

MATH-41

Pre-calculus I: Theory of Functions

Spring 2018

MATH-41-23, TTh, 1:30-3:45 pm, Room MQ-2 (CRN 41859)

INSTRUCTOR: Bijan Sadeghi

EMAIL: sadeghibijan@fhda.edu

OFFICE HOURS: TTh 1:00-1:30 PM, E37

Course Description: This course in combination with MATH42 Trigonometry and MATH43 will prepare students to take the calculus sequence. The course includes an in-depth study of polynomial, rations, exponential and logarithmic functions, graphs, solving equations.

Text: *Pre-calculus with Limits*, by Ron Larson, 3rd edition, Brooks/Cole, Cengage Learning.

More than ever in your past mathematics experience, *reading* your textbook will be essential. The exercise sets are written with the intent of forcing the student to approach problems graphically and numerically, as well as the traditional symbolic (algebraic) approach. There is such variety in the exercise sets, that a few lecture examples often can't illustrate every type of question in the homework. This makes the reading a crucial part of the students day-to-day work. The De Anza College Catalog advises students to do at least 2 hours of work outside the classroom for each hour spent in class.

Technology: Students must have a graphing calculator. The instructor will use a Texas Instruments TI-84 plus in lectures. Consequently, the TI-84 plus (or TI-84, TI-83+, TI-83) is recommended for the students, but any graphing calculator that has a "table" feature is acceptable. (The old TI-81 and TI-85 models do *not* have a table feature!). *Any calculator that can do symbolic mathematics such as TI-89 or HP-49 are not allowed on exams and quizzes.*

Prerequisite: Mathematics 114 or equivalent (with a grade C or better); or a satisfactory score on the College Level Math Placement test within the last calendar year.

Quizzes: There will be 3 quizzes, 10 points each.

Tests: there will be four (3) tests worth 100 points each. Unless otherwise indicated, the graphics calculator will be required for tests. Material from any lecture, homework assignment, or quiz is fair game on test day. Be advised that all in-class assessments are closed book and closed notes ones.

Make-up Tests: There are no make-up tests, *under any circumstances*. If a test is missed, the percentage on the final exam will replace the score of the missing exam. If a second exam is missed, the grade will be a zero.

The lowest score of 3 regular tests will be replaced by a percentage on the final exam, provided the latter is higher.

Final Exam: There will be a mandatory comprehensive two-hour final exam worth 200 points, and this exam *must* be taken during the scheduled exam time on Thursday March 29th, 4-6 pm.

Homework: TO ACCESS WEBASSIGN ONLINE HOMEWORK: <http://www.webassign.net>

Your class key is: **deanza 6162 5803**

- **Online homework system: REQUIRED** in this class.
- You are required to do homework and turn it in by the weekly due dates using WebAssign. Homework will be graded on WebAssign.

Attendance: Attendance will be taken at each session. **You are expected to attend all classes on time.** If you miss 2 class meetings, you may be dropped from the class. However, this is your responsibility to drop the course officially if you decide not to attend any longer. The students are responsible for any material covered and any announcements made in their absence.

Final grade and grading scale: Your final grade will be determined based on the following:

| | | | |
|-----------|------------|----------------------|----------------------|
| Exams (3) | 300 points | 670 ≤ X ≤ 700 → "A+" | 570 ≤ X ≤ 599 → "B" |
| Quizzes | 30 points | 640 ≤ X ≤ 669 → "A" | 560 ≤ X ≤ 569 → "B-" |

| | | | |
|----------|------------|----------------------|----------------------|
| Homework | 170 points | 630 ÷ X ÷ 639 → "A-" | 530 ÷ X ÷ 559 → "C+" |
| Final | 200 points | 600 ÷ X ÷ 629 → "B+" | 500 ÷ X ÷ 529 → "C" |

Total points X= 700 points

Missing one of the major tests is made up through added weight on the comprehensive final exam. Missing additional tests results in a score of zero.

A grade of "I" (incomplete) will be given at the instructor's discretions, if:

- i) A student has successfully completed at least 75% of the course work, and
- ii) has shown acceptable evidence which justifies his/her incomplete work.

*** (N.B.: It is the student's responsibility to complete the withdrawal process. Students who stop attending class are NOT automatically dropped. A student who stops attending class and does not complete the withdrawal process receives the grade of "F").

Academic Misconduct: Academic dishonesty will not be tolerated. If a student is found cheating on an exam, plagiarizing on writing assignments, or violating other codes of academic integrity, he or she will receive a failing grade for the course and may be reported to the college for an appropriate action. See section on Academic Integrity in your current schedule of classes catalog.

If you are a student with a disability: For information or questions about eligibility, support services or accommodation to disability (physical or learning disability) see contacts below:

Disability Support Service (DSS): Student Services Building (408)864-8753; TTY (408)864-8753

Educations Diagnostic Center (EDC): Learning Center West 110: (408)864-8839

Special Education Division: (408) 864-8407; www.deanza.edu/specialed.

Important dates:

- Apr. 21 Last day to add quarter-length classes.
- Apr. 22 Last day to drop for a full refund or credit.
- Apr. 22 Last day to drop a class with no record or grade.
- May 4 Last day to request pass/no pass grade.
- June 1 Last day to drop with a “W”

| | | | | | | | | |
|------|-----------|----|---|----|-----------------------------|-------|----------|----|
| Apr. | A2-A6 | 10 | A2-A6 | 12 | 1.1-.1.3 | 17 | 1.1-1.3 | 19 |
| Apr. | 1.4-1.6 | 24 | 1.4-1.6 | 26 | 1.7-1.10 | May 1 | 1.7-1.10 | 3 |
| May. | 1.1-1.10 | 8 | Review/ Exam1(A2, 3,4,5 6,1.1-1.10) | 10 | 2.1-2.7 | 15 | 2.1-2.7 | 17 |
| May | 2.1-2.7 | 22 | 2.1-2.7 | 24 | Review/ Exam 2(2.1– 2.7) | 29 | 3.1-3.5 | 31 |
| June | 3.1-3.5 | 5 | 3.1-3.5 | 7 | Review/ Exam 3(3.1-3.5) | 12 | | 14 |
| June | 10.2-10.4 | 19 | 10.2-10.4 | 21 | Final 1:45 – 3:45 | 26 | | |

Student Learning Outcome(s):

*Investigate, evaluate, and differentiate between algebraic and transcendental functions in their graphic, formulaic, and tabular representations.

*Synthesize, model, and communicate real-life applications and phenomena using algebraic and transcendental functions.