New York City College of Technology Course Syllabus Spring 2020

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Course: MAT1375 – Pre-calculus, Section D574

Class meets: Mon & Wed, 12:00pm - 1:40pm in N717
Office hours: Mon & Wed, 2 – 3pm, in Namm 825; and by appointment

Textbook: Precalculus, by Thomas Tradler & Holly Carley, 2nd ed.(2.6); the PDF is available here:
http://websupport1.citytech.cuny.edu/faculty/ttradler/precalculus.html

Course Outline: Topics to be covered and corresponding sections in textbook are on available at the link above as well as on the attached pages.

Materials: In addition to the basic supplies (notebook, pens, etc.) a **TI-84 graphing calculator** is required for the course. You will need it for the HW and on exams.

Exams (50% of grade): There will be **three (3)** in-class exams. **NO** make-ups for missed exams will be given.

Final Exam (25% of grade): The final exam will take place during the last class of the semester. You **must** take the final exam to pass the course.

Homework (17.5% of grade): You will submit homework for this course through the online homework system, WeBWork. You will receive an email with instructions for how to log-in.

You will generally have one week to complete a WeBWork assignment (the due date of each assignment is clearly displayed next to its name) after that point you can still try the problems and have them auto-graded but you will not receive credit for them. Do not leave WeBWork assignments to the last minute so you have enough time to ask me questions if you get stuck.

Quizzes (7.5% of grade):
We will have regular short quizzes at the beginning of class on problems from the HW and/or problems and topics discussed in the previous class. There will be NO make-ups for missed quizzes and no extra time will be given to students who come late.

Attendance: Attendance will be taken at the beginning of each class. If you are excessively absent or late and you fail the course, you **will** receive a **WU** grade rather than an **F**.

Grading:
A = 93.0 – 100
A- = 90.0 – 92.9
B+ = 87.0 – 89.9
B = 83.0 – 86.9
B- = 80.0 – 82.9
C+ = 77.0 – 79.9
C = 70.0 – 76.9
D = 60.0 – 69.9
F = 0 – 59.9

Topic	Homework
1. The absolute value	Exercises 1.1, 1.2, 1.3 (a)-(e), 1.4 (a)-(f), 1.6, 1.7 (a)-(f)
2. Lines and functions	Exercises 2.1 (a)-(c), 2.3 (a)-(c), 2.5-2.8 all
3. Functions by formulas and graphs	Exercises 3.1 (a)-(b), 3.2, 3.4 (a)-(f), 3.6 (a)-(f), 3.7 (a)-(g) and (m)-(t), 3.8, 3.9
4. Introduction to the TI-84	Exercise 4.1, 4.2 (a), 4.3 (c)-(i), 4.6
5. Basic functions and transformations	Exercise 5.1, 5.2 (a)-(f), 5.3 (a)-(d), 5.5 (a)-(e)
6. Operations on functions	Exercise 6.1 (a)-(c), 6.2 (a)-(b), 6.3 (a)-(d), 6.4 (a)-(c), 6.5 (a)-(b), 6.6, 6.7
7. The inverse of a function	Exercise 7.1 (a)-(c), 7.2 (a)-(f) and (l)-(p), 7.3 (a)-(c), 7.4 (a)-(c), 7.5 (a) and (d)
8. Dividing polynomials (8.3 Synthetic division *is optional*)	Exercise 8.1 (a)-(c) and (j)-(k), 8.2, 8.3, 8.4 (a)-(d) (*Optional*: 8.5 (a)-(d))
9. Graphing polynomials (9.3 Graphing polynomials by hand *is optional*)	Exercise 9.1-9.3 all, 9.4 (a)-(c), 9.5 (a)-(c) (*Optional*: 9.6)
10. Roots of polynomials (10.1 Rational root theorem *is optional*)	Exercise 10.2 (a)-(d), 10.3 (a)-(c), 10.4 (a)-(c) and (f)-(h), 10.5 (a)-(c) and (f)-(i) (*Optional*: 10.1)
11. Rational functions (11.2 Graphing rational functions by hand *is optional*)	Exercise 11.1-11.4 all
12. Polynomial and rational inequalities	Exercise 12.1 (a)-(c), 12.2 (g)-(j), 12.4 (a)-(f), 12.5
13. Exponential and logarithmic functions	Exercise 13.1 (a)-(f), 13.2 (a)-(e), 13.4, 13.5 (a)-(b), 13.6 (a)-(h)
14. Properties of exp and log	Exercise 14.1 (a)-(e), 14.2 (a)-(f), 14.3 (a)-(c) and (e), 14.4 (e)-(g), 14.5 (a)-(e)
15. Applications of exp and log	Exercise 15.1 (a)-(b), 15.3-15.8 all
16. Half-life and compound interest	Exercise 16.1-16.7 all, 16.9 (a)-(c), 16.10 (a)-(e)
17. Trigonometric functions	Exercise 17.1 (a)-(d) and (g)-(h), 17.3, 17.4, 17.5 (a)-(d), 17.6 (a)-(g)

18. Addition of angles and multiple angle formulas	Exercise 18.1 (a)-(e), 18.2 (a)-(b), 18.3 (a)-(d), 18.4 (a)-(d)
19. Inverse trigonometric functions	Exercise 19.1, 19.2 (a)-(j), 19.3 (a)-(c) and (g)-(i)
20. Trigonometric equations	Exercise 20.1 (a)-(d), 20.2 (a)-(b), 20.4 (a)-(k), 20.5 (a)
21. Complex numbers	Exercise 21.1 (a)-(c), 21.2 (b)-(e), 21.3 (a)-(c), 21.4 (a)-(d), 21.5 (c)-(d), 21.6 (a)-(d), 21.7 (a)-(d)
22. Vectors in the plane	Exercise 22.1 (a) and (d), 22.2 (a)-(d), 22.3 (b)-(f) and (k)-(m), 22.4 (a)-(b)
23. Sequences and series	Exercise 23.1 (a)-(c), 23.3 (a)-(d), 23.4 (a)-(d), 23.5 (a)-(b), 23.7 (a)-(b) and (e)-(i)
24. The geometric series	Exercise 24.1 (a)-(d), 24.2 (a)-(c), 24.3 (a)-(b) and (e)-(i), 24.4 (c) and (f)-(i), 24.5 (a)
25. The binomial theorem	Exercise 25.1 (a) and (i)-(l), 25.2 (b), 25.3 (a)-(d), 25.4 (a)-(d), 25.5 (a)-(d), 25.6 (a)-(d)