142, nor for MAC1140 and MAC1147.

# Course Prerequisites

* Students registered for this course must have completed MAC 1105 with a C (2.0) or better or an appropriate score on an approved assessment.

**Learning Outcomes**

* Upon completion of this course, students will be able to
  + Develop and solve linear and non-linear systems of equations that model real-world applications, and use matrices to solve systems of equations.
  + Recognize, both algebraically and graphically, the major conic sections.
  + Recognize patterns that lead to sequences.
  + Expand a binomial using the Binomial Theorem.
  + Formulate a proof using mathematical induction.
  + Solve equations and applications involving polynomial, rational, exponential, logarithmic, and other algebraic functions.

# Required Texts and Materials

* **Textbook:** *Precalculus; A Unit circle Approach*, Second custom edition for Valencia College, taken from Ratti/McWaters & Hornsby/Lial & Rockswood
  + Students are only required to buy the MyMathLab Student Access kit, which can be found in the Valencia Bookstore. The electronic version of the book is included with this online access, so students are not required to buy the physical textbook.
* **Calculator:** A graphing calculator is useful for class assignments, but will NOT be allowed on assessments. A regular non-graphing calculator will be allowed on all assessments.

**Course Components**

* **Attendance:** Attendance will be recorded regularly throughout the semester. Missing more than two days can result in your withdrawal from the course.
* **Homework:** Homework will be assigned on MyMathLab for each section covered. Homework assignments will generally be due every Monday before class (some exceptions may occur). Homework due dates **will not** be extended under any circumstances. Since you have multiple days to complete homework assignments, technical difficulties with the online system will not be grounds for a homework extension. It is your responsibility to get started on the homework early so that you do not fall behind. The average of all homework grades will make up 10% of your overall grade.
* **Quizzes:** One online quiz will be assigned for each section covered. Quizzes will generally be due before the first class of each week (some exceptions may occur). It is the student’s responsibility to stay on top of due dates. Students will have two attempts at each quiz. The highest of the two scores will count toward the quiz grade. Quiz due dates **will not** be extended under any circumstances. Since you have multiple days to complete each quiz, technical difficulties with the online system will not be grounds for an extension. The average of all quiz grades will make up 10% of your overall grade.
* **Exams:** Four scheduled chapter exams will be administered. Each exam is worth 15% of the overall grade and may be cumulative. A tentative course schedule including exam dates is attached to this document.
* **Final Exam:**  A cumulative final exam will be given on Monday, December 11th from 1:00pm-3:30pm in our normal classroom. The final exam must be taken in order to pass this course. The final exam is worth 20% of your grade.

# Grading Policy

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| Assessment | Percent of Final Grade | Points |
| Homework  Quizzes | 10%  10% | 100  100 |
| 4 Exams (150 points each) | 60% | 600 |
| Final Exam (200 points) | 20% | 200 |
| Total | 100% | 1000 |
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**Grading Scale**

All grades will be truncated after two decimal places and rounded accordingly.

| Grading Scale (%) | | | | |
| --- | --- | --- | --- | --- |
| Percentage | | Points | Grade | |
| 90%-100% | | 895-1000 |  | A |
| 80% - 89% | 795-894 | |  | B |
| 70% - 79% | 695-794 | |  | C |
| 60% - 69% | 595-694 | |  | D |
| 0% - 59% | 0-584 | |  | F |

# Course Policies: Grades

* **Make-Up Policy:** Make-up exams or quizzes may be administered on a case-by-case basis and are completely subject to the instructor’s discretion in accordance with Valencia College Policy.
* **Attendance Policy:** Your attendance is mandatory. *Absence from class for more than* ***TWO*** *days may result in your withdrawal from the course without notice*. Excessive tardiness or leaving class early will result in the deduction of points. When absent, it is your responsibility to find out about announcements and changes, if any.
* **Withdrawal Policy:** Always seek advice from me or from an academic advisor prior to withdrawing from this course, as it may affect any financial aid you may receive. If you decide to do so, Per Valencia Policy 4-07 (Academic Progress, Course Attendance and Grades, and Withdrawals), a student who withdraws from class before the withdrawal deadline ofFriday, November 10th by 11:59pm will receive a grade of “W.”  A student is not permitted to withdraw after the withdrawal deadline.  A faculty member MAY withdraw a student up to the beginning of the final exam period for violation of the class attendance policy. A student who is withdrawn by faculty for violation of the class attendance policy will receive a grade of “W.”  Any student who withdraws or is withdrawn from a class during a third or subsequent attempt in the same course will be assigned a grade of “F.”

**Valencia Student Core Competencies:**

* Valencia’s Student Core Competencies are complex abilities that are essential to lifelong success.  This course will help you develop and demonstrate the abilities to (1) **think** clearly, critically, and creatively; (2) **communicate** with others verbally and in written form; (3) make reasoned **value** judgments and responsible commitments; and (4) **act** purposefully, reflectively, and responsibly.

**Assistance Outside of the Classroom:**

* **Your Instructor** is interested in your success in this course. Please ask questions regularly!
* **Math Center**. The West campus Math Center is located in building 7 room 240. It is open from 8:30am-7:30pm Monday through Thursday, 8:30am-6:30pm Friday, and 10:00am-3:00pm on Saturday. This is a place where you will find Valencia math division staff, peer tutors, study rooms, and other comfortable work areas for study group meetings. Computer-based tools are available for your textbook, and support materials are available for checkout with your Valencia ID.
* Phone: 407-582-1633, Website: http://valenciacollege.edu/west/lss/math/
* **Study Groups**. Many students find it extremely helpful to form study groups with their colleagues. This practice is highly recommended!
* **Math24/7**. <http://valenciacollege.edu/math/liveScribe.cfm>
* **Video Lessons.** www.khanacademy.org

# Course Policies: Student Expectations

* **Disability Access**: Students with disabilities who qualify for academic accommodations must provide a notification from the Office for Students with Disabilities (OSD) and discuss specific needs with the instructor, preferably during the first week of class. The Office for Students with Disabilities determines accommodations based on appropriate documentation of disabilities.
* The West Campus Office for Students with Disabilities is located in the Student Services Building (SSB) Room 102. Phone: (407) 582-1523.
* **Academic Conduct Policy**: Academic dishonesty in any form will not be tolerated. You are expected to do your own work on tests, quizzes, and homework. Providing information to another student or receiving information concerning exam content is considered cheating. The professor reserves the right to determine the appropriate penalties within Valencia Community College's academic honesty policies. Students are encouraged to work together in study groups, but **copying is considered cheating** and will not be tolerated.
* **Expected Student Conduct:** Valencia College is dedicated not only to the advancement of knowledge and learning, but is concerned with the development of responsible personal and social conduct. By enrolling, you assumed the responsibility for becoming familiar with and abiding by the general rules of conduct. Students who engage in any prohibited or unlawful acts that result in disruption of a class may be directed to leave the class; violation of any classroom or Valencia’s rules may lead to disciplinary action up to and including expulsion from Valencia. You can find the Student code of Conduct in the current Valencia Student Handbook.

**Disclaimer:** I reserve the right make changes to this syllabus. You will be notified of any changes.

# Important Dates to Remember

Drop/Refund Deadline: ------------------------------------------ Tuesday, September 5th by 11:59pm

Withdrawal Deadline: -------------------------------------------- Friday, November 10th by 11:59pm

Labor Day (No Class): --------------------------------------------- Monday, September 4th

Thanksgiving Break (No Class): --------------------------------- Wednesday, November 22nd

Final Examination: ------------------------------------------------ Monday, December 11th from 1:00pm-3:30pm

Term Ends: ---------------------------------------------------------- Sunday, December 17th

Grades Viewable in Atlas: --------------------------------------- Monday, December 18th

MAC1140 TENTATIVE SCHEDULE

These plans and exam dates are subject to change.

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| Week # | Dates | Textbook Sections and Plans | |
| MONDAY | WEDNESDAY |
| 1 | Aug 28 – Sept 1 | Intro  2.1 Quadratic Functions | 2.2 Polynomial Functions |
| 2 | Sept 4 – Sept 8 | NO CLASS | 2.3 Dividing Polynomials and Rational Zeros Test |
| 3 | Sept 11 – Sept 15 | 2.4 Zeros of a Polynomial | 2.5 Rational Functions  2.6 Variation |
| 4 | Sept 18 – Sept 22 | Exam 1  Chapter 2 | 3.1 Exponential Functions |
| 5 | Sept 25 – Sept 29 | 3.2 Logarithmic Functions | 3.3 Rules of Logarithms |
| 6 | Oct 2 – Oct 6 | 3.4 Exponential & Logarithmic Equations and Inequalities | 3.5 Logarithmic Scales |
| 7 | Oct 9 – Oct 13 | Exam 2  Chapter 3 | 7.1,7.2 Review Material  7.3 Matrices and Systems of Equations |
| 8 | Oct 16 – Oct 20 | 7.4 Determinants and Cramer’s Rule | 7.6 Matrix Algebra |
| 9 | Oct 23 – Oct 27 | 7.7 The Matrix Inverse | 7.5 Partial-Fraction Decomposition |
| 10 | Oct 30 – Nov 3 | 7.8 Systems of Inequalities | Exam 3  Chapter 7 |
| 11 | Nov 6 – Nov 10 | 8.1 Overview of Conic Sections  8.2 The Parabola | 8.3 The Ellipse  8.4 The Hyperbola |
| 12 | Nov 13 – Nov 17 | 9.1 Sequences and Series | 9.2 Arithmetic Sequences |
| 13 | Nov 20 – Nov 24 | 9.3 Geometric Sequences | NO CLASS |
| 14 | Nov 27 – Dec 1 | 9.4 Mathematical Induction  9.5 Binomial Theorem | Exam 4  Chapter 8&9 |
| 15 | Dec 4 – Dec 8 | 12.1 | 12.2 |
| 16 | Dec 11 – Dec 15 | FINAL EXAM  1:00-3:30pm | NO CLASS |

