Central Connecticut State University
Department of Mathematical Sciences

READ THIS SYLLABUS CAREFULLY.

Pre-Calculus Mathematics
MATH 116-01            Spring 2021        3 credits

College: Sch of Engnrng, Science & Tech
Department: Mathematics

<table>
<thead>
<tr>
<th>Type</th>
<th>Time</th>
<th>Days</th>
<th>Where</th>
<th>Schedule Type</th>
<th>Instructor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 9:25 am –</td>
<td>10:40 am</td>
<td>MW</td>
<td>Ebenezer D. Bassett Hall 125</td>
<td>Hybrid: Online/On-ground Combo</td>
<td>George E Fosdick (P)</td>
</tr>
</tbody>
</table>

This is a HyFlex class with 75-minute synchronous class meetings twice a week. You are expected to attend all live class sessions either online (Zoom meeting instructions below), face-to-face virtual interactions are mandatory, or on-ground.

George Fosdick is inviting you to a scheduled Zoom meeting.
Join Zoom Meeting
https://us02web.zoom.us/j/86766568096?pwd=aGd2RlJUcVRSRUorVlhKSFovaMQ2Zz09

Meeting ID: 867 6656 8096
Passcode: MATH116
Textbook:

The required textbook is indicated above; the other book listed is a solution manual and is not required.

Instructor: Prof. G. Fosdick

<table>
<thead>
<tr>
<th>Location (Building and Room #)</th>
<th>Day(s)</th>
<th>Times (hours &amp; am/pm)</th>
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</thead>
<tbody>
<tr>
<td>Blackboard Collaborate Ultra</td>
<td>MW</td>
<td>10:40 a.m. – 11:25 a.m. and 2:55 p.m.– 3:40 p.m.</td>
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<tr>
<td>and/or</td>
<td></td>
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<tr>
<td>Maria Sanford - Room 211</td>
<td></td>
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<tr>
<td>And by appointment</td>
<td>Very flexible</td>
<td>24 hours request in advance.</td>
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E-mail: gfosdick@ccsu.edu

Prereq.: A Grade of C- or higher in Math 101 or exemption status as a result of the placement Test (Level 3) No credit given to students with credit for Math 119, 124, 135, or 152.

This course is a pre-requisite for Calculus I (Math 152). Calculus I is required for students pursuing a BA in mathematics or a BS with certification to teach secondary school mathematics. In addition, it is required for students majoring in computer science, earth science, chemistry, and physics, and for students in the engineering transfer program. This course is also suited for students who are pursuing an elementary mathematics major (BS). Other students may elect this course to fulfill a general education requirement in Skill Area II. Students required to take both Math 115 and Math 116 may elect instead to take Math 119. Pre-Calculus with trigonometry, a four-credit course.

Course and Classroom Policy:
(1). Attend and participate in class regularly; read the book and complete homework assignments, take quizzes and tests as scheduled (no email submissions
Please). Note: HW may be checked during class; please include the corresponding HW number on this assignment. Only on-time, legible work is acceptable.

A general rule for any college course is that you are expected to put in at least 2 hours of work outside of class for every hour in class. **For a mathematics class, the expectation is at least 6 hours per week outside of class.**

2. **It is virtually impossible to pass this course without completing the homework.**
It would be like taking a course in swimming without ever getting in the water. Learn by doing; i.e., do the assigned homework diligently and read the textbook faithfully. For best results, complete more than the suggested homework problems.

3. Develop the ability to independently solve each problem (i.e., without aid from a tutor, an online resource, the textbook’s explanation and/or solution, etc.); answering each problem quickly and correctly on your own will be the **key to success.**

4. Smart-phones, cell phones, and laptops are not to be used during class, or exams, unless special accommodations are necessary.

5. **Classroom etiquette:**
   - Be prompt
   - Be prepared
   - Be polite
   - Be productive

**Final Exam:** Monday May 10 @ 8:00 a.m.-10:00 a.m.

**Evaluation Plan:**
- Test 1, 2, and 3: 60%
- HW/quizzes/computer projects: 15%
- Final exam: 25%

**Note:** To receive the grade of C- or better for the course, you must receive the grade of at least 60% on the final exam.

**Minimum averages have been established for each of these grades:**
- A: 93%
- B+: 87%
- C+: 77%
- D+: 67%
- A-: 90%
- B: 83%
- C: 73%
- D: 63%
- B-: 80%
- C-: 70%
- D-: 60%

**University’s Academic Integrity Policy:** Any student who engages in any forms of academic misconduct will face disciplinary consequences. Academic sanctions can range from a reduced grade for the quiz or exam to a failing grade for the course. An Academic Misconduct Report may be filed, and a Faculty Hearing Board may impose sanctions.
such as probation, suspension, or expulsion. It is your responsibility to know the Student Code of Conduct (see http://www.ccsu.edu/page.cfm?p=4155) and the Policy on Academic Misconduct (see http://www.ccsu.edu/page.cfm?p=2468#Misconduct.)

**Additional University Policies:**

1. You must take the final examination at the time specified in the course selection book.

2. If you need course adaptations or accommodations because of a disability, if you have emergency medical information to share with me, or if you need special arrangements in case the building must be evacuated, please make an appointment as soon as possible.

3. In the event of weather emergency that requires curtailment or cancellation of classes, listen to WTIC (1080 AM) or call (860) 832-3333 for the “general snow message” or check the CCSU web page.

4. The last day to withdraw from a course is Monday, April 19th. Approvals for withdrawal are not required. However, it is strongly recommended that students consult with their academic advisors prior to deciding to withdraw and to document the extenuating circumstances. Cessation of attendance notice to instructor, or telephone calls to the Enrollment Center is not considered official notice of a student’s intention to withdraw from the course.

After Monday, April 19th withdrawals are allowed only under extenuating circumstances and require approval of the course instructor, department chair and dean of the School of Arts and Sciences. Failure to withdraw properly from a course will result in a grade of F appearing on the transcript.

**Resources Available:**

1. If you need help, take advantage of instructor’s office hours. Do NOT wait until just before the test to do so.

2. The Learning Center (TLC) is in Carroll Hall, Room 016 (860-832-1900). For more information, visit their website at www.ccsu.edu/learnctr/. Free tutoring is available as well as free on-line eTutoring. The tutorial schedule, which includes both day and evening hours, is posted in The Learning Center and online by the end of the add/drop period. Student Disability Services is in Carroll Hall, 150: Stephanie Scapeccia, (860) 832-1952.

3. Form a study group with other students in your section. Explaining solutions to homework problems to each other is a good way to learn.

4. A list of private tutors for hire is available in the math department office, Room 128 Marcus White, 832-2835.
Note: Departures from this outline responsive to the needs of the students may be made at the discretion of the instructor.

Homework

Functions and Lines Sec. 1.4, 2.1.  1.4: #50, 54, 60, 70;  2.1: #24, 26, 44, 56, 68
Families of Functions Sec. 2.4.  2.4: #28, 30, 32, 36, 38, 50 (no calculator)
Graphs of Function Sec. 2.2, 2.3.  2.2: #26, 30;  2.3: #26, 40, 46, 48, 50, 58
Transformations Sec. 2.5.  2.5: #20 – 26 (even), 44, 52, 56
Mathematical Models Sec. 2.6.  2.6: #2, 6, 8, 10, 14

Test #1

Linear Modeling Sec. 3.1, 3.2 .  3.1: #24, 28, 38, 44;  3.2: #12, 18
Quadratic Functions Sec. 3.3.  3.3: #24, 26, 34, 40, 45, 90
Quadratic Modeling Sec. 3.4.  3.4: 4, 6, 14, 16
Polynomial Functions Sec. 4.1.  4.1: # 18, 20, 24, 44, 48, 50, 74, 76
Zeros of Polynomial Functions & Synthetic Division
Sec. 4.2, A3, A4.  4.2: #12, 22, 30 54; A3: #62;  A4: #10, 24
Complex Numbers Sec. A7.  A7: #15, 20, 30, 34, 36, 42, 44, 50, 54, 56
Complex Zeros Sec. 4.3.  4.3: #8, 13, 22, 25
Rational Functions Sec 4.4.  4.4: #18, 20, 28, 32, 40
Rational Functions Cont’d Sec. 4.5.  4.5: #8, 12, 15, 18, 20 (Calculator to check only)
Polynomial and Rational Inequalities Sec. 4.6.  4.6: #7, 21, 35, 39, 73, 81

Test #2

Composite Functions Sec. 5.1.  5.1: #10, 14, 18, 28, 30, 34, 48, 53
Inverse Functions Sec. 5.2.  5.2: #32, 40, 46, 54, 60, 76, 78
Exponential Functions Sec. 5.3.  5.3: #46, 52, 66, 70, 76, 98
Logarithmic Functions Sec. 5.4.  5.4: #28, 32, 34, 48, 92, 100, 106
Properties of Logs Sec. 5.5, 5.6.  5.5: #22, 39, 40, 48;  5.6: #16, 20, 28, 42, 58
Applications of Logs Sec. 5.7.  5.7: #7, 8, 14, 18, 22, 28, 36
Base e and Natural Logs Sec. 5.7, 5.8.  5.7: p. 356, 357: #4, 20, 25, 27, 28, 33, 34, 44,
5.8: p. 359: #16, 18