DEVELOPMENTAL MATHEMATICS
MATH 0310.002 (Lecture) & MATH 0310.W02 (Lab)
Department of Mathematics & Statistics
Fall 2020

A. COURSE INFORMATION

Course number/section: MATH 0310.002 (LECTURE) and MATH 0310.W02 (LAB)
Class meeting time: TR 10:00 am – 11:50 am
Class location: CI-102
Course Website: https://bb9.tamucc.edu/webapps/login/

B. INSTRUCTOR INFORMATION

Instructor: Dr. Yu Fan
Office location: CI 314
Office hours: W 9:00 - 11:00 AM & F 9:30 – 12:30 PM
E-mail: yu.fan@tamucc.edu
Appointments: Email for setting up an appointment

C. COURSE DESCRIPTION

3 semester hours (2:2) The course is designed for students needing an extensive review of mathematics to prepare them for state and campus standards and/or higher mathematics courses. The course covers number concepts, computation, various algebra topics, geometry, and mathematical reasoning. This course does not count towards credit for graduation.

D. PREREQUISITES AND COREQUISITES

Prerequisites: There is no prerequisite for this course. Registration for this course will be by placement

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES

Required Textbook(s)/Materials

- Your textbook for this class is available for free online, in web view and PDF format! You may access it through Blackboard or online at: https://cnx.org/contents/mwjClAV_@10.3:nU8Qkzwo@7/Introduction-to-Prerequisites
  You can also purchase a print version, if you prefer, via the campus bookstore or from OpenStax on Amazon.com.
- All homework, quizzes, and exam reviews are administered and graded by Knewton through Blackboard. You must purchase the Knewton Access code from the bookstore (approximately $44); or through blackboard ($39.95/a term or $9.95/month with credit card).
• To be successful in this course, you need to take notes every day. To help you stay organized you will need a dedicated notebook for this class. You will re-write your notes in lab and your notebook will be graded during each exam.

• You will need paper, pencils, highlighters, red and blue pens, erasers, and a SCIENTIFIC calculator. Cell phones and computers are not allowed on exams, quizzes and activities. Graphing calculators are not allowed. All calculator demonstrations will be presented using a TI 30SX ($15.49 at Target)

F. STUDENT LEARNING OUTCOMES AND ASSESSMENT

Assessment is a process used by instructors to help improve learning. Assessment is essential for effective learning because it provides feedback to both students and instructors. A critical step in this process is making clear the course’s student learning outcomes that describe what students are expected to learn to be successful in the course. The student learning outcomes for this course are listed below. By collecting data and sharing it with students on how well they are accomplishing these learning outcomes students can more efficiently and effectively focus their learning efforts. This information can also help instructors identify challenging areas for students and adjust their teaching approach to facilitate learning.

After completion of this course, a student should be able to:

1. Perform basic operations with numbers and expressions and understand the properties related to real numbers.
2. Round whole numbers and decimal numbers to a given place-value and convert between decimal numbers, fractions and percents.
3. Evaluate formulas containing numbers and variables using order of operation.
4. Use function notation and identify domain and range given a relation or function.
5. Simplify algebraic expressions containing monomial, binomial, or polynomial expressions, rational and radical expressions and complex fractions.
6. Use properties of exponents to interpret and simplify integral and rational exponents.
7. Convert between scientific and standard notation and use scientific notation in solving word problems.
8. Factor numbers and algebraic expressions (radicals, monomials, binomials and polynomials) includes finding a GCF or LCM.
9. Perform basic operations (add, subtract, multiply and divide) with monomials, binomials, polynomials, and rational & radical expressions including rationalizing denominators.
10. Solve equations and inequalities of various types (linear, absolute value, rational, radical, and quadratic as well as linear systems) and report in various ways including graphs, sets, or interval notation.
11. Translate word problems and write models in the form of equations or inequalities.
12. Solve word problems (percent, consecutive number, work, age, uniform motion, mixture, geometric, and financial) using a variety of techniques.
13. Read charts and graphs and use the information to solve problems.
14. Name and graph points in a plane or number line and name x- & y-intercepts for linear or nonlinear graphs or equations (including the vertex of a parabola).
15. Recognize, write equations and inequalities for vertical, horizontal and sloped lines and graph.
16. Find the slope of a line give two points, a graph or an equation for the line.
17. Write equations and inequalities given a graph, two points or the slope and a point using point-slope, slope-intercept or standard form.
18. Compare slopes and write equations with parallel or perpendicular lines given an equation and a point or a slope and a point.

G. INSTRUCTIONAL METHODS AND ACTIVITIES

1. This course is a lecture based, activity driven lab with integration to remediate math deficiencies for students who lack college readiness skills.
2. Students will complete 5 modules, each consisting of between 10 – 12 topics. There is homework for each topic assigned in Blackboard. Homework is graded for correctness and is 15% of the overall grade and must be completed on time. Late submissions are not accepted.
3. Students are encouraged to watch any assigned media and work with the tutors and instructor during and outside of lab to remediate problem areas. Students will use their dedicated notebook to document their worked problems and for modular organization.
4. Participation in class and lab is expected and required. You are to write the board notes down and then work on the assigned homework topics, quizzes, actively ask participate in small group activities during lab and work individually with tutors and/or instructor. Your participation will be recorded for each class meeting.
5. Methods and activities for instruction during lecture include note-taking, some small group activities, and completion of homework.

H. MAJOR COURSE REQUIREMENTS AND GRADING

Students will be assessed by performance in both the lecture and lab.

<table>
<thead>
<tr>
<th>MATH 0310 Lecture/Lab Grade</th>
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</thead>
<tbody>
<tr>
<td>In-class Quizzes</td>
<td>5%</td>
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<tr>
<td>Knewton Quizzes</td>
<td>15%</td>
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<tr>
<td>Homework (no late homework accepted)</td>
<td>20%</td>
</tr>
<tr>
<td>Exams (Lowest test grade will be dropped)</td>
<td>40%</td>
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<tr>
<td>Final Exam</td>
<td>20%</td>
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Students who never have never attended class will receive a grade of DNA. Students who stop attending without completing all the modules and do not take the Final will receive a grade of DSA which can impact your financial aid. DNA and DSA grades will be converted to DF after the next long semester.
Students who work and attend class through the semester but do not pass the course will earn a DIP. A DIP grade means you will enroll in this class again and complete all the work again.

Grading scale: DA = 90% or more; DB = 80% - 89%; DC = 70% - 79%.
DIP, DSA, and DNA grades require the student to enroll in MATH 0310 the next semester or risk being dropped from all classes.

(The D in front of the grade stands for Developmental A, B or C.)

I. COURSE CONTENT/SCHEDULE

<table>
<thead>
<tr>
<th>Week</th>
<th>Learning Objective</th>
<th>Course Content</th>
<th>Lab</th>
</tr>
</thead>
</table>
| 1    | FOUNDATIONS       | • Simplifying Expressions with Integers  
  • Use Variables and Algebraic Symbols  
  • Order of Operations and Simplifying Expressions  
  • Adding and Subtracting Fractions  
  • Algebraic Expressions with Fractions  
  • The Distributive Property  | Worksheet Knewton |
|      | LINEAR EQUATIONS AND INEQUALITIES | • General Strategies for Solving Linear Equations  
  • Solving Linear Equations with Fractions  
  • Solve Linear Equations with Decimals  
  • Inequalities, the Number Line, and Interval Notation  
  • Solving One-Step Linear Inequalities  
  • Solving Linear Inequalities | Worksheet Knewton |
| 2    | GRAPHING          | • Reading Graphs and the Rectangular Coordinate System  
  • Graphing Linear Equations  
  • Intercepts on the Coordinate Plane  
  • Understanding Slope  
  • The Slope Formula  | EXAM 1 - Foundations & Linear Equations & Inequalities |
|      |                   | • Slope-Intercept Form  
  • Parallel and Perpendicular Lines  
  • Equations of Lines  
  • Equations of Parallel and Perpendicular Lines | Worksheet Knewton |
| 3    | EXPONENTS AND POLYNOMIALS | • Adding and Subtracting Polynomials  
  • Product Properties of Exponents  
  • Multiplying Polynomials | EXAM 2 - Graphing |
<table>
<thead>
<tr>
<th>FACTORING</th>
<th>CH 4 Quiz</th>
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<tbody>
<tr>
<td>• Special Products of Binomials</td>
<td></td>
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<tr>
<td>• Quotient Properties of Exponents and Dividing Monomials</td>
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<tr>
<td>• Negative Exponents</td>
<td></td>
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<tr>
<td>• Scientific Notation</td>
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<tr>
<td>• Review</td>
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<tr>
<td>• The Greatest Common Factor and Factoring by Grouping</td>
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<tr>
<td>• Factoring Trinomials with a Leading Coefficient of 1</td>
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<tr>
<td>• Factoring Trinomials with a Leading Coefficient Other than 1</td>
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<tr>
<th>4</th>
<th>Review Factoring</th>
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<tbody>
<tr>
<td>4</td>
<td>CH 5 Quiz</td>
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<tr>
<td>4</td>
<td>EXAM 3-Polynomials</td>
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RATIONAL EXPRESSIONS AND EQUATIONS

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<tr>
<th>RATIONAL EXPRESSIONS AND EQUATIONS</th>
<th>Worksheet Knewton</th>
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<tbody>
<tr>
<td>• Factor Special Products</td>
<td></td>
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<tr>
<td>• Choosing a Factoring Strategy</td>
<td></td>
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<tr>
<td>• Solving Quadratic Equations by Factoring</td>
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<tr>
<td>• Solving Polynomial Equations by Factoring</td>
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<tr>
<td>• Quadratic Formula</td>
<td></td>
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<tr>
<td>• Domain of Rational Expressions and Simplifying Rational Expressions</td>
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<tr>
<td>• Multiplying and Dividing Rational Expressions</td>
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<tr>
<td>• Adding and Subtracting Rational Expressions with a Common Denominator</td>
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<tr>
<td>• Adding and Subtracting Rational Expressions with Unlike Denominators</td>
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<tr>
<td>• Solving Rational Equations</td>
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<tr>
<th>5</th>
<th>Worksheet Knewton</th>
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<tbody>
<tr>
<td>5</td>
<td>EXAM 4-Factoring</td>
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<thead>
<tr>
<th>RADICAL EXPRESSIONS AND EQUATIONS</th>
<th>Worksheet Knewton</th>
</tr>
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<tbody>
<tr>
<td>• Understanding Square Roots</td>
<td></td>
</tr>
<tr>
<td>• Simplifying Square Root Expressions</td>
<td></td>
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<tr>
<td>• Adding and Subtracting Square Root Expressions</td>
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</table>

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<tr>
<th>5</th>
<th>Worksheet Knewton</th>
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| • Multiplying Square Root Expressions  |
| • Dividing Square Root Expressions and Rationalizing Denominators  |
| • Solving Radical Equations  |

| • Review  |
| • Solving Systems of Linear Equations  |
by Graphing

- Solving Systems of Linear Equations by Substitution
- Solving Systems of Linear Equations by Elimination

CH 7 Quiz

- Review

J. COURSE POLICIES

COVID-19
Face Coverings—Face coverings (cloth face covering, surgical mask, etc.) must be properly worn in all non-private spaces including classrooms, teaching laboratories, common spaces such as lobbies and hallways, public study spaces, libraries, academic resource and support offices, and outdoor spaces where 6 feet of physical distancing is difficult to reliably maintain. Extra masks will be made available if needed.

Attendance/Tardiness
1. I expect each student to attend all classes and labs. Attendance is mandatory. Please save absences for emergencies and illness.
2. If you are more than 5 minutes tardy or if you leave more than 5 minutes before the end of class you are considered absent.
3. All absences are considered unexcused unless a written excuse or documentation is made available to me in a timely manner and accepted.
4. If you must leave early inform me prior to the beginning of class or if you must be absent please email me through my university email stated at the top of this syllabus.

Extra Credit
There is no extra credit in this course.

Cell Phone Use
Cell phones are prohibited in class and/or lab. They should be stored in backpacks or purses during class and not in pockets.

Laptop Use
You will not need your laptop during class; the class is held in a computer lab.

Participation
1. Participation is required in completing course Modules. This includes notes taken from lecture, power points, or videos.
2. Students found to be working on material other than mathematics during class or lab will be given a zero for that day’s participation. This will include those using class or lab time for personal business-like emails or texting. Cell phones will be turned off and put away during class or lab. Use of your phone will result in a 0 for the day’s
participation.

3. Staying on task & completing an appropriate amount of work will be noted each day by the instructor and/or tutors.

Expectations
- Students are expected to attend each class meeting.
- Students are expected to purchase the Knewton Access code before the temporary 14 day financial access expires.
- Students are expected to report difficulties purchasing or accessing the Knewton Access code promptly. You have required homework due on the 2nd class day.
- Students are expected to work on course homework outside of class as needed.
- Students are expected to keep all worked problems in the dedicated notebook in an organized format.
- Students will complete the Weekly Quizzes and Exam Reviews without notes, instructional materials, or assistance from instructor or tutors. The Quizzes and Final Exam will be completed in class without instructional materials or assistance from the instructor or MPLA’s.
- Students may receive help with the course Homework problems from both the instructor and MPLA’s.

Responsibility
1. You are responsible for obtaining the required supplies and bringing them to class. This will include the Knewton Access code and dedicated notebook required to begin work. The Knewton Access code is active for 2 years. If it is necessary, you will be able to use your Knewton Access code in a future MATH 0310 class.
2. You are responsible for organizing your time so that you can study at least 1 hour each day outside of class and lab. You should include in your weekly schedule a total of at least 9 hours (including class and lab time) to complete your work in this course. Some students will require more to finish the material.
3. You are responsible to complete the homework and assignments outside of class and must be turned in by the due date. No late work will be accepted. These can all be done outside of class as your schedule allows. Quizzes and module exams will be taken during lab time.
4. You are responsible for your own learning; therefore, you should come prepared with questions you need answered. Keep up with what you need to do and set appropriate goals for yourself. Our goal is for you to be an independent learner by the end of the semester and have completed the course requirements.

IMPORTANT MESSAGE: Courses may require additional fees for students to take tests and exams online, and those tests/exams might be monitored by third-party online exam-proctoring services.

1. All costs for exams are the responsibility of the student and typically involve third party charges ranging from $1 - $50.00 per exam. Students may be required to schedule exams at least 24 hours in advance or incur late scheduling charges.
2. Students may be responsible for providing webcams to be used in test proctoring.
3. Students may be required to show to an online proctor via webcam 1) photo ID and
2) the interior of the room where the student is taking the test/exam.

K. COLLEGE AND UNIVERSITY POLICIES

- Academic Integrity (University)
  University students are expected to conduct themselves in accordance with the highest
standards of academic honesty. Academic misconduct for which a student is subject
to penalty includes all forms of cheating, such as illicit possession of examinations or
examination materials, falsification, forgery, complicity or plagiarism. (Plagiarism is
the presentation of the work of another as one’s own work.) In this class, academic
misconduct or complicity in an act of academic misconduct on an assignment or test
will result in a failing grade.

- Classroom/Professional Behavior
  Texas A&M University-Corpus Christi, as an academic community, requires that each
individual respect the needs of others to study and learn in a peaceful atmosphere. Under
Article III of the Student Code of Conduct, classroom behavior that interferes with either
(a) the instructor’s ability to conduct the class or (b) the ability of other students to profit
from the instructional program may be considered a breach of the peace and is subject to
disciplinary sanction outlined in article VII of the Student Code of Conduct. Students
engaging in unacceptable behavior may be instructed to leave the classroom. This
prohibition applies to all instructional forums, including classrooms, electronic classrooms,
labs, discussion groups, field trips, etc.

- Statement of Civility
  Texas A&M University-Corpus Christi has a diverse student population that represents the
population of the state. Our goal is to provide you with a high quality educational
experience that is free from repression. You are responsible for following the rules of the
University, city, state and federal government. We expect that you will behave in a manner
that is dignified, respectful and courteous to all people, regardless of sex, ethnic/racial
origin, religious background, sexual orientation or disability. Behaviors that infringe on the
rights of another individual will not be tolerated.

- Deadline for Dropping a Course with a Grade of W (University)
  I hope that you never find it necessary to drop this or any other class. However, events
can sometimes occur that make dropping a course necessary or wise. Please consult
with your academic advisor, the Financial Aid Office, and me, before you decide to
drop this course. Should dropping the course be the best course of action, you must
initiate the process to drop the course by going to the Student Services Center and
filling out a course drop form. Just stopping attendance and participation WILL NOT
automatically result in your being dropped from the class. Please consult the Academic
Calendar (http://www.tamucc.edu/academics/calendar/) for the last day to drop a
course.
• **Grade Appeals (College of Science and Engineering)**

As stated in University Procedure 13.02.99.C0.03, Student Grade Appeal Procedures, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is required to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Procedure 13.02.99.C0.03, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at http://academicaffairs.tamucc.edu/rules_procedures/assets/13.02.99.c0.03_student_grade_appeals.pdf. For assistance and/or guidance in the grade appeal process, students may contact the chair or director of the appropriate department or school, the Office of the College of Science and Engineering Dean, or the Office of the Provost.

• **Disability Services**

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 believe you have a disability requiring an accommodation, please call (361) 825-5816 or visit Disability Services in Corpus Christi Hall 116.

If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.

[http://disabilityservices.tamucc.edu/](http://disabilityservices.tamucc.edu/)

• **Civil Rights Complaints**

Texas A&M University-Corpus Christi is committed to fostering a culture of caring and respect that is free from discrimination, relationship violence and sexual misconduct, and ensuring that all affected students have access to services. For information on reporting Civil Rights complaints, options and support resources (including pregnancy support accommodations) or university policies and procedures, please contact the University Title IX Coordinator, Sam Ramirez (Samuel.ramirez@tamucc.edu) or Deputy Title IX Coordinator, Rosie Ruiz (Rosie.Ruiz@tamucc.edu) x5826, or visit website at Title IX/Sexual Assault/Pregnancy.

**Limits to Confidentiality.** Essays, journals, and other materials submitted for this class are generally considered confidential pursuant to the University's student record policies. However, students should be aware that University employees, including instructors, are
not able to maintain confidentiality when it conflicts with their responsibility to report alleged or suspected civil rights discrimination that is observed by or made known to an employee in the course and scope of their employment. As the instructor, I must report allegations of civil rights discrimination, including sexual assault, relationship violence, stalking, or sexual harassment to the Title IX Coordinator if you share it with me.

These reports will trigger contact with you from the Civil Rights/Title IX Compliance office who will inform you of your options and resources regarding the incident that you have shared. If you would like to talk about these incidents in a confidential setting, you are encouraged to make an appointment with counselors in the University Counseling Center.

• **Statement of Academic Continuity**
  In the event of an unforeseen adverse event, such as a major hurricane and classes could not be held on the campus of Texas A&M University–Corpus Christi; this course would continue through the use of Blackboard and/or email. In addition, the syllabus and class activities may be modified to allow continuation of the course. Ideally, University facilities (i.e., emails, web sites, and Blackboard) will be operational within two days of the closing of the physical campus. However, students need to make certain that the course instructor has a primary and a secondary means of contacting each student.

L. **OTHER INFORMATION**

• **Academic Advising**
  The College of Science & Engineering requires that students meet with an Academic Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan, which must be signed by the student, a faculty mentor, and the department chair. Meetings are by appointment only; advisors do not take walk-ins. Please call or stop by the Advising Center to check availability and schedule an appointment. The College’s Academic Advising Center is located in Center for Instruction 350 or can be reached at (361) 825-3928.

• **CASA**
  The Center for Academic Student Achievement is your best free resource on campus. It provides free academic support through tutoring, counseling, and helps you navigate through higher education. The CASA website is: http://casa.tamucc.edu/

**Students taking Math 0310, in most cases, will not be permitted to drop this course. Consult your advisor, the financial aid office and the TSI office in CASA if you believe it is necessary to**
drop this class.

**GENERAL DISCLAIMER**

*I reserve the right to modify the information, schedule, assignments, deadlines, and course policies in this syllabus if and when necessary. I will announce such changes in a timely manner during regularly scheduled lecture periods.*