**Cuyamaca College Spring 2019**

MATH 076 (Section # 9989) + 176 (Section # 9990)

Pre- calculus with Concurrent-Enrollment Support

Instructor: Bryan Elliott Email: bryan.elliott@gcccd.edu

Class Times: 8:00am – 11:50 am (MW) Room: H-113

Office Hours: 7:30 am – 8 am & 12pm – 12:45 pm(MW) Office: H-112

**COURSE DESCRIPTION:**

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| MATHEMATICS 076 | MATHEMATICS 176  |
| JUST-IN-TIME-SUPPORT FOR PRECALCULUS | Pre-calculus: Functions and Graphs  |
| A review of the core prerequisite skills, competencies, and concepts needed in pre-calculus. Intended for majors in science, technology, engineering, and mathematics who are concurrently enrolled in MATH 176, PreCalculus, at Cuyamaca College. Topics include: a review of computational skills developed in intermediate algebra, factoring, operations on rational and radical expressions, absolute value equations and inequalities, exponential and logarithmic expressions and equations, conic sections, functions including composition and inverses, an in-depth focus on quadratic functions, and a review of topics from geometry. This course is appropriate for students who are confident in their graphing and beginning algebra skills. A graphing calculator is required for this course. Pass/No Pass only. Non-degree applicable. | Preparation for calculus: polynomial, absolute value, radical, rational, exponential, logarithmic, and trigonometric functions and their graphs; analytic geometry, polar coordinates. Maximum of 7 units can be earned for successfully completing any combination of MATH 170, 175, 176. |

**PREREQUISITE FOR MATH 076:** Appropriate placement. Co-requisite: Concurrent enrollment in MATH 176 at Cuyamaca College

**PREREQUISITE FOR MATH 176:** Prerequisite “C” grade or high or pass/No pass in Math 110 or equivalent (MA 103 does not meet the prerequisite)

**STUDENT LEARNING OUTCOMES:** Upon successful completion of this course, students will be able to:

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| Math 076 | Math 176 |
| * Simplify or reorganize expressions.
* Solve equations and inequalities.
* Solve systems of two equations.
* Graph a function and identify its defining elements (including domain and range).
 | * Graph functions and relations in rectangular coordinates and polar coordinates.
* Apply transformations to the graphs of functions and relations.
* Recognize the relationship between functions and their inverses graphically and algebraically.
* Solve equations including rational, linear, polynomial, exponential, absolute value, radical, and logarithmic, and solve linear, nonlinear, and absolute value inequalities.
* Solve systems of equations and inequalities.
* Apply functions to model real world applications.
* Identify special triangles and their related angle and side measures.
* Evaluate the trigonometric function at an angle whose measure is given in degrees and radians.
* Manipulate and simplify a trigonometric expression.
* Solve trigonometric equations, triangles, and applications.
* Graph the basic trigonometric functions and apply changes in period, phase and amplitude to generate new graphs.
* Evaluate and graph inverse trigonometric functions.
* Prove trigonometric identities.
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**REQUIRED TEXT AND MATERIALS:**

* Text: Functions Modeling Change (A Preparation For Calculus) 5th Edition by Connally/ Hughes-Hallett/Gleason/ Et Al
* Calculator: A TI-84 Plus graphing calculator. The Mathematics Department of Cuyamaca College highly recommends and supports the use of Texas Instruments graphing calculators.
* Knewton Access: Within Canvas, click on any assignment link.  Canvas will redirect you to www.knewton.com and auto-create an account for you using your school email address. Then proceed to Step One on the list below to complete your purchase.
* [Getting Started with Knewton for Students (LMS)](https://support.knewton.com/answers-for-students/getting-started/getting-started-with-knewton-for-students-using-an-lms)
* [Knerd Tips for Students (LMS)](https://support.knewton.com/answers-for-students/getting-started/knerd-tips-for-students-using-an-lms)
* Notebook paper, graph paper and a binder, pencil, big eraser, highlighter, ruler, and color pencils/pens.

**INFORMATION ON KNEWTON(Adaptive Learning system)**

### What is Knewton’s alta?

**Alta is Knewton’s fully integrated adaptive learning courseware.**

It’s designed to work the way you learn—by completing assignments. All of your course material (including text instruction like what you might find in a book) plus videos, animations and worked examples, is presented to you in alta at the moment you need it.  Once you begin an assignment, alta recognizes pretty quickly what you know or don’t know and will adapt the assignment dynamically to your specific learning level.

When alta identifies a knowledge gap from your past, it will give you instructional support and a few extra questions until you’ve shown that you understand the concept and can demonstrate proficiency by completing the assignment. Because alta is adapting to your personal learning, some of you will complete the assignment quickly, and some of you may take longer. (You’ll see this in your progress bar.)

Guessing is highly discouraged. Guessing will only mess with alta’s ability to recommend the right content for you and could create a longer assignment experience.

### How will I use Knewton’s alta?

I will use alta to assign homework and quizzes. I’ll be able to track your progress and offer additional help if you need it during the course of the semester. Your alta homework assignments will make up 35% of your overall grade.

### How will you learn with Knewton’s alta?

The way you work in alta may be different than what you are used to. Answering a question correctly or incorrectly is okay, as long as you respond thoughtfully. Answering thoughtfully, even if you’re incorrect,  is how the technology in alta will develop a quick understanding of what you know and don’t know so that it can help you move successfully through completing the assignment. Whether you answer correctly or incorrectly determines what you learn next. You can follow the progress bar in alta while you’re completing the assignment to follow your learning and progression towards assignment completion.  And in alta, you get an explanation and words of encouragement along the way.

Your completion of an assignment will likely be different from your peers, but you’re still starting the same assignment, and ultimately learning the same concepts as everyone else in the class. It might seem confusing if there are times you answer more questions or take longer to complete an assignment than a friend (or vice versa). This is because alta is delivering a unique path to learning for each of you that is entirely personalized and designed to help you *learn* so that you  can succeed on quizzes, tests and in this class!

**Every answer counts!**

* Do your best to answer questions correctly, in the format that’s required.
* Guessing to move past a question can actually make your assignment take longer!  Instead, click ”More Instruction.” This won’t hurt your progress — you’ll get extra help with instructions and review questions to help you move forward.
* Don’t skip ahead!  Read assignment instructions and watch the videos as they appear. Skipping instructional materials won’t change your grade, but you can miss important information.

**COOPERATIVE LEARNING ENVIRONMENT:**

This course will be taught in a student–centered learning environment; students will work as a team that will fail and succeed together. You are expected to work actively with your peers, sharing, taking and giving, listening and explaining, questioning and answering. You are responsible for being prepared for participation in class discussions and in group work, and for assisting your peers to come to an understanding of mathematics. You are encouraged to establish study partners with whom you may study and prepare for exams.

**RESPECT:** You are expected to be courteous to each other and to the instructor. You will be asked to leave the class for display of behavior the instructor deems as disruptive to the learning environment.

**CLASS POLICIES/ EXPECTATIONS:**

Your decision to enroll in this class constitutes an implicit agreement to the following:

**ATTENDANCE:** You are expected to attend each class, arriving on time and remaining for the entire class. Please grant me the courtesy of letting me know at the beginning of class if you will need to leave early.

* **You may be dropped from the class if you are absent more than 3 days (12 hours).** Attendance is highly correlated with success. Please come and see me if this might be a problem. When you are dropped you may receive a “W” or an “F”, depending on the date dropped.
* **Excessive tardiness will result in being dropped.** Again, your academic success will be greatly increased when you have a chance to settle into the learning environment and are not causing undue interruptions.
* **Unassigned break.** Emergencies happen but we do not want them to repeatedly interfere with yours or your colleagues learning environment. If an emergency arises please grant me the courtesy of letting me know (expecting cell phone calls).

\*\*Do not assume that you will be dropped if you do not attend classes. To ensure that you are withdrawn, you must officially withdraw online, in person, or by telephone. Failing to drop a class in a timely manner may earn you a failing grade in the class.

\*\*You are responsible for getting class notes from other classmates and getting any schedule changes or other class announcements from classmates on days missed from the class. Any changes and class announcements will be made known in class. It is not acceptable to return to class following an absence and claim that you did not know.

\*\* Math 076 and Math 176 are treated as a single course combo. You will experience the course as one class and will be unaware when Math 076 stops and Math 176 begins on any given day. Consequently, if you drop or are dropped from either course, you will be dropped from the course combo (i.e. both courses). Also, I reserve the right to drop you from this course combo for missing three or more class meetings (arriving late or leaving early counts as missing the class meeting). However, if you quit attending class, you should not assume that I will drop you. It is your responsibility to officially drop yourself from this combo class.

**NO CELL PHONES:** All cell phones must either be turned off or put on silent during class time. They are not allowed on desks during exams.

**ACCOMODATIONS:** Academic accommodations are available for students with disabilities. Please identify yourself to me (after class) and to Disabled Students Programs & Services staff so that the appropriate accommodations can be ensured. If you suspect you have a learning disability or need services for any other type of disability, contact the Disabled Students Programs & Services (DSP&S) Office, A-113, at the Student Services One-Stop Center or call (619) 660-4239.

**TUTORING:** To support your efforts to succeed in this class, it is highly recommended that you utilize the free math tutoring services available in the STEM Center (the Tutoring Center). Students needing additional help to achieve the learning outcomes for this class are encouraged to enroll in Math 198, Supervised Tutoring. The H-building STEM Center Information Station will provide students with an add code to enroll in this free non-credit class. Instructors and student tutors are available to answer homework questions, give confidence, and support math students. Students also have access to graphing calculators, textbooks, instructional videos, and computer tutorial programs. Computers are also available for student use.

STEM Center Hours: M–Th. 9:00 am – 6:00 pm, Friday 9:00 am – 2:00 pm.

**METHOD OF EVALUATION:**

This class is an 8 unit course. Your semester grade will be based on the different categories listed below:

* Knewton work 35% of overall grade
* Group Work / Quizzes Drop 1 10% of overall grade
* EXAMS Drop 1 low exam 35% of overall grade
* FINAL 20% of overall grade

The grading system will be as follows: …A (Above 90%); B (80% - 89%); C (70% - 79%); D (60% - 69%); F (below 60%) Note: You must earn at least a D on the final to earn a passing grade in this course! You cannot get a passing score in the class (both 076 & 176) without getting an overall average score of at least a D on the final AND at least 70% overall grade.

**KNEWTON work 35%**: Homework and some quizzes will be done online using the adaptive learning system Knewton. This will be accessed through the colleges Canvas system. You will be given a few writing assignments throughout the semester. Questions that follow the articles or videos should be answered in essay format and should be no longer than 1.5 pages typed in length.

**Group Work/Quizzes 10%:** Group and or individual quizzes will be given at random. There are no make-ups for quizzes or Group Work! Each group member should complete the work daily and keep a copy for review. I will randomly select one group member's work to grade for the entire group. Failure to attend class (excused absences included) will result in a zero, and you cannot make-up missed in-class assignments or quizzes for any reason. Any group member who forges another students name on a quiz or assignment, will automatically be given a 0 on that quiz or assignment along with all the other group members who were in that group. *Since this course promotes cooperative learning, those who are purposely non-engaging will be asked to leave and will receive an absence for the day (see policy on attendance).*

**EXAMS (35%):** There will be 4 exams and one final during the semester. Students who have a legitimate reason for being absent on an exam day, need to contact me **ONE WEEK** before the test date to schedule another time, otherwise there are no make-up exams. A no show without contacting me will result in getting a zero for that test. Cell phones, or other communication devices, are not allowed during exams. Put them in your backpack, pocket or purse. If I catch you with one out, I will take your exam away and you will only receive credit for what you have completed.

**FINAL EXAM (20%):** A comprehensive final exam will be given at the end of the course and is worth 20% of your overall grade. The final exam is mandatory and may not be dropped. If you do not take the final, you will receive a failing grade in the course. If you receive less than a 60% on the final, you may receive a failing grade. **The final exam is: Wednesday, May 29, 8:00 – 10:00 am.**

**ACADEMIC DISHONETY:** If you are caught cheating or plagiarizing, you will earn a 0 on that assignment/test. If it happens a second time, you will earn a ‘0’ on that assignment and I will report it; this could result in sanctions which include removal from the class.

\*\*You are expected to keep up to date, study your notes and do the homework. The usual rule of thumb for college courses is a minimum: Two hours of study out of class for every hour in class. Since we meet 8 hours per week, you should spend at least 16 hours studying and doing homework for this class each week.

***Good Luck and Have a Great Semester!***

**Math 076+176 Spring 2019 Calendar Mon/Wed**

**(Subject to change with prior notice)**

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| --- | --- | --- | --- | --- | --- | --- |
| **Monday** | **Sections** | **Wednesday** | **Sections** |  |  |  |
| Jan 28 | 1.2/1.5 | Jan 30 | 1.6/2.2 |  |  |  |
| Feb 4 | 2.3/2.4 | Feb 6 | 2.5/3.1 |  | **IMPORTANT School Calendar DATES** | **Description** |
| Feb 11 |  | Feb 13 | **Review &** **Exam 1** |  | January 28 | First day of regular semester classes |
| Feb 18 | Holiday | Feb 20 | 3.2/4.14.2/4.3 |  | February 8 | Last day to add/drop this course (without a W) |
| Feb 25 | 5.1/5.2 | Feb 27 | 5.3/6.1 |  | February 18 | Holiday (Labor Day) |
| Mar 4 | 6.2, 6.3 | Mar 6 | **Review &****Exam 2** |  | March 1 | Last day to petition for Pass/ No Pass for this class |
| Mar 11 | 7.1/7.2 | Mar 13 | 7.3/7.4 |  | April 26 | Last day to drop semester-length classes (with a “W”) |
| Mar 18 | 7.5/7.6 | Mar 20 | 7.7/7.8 |  | Mar 25 – Mar 29 | Spring Break |
| April 1 | 8.1/8.2 | April 3 | 9.1/9.2 |  | May 28 – June 3 | Final Exams Week |
| April 8 | 9.3/9.4 | April 10 | **Review &** **Exam 3** |  |   |  |
| April 15 | 9.5/9.6 | April 17 | 10.1/10.2 |  |  |  |
| April 22 | 10.3/11.1 | April 24 | 11.2/11.3 |  |  |  |
| April 29 | 11.4/11.5 | May 1 | 12.5/13.1 |  |  |  |
| May 6 | 13.2, 14.2  | May 8 | 14.3/14.4 |  |  |  |
| May 13 | Review | May 15 | **Exam 4** |  |  |  |
| May 20 | Review | May 22 | Review |  |  |  |
| Finals WeekWed May 29 | Final Exam930-1130 | Finals WeekMon June 3 | **Final Exam 8:00-10:00 am** |  |  |  |
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**TIPS FOR SUCCESS**

Ponder these success principles so you can achieve your best from this class.

* Cultivate a positive attitude; Make friends and do your homework together in groups.
* Every time - Come on time and stay the whole time. Read the new material BEFORE it is presented in class.
* Take responsibility for your own learning.
* Ask questions – lots of questions – to yourself, to classmates, to tutors and to the instructor.

## **Math 076/176 at Cuyamaca College: A Contract for Success**

Math 076 is a concurrent-enrollment support course that uses a just-in-time approach to provide you with the prerequisite skills needed to succeed in Math 176, PreCalculus, taken together, Math 076 and Math 176 constitute a one-semester course combo (Math 076/176) that replaces the traditional pathway through PreCalculus. Consequently, in just one short semester, you could finish the math requirement for your two-year degree at Cuyamaca College and possibly your four-year degree at many universities (depending on the school and your major).

Since the Math 076/176 course combo is a new pathway through College Algebra at Cuyamaca College, it is very important that you understand the benefits and issues associated with your concurrent-enrollment in these two courses. So please carefully read the following and be prepared to sign at the bottom of the page on the first day of class to indicate that you have read and understood each of the bulleted statements.

* I understand that Math 076/176 is an accelerated approach to completing College Algebra, Math 175, at Cuyamaca College.
* I understand that we will NOT study every topic from arithmetic, pre-algebra, and beginning algebra in Math 076. Rather, as necessary we will study only those topics that are needed to understand Math 175, College Algebra.
* In the Math 076/176 combo course, I understand that I will use writing skills to explore many questions and topics prerequisite to understanding College Algebra, and that I will be required to write during every class and to successfully complete my homework assignments.
* I understand that if I drop (or the instructor drops me) from either course, I will be dropped from the remaining concurrent-enrollment course in the course combo.
* I understand that my instructor will approach the Math 076/176 combo course as one class. Therefore my grade in Math 076 is determined by the grade I earn in Math 176.
* Since Math 176 meets the degree requirements at Cuyamaca College and transfers to the four-year institutions, if I am successful in the Math 076/176 combo (earning a grade of C or higher in Math 176), I understand that I will have completed the math requirements for my two-year degree at Cuyamaca College and/or a four-year degree at many universities (depending on the school and my major).

Print Name: Sign Name: Date: