Precalculus - MTH 30, Sec. D01 − 46089

Professor: Dr. Luis Fernández

Class times and room: Tu, Th, 10:00–11:50, NI 300A.

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Overview of the course.

This course will provide some basic tools that you will need in your studies in maths and sciences. **It is important that you master these tools as you will need them in your next courses.**

Some resources for learning:

- **Classes:** Attendance is mandatory, and essential to succeed in the class. In class you will have time to learn new material, practice, and ask questions.
- **Internet:** There are a lot of excellent materials for learning online. If you have not understood something in class, do a web search of the topic and you will probably find excellent explanations. I encourage you to use this resource.
- **Free tutoring:** In the Math Tutorial Lab (CP 303) there are permanent tutors for all the Math courses. Opens 10am to 8pm Monday to Friday, 10am to 3pm weekends.
- **Meetings with the instructor:** If you need help with any part of the course, or for any other matters, please come to my office during office hours (above) or write me an email to set up an appointment.
- **Emailing the instructor:** If you have questions while doing homework and need help quickly, please email me anytime (address above).

Textbook:

- *Precalculus Essentials (ANY EDITION EXCEPT THE FIRST)*, by Robert E. Blitzer, Prentice-Hall. **Old editions are very cheap!!**
- You can download most chapters that we will use from e-reserves, which you can access from the course webpage.
- A **scientific calculator** is also required. CELLPHONES ARE NOT ALLOWED AS CALCULATORS.

Student's responsibilities

- Study and learn the material, using any resource to achieve this goal.
- Attend, be on time, be involved, and have an active participation in every class.
- Do and submit all the homework assignments in time.
- Treat peers and instructor in a respectful manner.
- Obtain all the material necessary for the class (textbook and calculator) in the first week.
- Bring all the materials (textbook and calculator) to every class.

Instructor's obligations and responsibilities

- Act as *facilitator* of the learning process of the students, and assist with any question that students may have.
- Give tests and exams of appropriate difficulty. Grade tests and exams promptly and explain the students the meaning of their grades.
- Treat the students respectfully and impartially.

Classroom Rules

- **Students with 6 absences or more will automatically receive an F (Fail) in the course.** Lateness of 30 minutes or more will count as an absence.
- Cell phones and earphones are not allowed during class time or tests unless required by the instructor. **Each time a student is found using the cell phone during class will count as a cell phone violation. After 6 cell phone violations, students will receive an F (Fail) in the class.**
- There will be a break in the middle of each class. Students will be allowed to use cell phones during breaks.
- **In-class tests will not be repeated.** The only **exception** is if the instructor receives **notice** of the absence (via e-mail, telephone, message, a friend, . . .) **on or before the day of the test**.

Exams and homeworks:

- There will be **three in-class tests** during the term, **each worth 20%** of the final grade, but I will only use the two higher grades, totalling **40%** of the final grade.
- **Homeworks** will be assigned each week, and due Thursday of the week after. It is your obligation to do the homework. I will check in class that you did the homework. In addition, you will have assignments from WebWork, which you will have to do in the computer. Homework will count a **20%** of the final grade.
- The **final exam** will count **40%** of the final grade.

Class plan and assigned exercises. MTH 30. Professor Luis Fernández

Use this to prepare each class in advance. Note that dates may change depending on how fast we advance.

DATE		SECTION	RECOMMENDED EXERCISES
Tu	1/29	1.2, Basics of Functions and their Graphs	**p. 159:** 11-31 (odd), 45, 47, 53 -57, 71, 72, 75, 76
Th	1/31	1.3, More on Functions and their Graphs	**p. 173:** 11, 15, 17, 23, 69-76, 81
Tu	2/5	1.6, Transformations of Functions	**p. 216:** 1-87 (odd)
		1.7, Combinations of Functions	**p. 229:** 5-11, 17-33, 49-57, 81-88
Th	2/7	4.1, Angles and Radian Measure	**p. 472:** 1-10, 13-28, 41-56, 60-63
		4.2, Trigonometric Functions: The Unit Circle	**p. 486:** 1-55
Tu	2/12	NO CLASS - LINCOLN'S BIRTHDAY	
Th	2/14	1.8, Inverse Functions	**p. 240:** 1-5, 11-25, 29-37
		4.2, Trigonometric Functions: The Unit Circle, cont.	**p. 486:** 1-55
Tu	2/19	REVIEW	Prepare questions for the review
Th	2/21	FIRST TEST	Covers from 1.2 to 1.8
Tu	2/26	4.3, Right Triangle Trigonometry	**p. 498:** 3-15, 21-31
Th	2/28	2.2, Quadratic Functions	**p. 298:** 9-55 (odd)
Tu	3/5	2.3, Polynomial Functions and Their Graphs	**p. 312:** 3-7, 15-20, 21, 25, 27-33, 37, 39, 41-47
Th	3/7	2.4, Dividing Polynomials; Remainder and Factor Theorems	**p. 324:** 13, 15, 17-25, 33-41
Tu	3/12	2.5, Zeroes of Polynomial Functions	**p. 335:** 1-17, 19, 21, 23, 25-31 (odd)
Th	3/14	2.6, Rational Functions and Their graphs	**p. 354:** 1-7, 9-14, 21-35, 37, 41, 49, 55, 63
Tu	3/19	REVIEW	Prepare questions for the review
Th	3/21	SECOND TEST	Covers from 2.1 to 2.7, plus 4.1 to 4.3
Tu	3/26	2.7, Polynomial and Rational Inequalities	**p. 366:** 1-23 (odd), 43-45, 55-57, 69, 70
Th	3/28	3.1, Exponential Functions	**p. 396:** 11-17, 19-24, 25-31, 35-37, 41, 43
		4.4, Trigonometric Functions of Any Angle	**p. 513:** 1-21, 23-27, 35-43, 61-73
Tu	4/2	3.2, Logarithmic Functions	**p. 410:** 1-29, 43, 44, 47-53, 55, 59, 63, 71, 75-79, 81-89
		4.4, Trigonometric Functions of Any Angle, cont.	**p. 513:** 1-21, 23-27, 35-43, 61-73
Th	4/4	3.3, Properties of Logarithms	**p. 421:** 1-27, 35, 37, 41-57, 67, 71-77
Tu	4/9	3.4, Exponential and Logarithmic Equations	**p. 432:** 1-21, 27-43, 49-57, 67-69, 85, 87
Th	4/11	4.4, Trigonometric Functions of Any Angle	**p. 513:** 1-21, 23-27, 35-43, 61-73
		4.5, Graphs of Sine and Cosine Functions	**p. 533:** 1-25 (odd), 43-49
Tu	4/16	REVIEW	Prepare questions for the review
Th	4/18	THIRD TEST	Covers from 3.1 to 4.7
Tu	4/23	NO CLASS - SPRING RECESS.	
Th	4/25	NO CLASS - SPRING RECESS.	
Tu	4/30	4.5, Graphs of Sine and Cosine Functions, cont.	**p. 533:** 1-25 (odd), 43-49
		4.7, Inverse Trigonometric Functions	**p. 563:** 1-11, 19-41, 47-53, 63-67
Th	5/2	5.1, Verifying Trigonometric Identities	**p. 594:** 1-35
Tu	5/7	5.2, Sum and Difference Formulas	**p. 603:** 1, 3, 5, 13, 15, 21, 23, 33, 35
Th	5/9	5.5, Trigonometric Equations	**p. 636:** 11, 15, 19, 25, 39, 41, 57, 59
Tu	5/14	REVIEW FOR THE FINAL	Prepare questions for the review

REMEMBER: The exercises listed correspond to the material that will be covered on the date they are listed.

Before each class, read the section that corresponds to that class and attempt some of the exercises. This way when you hear the explanations in the class you will understand the material much better.