

Math 141 Syllabus

Precalculus

(# Credit Hours: 5

Class Hours/Week: 5)

Time: TWR 8:00 am - 10:01 am Rm 12

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Office Hours: Available upon request.

Purpose and Learning Objectives

"The function of education is to teach the student to think intensively and critically.
Intelligence plus character.... that is the goal of education."

Dr. Martin Luther King

Course Description:

Major emphasis is on the concept of functions. The students will study polynomial, rational, exponential, logarithmic, trigonometric and inverse trigonometric functions, their properties, graphs, and related equations and applications. Additional topics include systems of equations, matrices, conic sections, sequences and series, and probability. A graphing calculator will be used extensively.

Prerequisite(s): Math 131 or equivalent

Course Goals: The purpose of this course is to develop an understanding of functions, advanced concepts of algebra and trigonometry. We will also learn to use problem solving techniques to obtain a sense of how and why algebra is used, and to be able to relate these problems and use the learned problem solving techniques to real life applications. This course also will have an extensive use of the TI-84 Plus graphing calculator. Great emphasis will be placed on understanding of terms, concepts, principles and theories rather than cramming and memorization.

Performance Objectives:

I. Core Course Objectives

1. Simplify polynomial, radical, and rational expressions, and algebraic expressions involving radicals, integer exponents, rational exponents, trigonometric functions, combinations, permutations, factorials, series, sequences, and matrices using appropriate algebraic properties, algebraic skills, and algorithmic processes.
2. Use appropriate algorithmic processes (this includes processes that involve matrices) to solve:
 - linear, absolute value, quadratic, radical, rational, exponential, and logarithmic equations
 - linear, absolute value, polynomial, and rational inequalities
 - linear and nonlinear systems of equations
 - trigonometric and inverse trigonometric equations
3. Manipulate and identify functions graphically, symbolically, and numerically.
4. Solve application problems involving many different subject areas using algebraic processes, counting techniques, and the binomial theorem.
5. Apply fundamentals of right triangle trigonometry and solve application problems.
6. Use appropriate technology (such as a graphing calculator) to enhance the understanding of objectives.
7. Have an awareness of the historical background of topics covered in the course.

II. Associate Degree Outcomes

All courses at Jackson Community College address one or more institutionally defined Associate Degree Outcomes (ADOs).

ADO 1: Write clearly, concisely and intelligibly (3 credits)

ADO 2: Speak clearly, concisely and intelligibly

ADO 3: Demonstrate computational skills and mathematical reasoning (3-5 credits)

ADO 4: Demonstrate scientific reasoning (4-5 credits)

ADO 5: Understand human behavior and social systems the principles which govern them, and their implications for the present and future (3-4 credits)

ADO 6: Understand aesthetic experience and artistic creativity (3 credits)

ADO 7: Think critically

ADO 8: Make responsible decisions in personal and professional contexts

ADO 9: Work productively with others, recognizing individual contributions to group success

ADO 10: Understand and respect the diversity and interdependence of the world's peoples and cultures

MATH 141 addresses two of these Associate Degree Outcomes:

ADO 3: Demonstrate computational skills and mathematical reasoning

ADO 7: Think critically

Instructional Techniques and Procedures

This course usually consists of mostly lecture, group work and classroom demonstrations using the graphing calculator (TI83 Plus/TI84).

Course Information and Requirements

Attendance and Withdrawal Policy

1. **Office Hours:** Available upon request. You can set up a time via email or asking before or after class. I will also be available before and after most classes.
2. **Tutoring:** JCC offers free tutoring. If you feel you need help, enquire at the front desk.
3. **Study Groups:** I strongly encourage you to make a friend or friends in class that you can get together with outside of class. One of the best ways to study and to learn is by helping one another.

There is never a need to feel lost because of lack of understanding. There are so many ways for you to obtain math tutoring outside of the regular classroom. There is always some type of math help available. As long as you are being responsible for your learning by attending class, doing the assigned homework and other classroom activities, asking questions in class, and seeking help outside of class from the instructor, the tutoring services and your fellow classmates, success will be yours!!!

4. **You are responsible for the homework assignments.** All homework should be done neatly and in pencil. There will be two types of regular homework assignments. You will receive a list of problems to be done for each section. These problems are to be done before the exam for the assigned chapters. I will look over these problems checking for completion. These assignments are credit no credit. The second type of homework will be a selection of problems to be turned in each class period. They may be given in the form of a worksheet or selected problems from the book. It has been determined that for each hour spent in class, one should spend **at least** two hours studying and reviewing outside of class. Be sure to allow time to do your coursework, to ensure success.
5. **Calculators:** **Graphing Calculators are required for MAT 141.**
6. **Attendance is required and will be taken in some fashion daily (either by roll call or quiz).** Attendance will be included in the quiz grade. Quizzes count 15% of your grade. I will drop 2 quizzes at the end of the semester. If you do not plan to attend lectures regularly, you are advised to withdraw.
7. You bear the sole responsibility for your withdrawal from this course just as you did when you registered for the course.
8. **Classroom Behavior:** As stated in the Student Handbook, "misconduct for which students or visitors are subject to discipline are as follows:
 - 1) **Dishonesty, such as cheating, plagiarism,** or knowingly furnishing false information to the College.
 - 2) Forgery, alteration, or misuse of College documents, records or identification.
 - 3) **Obstruction or disruption of teaching, lecturing,** research, administration, disciplinary procedures, or other authorized activities on College premises..."

I would like to specifically address the highlighted words in this section:

If I ever have any suspicions of dishonesty, the students involved will receive no credit for that particular assignment.

I will not tolerate the classroom teaching/learning process to be disrupted. When I am teaching, I expect my students to be actively listening, in order to answer questions I may ask of them. **Talking to one another while I am teaching is not permitted.** If you have a question while I am lecturing, ask that question of me, not your friend beside you. If you feel the need to come to class and visit with your friends, **I will ask you to leave class and not return until you've met with me to discuss a plan for improved classroom behavior.** If your behavior does not improve after this, then I will visit with the dean of students or the dean of instruction to determine appropriate measures to be taken at that time.

It is extremely important for each student to be in class on time. Not only is the class disrupted by latecomers, the late student misses out on enough time to take quizzes, misses being counted for attendance, and any instructions given at the beginning of class.

It is also extremely important that students do not get up and leave in the middle of class. (It is very disruptive, to my teaching and others learning, for students to get up and leave or wander in and out of class at any given time.)

I will not tolerate the learning process of any student to be interrupted by lack of respect and consideration from a small few.

Electronic Devices and Cell Phone Policy

The use of cell phones, walkie-talkies, beepers, pagers, any communication device is not permitted in the classroom. If you must bring them to class, I ask that you turn the sounds that they make completely and totally off!!! These devices are not to disrupt class at any time for any reason. If the situation is so extreme that it warrants disrupting the entire class with your communication, then I ask that rather than disrupt class in that manner, perhaps you need to stay home and take care of your business or listen to your CD's or watch your DVDs or play your computer games. This perhaps sounds exceptionally rude and for that I apologize. However, this has become a severe problem to the learning process and we will no longer condone the behavior of people who feel the need to be rude to the entire class. If one of these devices ever disrupts my class, I will ask you to leave class for that session and I will report the disturbance and your dismissal from class to the Dean of Students. If the behavior happens more than once, you will be dismissed from class and will not be able to return until you have made a visit to the Dean of Students, he/she notifies me that you will be returning to class, and you and I meet to discuss a plan for improved classroom behavior.

In other words...

I do not want you sitting in class with your headphones on, watching movies, texting, playing games, etc.....

There is to be absolutely no texting at all during class. I will ask that you put your texting device on my desk until the end of class, if I catch you doing this during class time.

If this behavior is necessary for you to be able to function in class, then you need to find another class to sign up for.

I-Pods(or their clones), radios, computers, etc...

The use of I-Pods(or their clones), radios, computers, etc... is also not permitted to be used during class at any time.

If listening to your I-pod is more important than what I have to say and to teach that day, then perhaps you should stay home and listen to your I-pod.

Laptops/Computers

I also do not want you to have your laptops out working on them while I am teaching. The laptop is a useful tool to have available, however it is a distraction to you and your neighbors in the classroom. I do not want to have to become a laptop monitor and worry about what you are doing with the laptop that is not math related (or even if it is). When the class is taught in a room equipped with laptops, I will thoroughly enjoy that. However, until that happens, please leave your laptops at home or in their bags.

All of these items become a huge distraction to everyone's learning process. All of these things that are "entertainment devices" have a wonderful use in the right time and place, just not in my classroom.

It takes all of us working together in a positive fashion to get the most out of our class. I am looking forward to sharing with you, a very positive and rewarding semester of mathematics. Not only do I look forward to your success, but I also hope you enjoy the learning process along the way.

Special Policies

***Attendance:**

I do not specifically grade students based on attendance. The quizzes I give in class are used for attendance purposes (see explanation in grading procedures). However, my experience is that good attendance generally correlates highly with success on homework and tests. A student who misses class is responsible for any material presented or assignments given at the missed class. I suggest that students exchange phone numbers with someone in the class with whom they can check in the event of a missed class.

***Academic Honesty:**

(Excerpt from JCC policy; see instructor for a copy of the complete policy.) Academic Honesty is expected of all students. It is the ethical behavior that includes producing their own work and not representing others' their own, either by plagiarism, by cheating or by helping others to do so. Faculty members who suspect a student of academic dishonesty may penalize the student by...assigning a failing grade for the paper, project, report, exam or the course itself.

***Audits:**

Must be registered during the first week of class. You will not receive a grade or credit for the course.

***Withdraw**

If you do not wish to complete the class and receive a grade, because you are not happy with your grade or for any other reason, you must withdraw by this date. The instructor may withdraw any student who does not attend class for two consecutive weeks.

***Incompletes** will be given only in accordance with JCC policy. (Excerpt from JCC policy; see instructor for a copy of the complete policy.) A student may request an incomplete from the instructor. The incomplete will be granted only if the student can provide documentation that his or her work up to that point is sufficient in quality, but lacking in quantity, due to circumstances beyond the student's control. Furthermore, a written plan for making up the missing work within one semester must be completed by the student. Final determination of whether an incomplete will be given is the instructor's decision.

Please Note: I will not give an incomplete simply to avoid a failing grade.

Course Materials

The following are the required materials for Math 141 Precalculus Hybrid Format:

- ◆ **Textbook:** *Precalculus Graphs and Models*, fourth edition, by Bittinger, Beecher, Ellenbogen, and Penna

ISBN: 0-321-50152-7

Publisher: Addison Wesley

- ◆ **Calculator:** Graphing Calculator is required - TI-84 Plus is recommended

The TI-84 Plus is recommended for the course. This is the calculator that is used in the textbook examples and illustrations, thus it would be to your advantage to have the same model. I will be able to assist people in the usage of their calculators if they have a TI-83 Plus, TI-84 Plus, TI-85 or TI-86.

If you have any other calculator, you will need to learn it on your own.

The following materials are not required, but will be helpful to the student taking Math 141-Precalculus.

- ◆ **Student's Solution Manual:** (ISBN: 0-321-53197-3)

Provides step-by-step solutions for every odd numbered exercise in the text

- ◆ **Graphing Calculator Manual:** (ISBN: 0-321-53198-1)

Contains keystroke level instruction for the Texas Instruments TI-83, TI-83 Plus, TI-84 Plus, and TI-89

Grading Procedures

CLASS WORK/ QUIZZES/ ATTENDANCE:

1. A quiz will be given most class periods. The quiz will contain material that you should have prepared prior to class, material that has been previously covered or material that has been covered during that class period.
2. Quizzes will be given at different times during class. (Sometimes at the beginning, in the middle, or at the end)
3. The quizzes will also be used for attendance purposes.

HOMework:

1. Homework Folders:

Homework folders will be graded in the following way:

I will collect the homework folder at the beginning of each testing period.

The folder should include all of the completed assignments, in order, labeled with the assignment, and done in pencil. I grade the homework folder on effort and completeness. This will be credit no credit for the entire assignment.

2. Homework Worksheets:

These will be assigned each class period and due at the beginning of the following class period. In these assignments each problem will be graded and partial credit given.

PROJECTS / MISCELLANEOUS IN/OUT OF CLASS ASSIGNMENTS/ADO

Requirement:

There will be various projects given throughout the semester that will be done as an in-class assignment or perhaps an out of class assignment. These assignments will pertain to material that we have covered in the past or current material. These assignments will be due on the date specified when the assignments are given and will not be accepted late.

EXAMS:

Exams: There will be five exams that cover the topics of the text.
Any exam may be taken early if you notify me in advance.
Any missed exam will count as zero.

***** EXAMS AS A GENERAL RULE MAY NOT BE TAKEN LATE FOR ANY REASON!!!!!!!!!!

I realize that situations sometimes occur that are beyond our control. These times are generally infrequent and not usually on test days. These times may happen once a semester to only one or two people (and usually not to the same person). Therefore, in case of an extreme situation, if you must miss on the day of exam, the following procedure must be adhered to in order to make up the exam:

1. I must be notified on the day of the exam, before class begins, that you will be missing the exam.
2. The missed exam must be taken before I return the exams to the class.

FINAL EXAM:

FINAL EXAM: A comprehensive final exam will be given. The final may be taken early, but cannot, under any circumstances, taken late.

FINAL GRADE:

FINAL GRADE: The final grade is calculated by adding:
(15% of the quiz average) + (10% of the homework average) +
(5% of project average) + (55% of the exam average) +
(15% of the final exam score).

GRADES WILL BE BASED APPROXIMATELY ON THE FOLLOWING SCALE:

<u>Weighted Average</u>	<u>Course Grade</u>
90 - 100	4.0
85 - 89	3.5
80 - 84	3.0
75 - 79	2.5
70 - 74	2.0
65 - 69	1.5
60 - 64	1.0
50 - 59	0.5
0 - 49	0.0

Other General Information

- ◆ **Instructional Philosophy:** Education is a self-initiated, active, goal-directed process, leading to a change and/or expansion of the students understanding of and ability to use the subject material. The student is expected to be accountable for the learning process. The instructor should be viewed as a facilitator and resource person to assist in the process.
- ◆ **Academic Honesty:** (Excerpt from JCC policy; see instructor for a copy of the complete policy.) Academic Honesty is expected of all students. It is the ethical behavior that includes producing their own work and not representing others' their own, either by plagiarism, by cheating or by helping others to do so. Faculty members who suspect a student of academic dishonesty may penalize the student by...assigning a failing grade for the paper, project, report, exam or the course itself.
- ◆ **Audits:** Must be registered during the first week of class. You will not receive a grade or credit for the course.
- ◆ **Drop and Withdraw** deadlines are on the *Academic Calendar website*. If you do not wish to complete the class and receive a grade, because you are not happy with your grade or for any other reason, you must withdraw by this date. The instructor may withdraw any student who does not complete assignments and/or tests in a timely manner. However, **do not assume that I will withdraw you.**
- ◆ **Incompletes** will be given only in accordance with JCC policy. (Excerpt from JCC policy; see instructor for a copy of the complete policy.) A student may request an incomplete

from the instructor. The incomplete will be granted only if the student can provide documentation that his or her work up to that point is sufficient in quality, but lacking in quantity, due to circumstances beyond the student's control. Furthermore, a written plan for making up the missing work within one semester must be completed by the student. Final determination of whether an incomplete will be given is the instructor's decision.

◆ **General College Policies:** You should read the policies and procedures of the college as specified in the "Student Handbook" .