

MAT 141.03: PRECALCULUS

WINTER 2019 COURSE SYLLABUS

PROFESSOR: Steve Tuckey

CONTACT: tuckeysteven@jccmi.edu

[781.523.9805](tel:781.523.9805) (Google Voice – text and voice)

[517.796.8559](tel:517.796.8559) (office phone – voice mail)

OFFICE: 142 [James McDivitt \(JM\) Hall](#)

SCHEDULE: <http://bit.ly/sftschedule>

ONLINE: www.mymathlab.com; MML Course ID: *see handout*

CLASS MEETINGS: Mondays & Wednesdays, 8:30 to 10:48 AM, in [JM](#) 251
14 January to 1 May, 2019

COURSE INFORMATION:

COURSE DESCRIPTION: (FROM [JACKSON COLLEGE COURSE CATALOG](#))

Major emphasis is on the concept of functions. 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, and conic sections.

PREREQUISITE:

An earned grade of ≥ 2.0 in JC's MAT 139, course placement, or instructor approval. **NOTE:** The Math Department strongly recommends that course prerequisites be less than two years old.

REQUIRED MATERIALS:

- ✓ **MAT 141 Winter 2019 Course Pack:** Provided by Instructor.
- ✓ **MyMathLab (MML) Student Access:** Available for purchase from the JC Bookstore *or online*.
 - Online homework and access to course texts/materials **requires** MyMathLab (and Internet) access.
- ✓ **Graphing Calculator:** TI-84 Plus models only (*no others supported or allowed on exams*)
- ✓ **Supplies:** Large 3-ring binder, large eraser, **pencils**, highlighters, ruler
- ✓ **(OPTIONAL) Textbook:** *Precalculus: Graphs and Models* (6th Edition), by Bittinger, Beecher, Ellenbogen, & Penna (ISBN-13: 9780134179056)
- ✓ *Other materials supplied by the instructor*

COURSE OBJECTIVES & GENERAL EDUCATION OUTCOMES:

MAT 141 CORE COURSE OBJECTIVES:

Upon completion of this course, a student should be able to:

1. Simplify polynomial, radical, and rational expressions, and algebraic expressions involving radicals, integer exponents, rational exponents, trigonometric functions, and matrices using appropriate algebraic skills, and logarithmic processes.
2. Use appropriate algebraic processes to solve:
 - a. linear, absolute value, quadratic, radical, rational, exponential, and logarithmic equations;
 - b. linear, absolute value, polynomial, and rational inequalities;
 - c. linear and non-linear systems of equations; and
 - d. 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 technologies, and the binomial theorem.
5. Apply fundamentals of right triangle trigonometry and solve applications problems.
6. Use appropriate technology (i.e., graphing calculator & computer) to enhance the understanding of the previously stated objectives.
7. Have an awareness of the historical background of topics covered in the course.

MAT 141 GENERAL EDUCATION OUTCOME: (DETAILS ON [JACKSON COLLEGE ACADEMIC DEANS WEB PAGE](#))

GEO 3: Demonstrate computational skills and mathematical reasoning

COURSE REQUIREMENTS:

EXAMS:

Examinations are the primary performances of student understanding; they allow students to demonstrate mastery of the skills and concepts from the homework and lectures. Special requirements and allowances (e.g., instructor-prepared formula sheets) will depend upon the particular topics and will be announced and discussed in class. The final exam is cumulative for the entire course, will take place during the last week of the class, and may not be taken early.

NOTE: You will sit for most examinations in the **Testing Lab in 121 Bert Walker Hall** outside of normal class time (<https://www.iccm.edu/testing-lab>).

PROJECTS:

There will be at least two, mandatory course projects that are designed to improve students' mathematical and technological skills and connect course concepts with applications. These will be discussed in class, but the majority of work required to complete them will take place *outside of regular class time*.

IN-CLASS ACTIVITIES, QUIZZES, ETC.:

There will be a quiz or activity in every class session (sometimes submitted for credit). These may be individual or group, and with or without notes. *They may not be made up*, so those expecting to be absent must arrange for their documents to be submitted *before* the start of class (i.e., email PDF scans or drop off documents to Steve's office).

HOMEWORK:

The single best way to *learn* math is to *do* math. This is where homework fits into the process, as it is the regular practice that fosters learning of skills and concepts. There will be three types of homework in this course:

1. *Suggested* homework or exercises from the notes associated with sections of material covered, intended as practice (neither collected nor graded, but often discussed).
2. *Graded* (with partial credit) homework, typically in the form of brief, "Checking In" assignments after each section, consisting of similar instructor-designed exercises.
3. Graded, *online* homework on the **MyMathLab** homework system (www.mymathlab.com). All MML homework assignments require out-of-class time on a computer with Internet access, and due dates will be announced in class and posted online.
 - There are many helpful tools available through MML (e.g., videos, step-by-step instruction), if you have trouble with any particular problems or sections.
 - You have an **unlimited number of tries** to complete the homework before the due date. *Therefore, persistence and patience will earn you full credit.*

Since homework is all about *practice* and learning, **"make explicit all work and reasoning" is a default requirement** in this course. You will receive no credit for solutions that appear to be copied from a solutions manual or online solution generator (e.g., Wolfram Alpha or Symbolab).

NOTE: Late homework will *NOT* be accepted, so you must make arrangements for submitting any collected homework *by the start of class* if absence is unavoidable. One particularly useful tool for this is a free, "scan-to-PDF" app for mobile devices (e.g., "CamScanner" for Android). I will **not** accept 'photos' of work -- electronic submission must be in the PDF format.

COURSE POLICIES:

ACADEMIC HONESTY POLICY:

You are *encouraged* to work with each other, but **all your submitted work must be your own**. In other words, “group-work” is a great way to learn material, but anything you submit for a grade must reflect your own thought processes, not those of someone else. If I suspect you of academic dishonesty, I will follow JC's Academic Honesty Policy and take appropriate action up to and including assigning a **failing grade** for the paper, project, report, exam, or the course itself (as I deem appropriate).

ATTENDANCE POLICY:

Students are expected to attend all class meetings, arriving on time, and staying until the end. Any in-class activities cannot be made up after class. Absent students are expected to:

1. Fill out the associated coursepack notes pages.
2. Scan and submit a single PDF file of any homework due before the end of class time.
3. Download and print any new handouts from class which are due next time.
4. Email the instructor regarding the absence.

INCOMPLETE GRADE POLICY:

A student may request an incomplete from the instructor, who will follow the JC Incomplete Policy. An incomplete may 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. **NOTE:** Requesting an “Incomplete” grade is not a way to avoid a *failing* one.

EXTRA CREDIT:

There will be no opportunities for *extra* credit. Your grade calculation is based solely on your performance on course requirements listed above.

GRADING POLICY AND SCALE:

A 2.0 or "C" is a passing grade. Only courses with passing grades count toward graduation. Other colleges transfer in only courses with passing grades. Many financial aid sources, including most employers, require passing grades. Additionally, earning less than a 2.0 in a class results in being unable to participate in the next level of courses in a discipline that requires Math 141 as a prerequisite (e.g., calculus).

Grading Scale:

90 -100% → 4.0	65 - 69% → 1.5
85 - 89% → 3.5	60 - 64% → 1.0
80 - 84% → 3.0	55 - 59% → 0.5
75 - 79% → 2.5	0 - 54% → 0.0
70 - 74% → 2.0	

Weighted Grade Calculation:

Worksheets, Activities, Quizzes: 15%
Online (MML) Homework: 10%
Course Projects: 15%
Mid-Term Examinations: 40%
Cumulative Final Examination: 20%

ADDITIONAL INFORMATION:

CLASSROOM EXPECTATIONS:

The following are expectations that we can all share.

We are each responsible for our work, our learning, and our behavior in class.

This course will require consistent attendance and effort on your part. Mathematics is a subject that requires regular, sustained effort to understand and master.

We are all respectful of everyone in the class (*including ourselves*).

Please silence (and put away) mobile devices, refrain from using any tobacco products, and come prepared (and on time) to ask and answer questions, and work with others.

Eliminating distractions from the classroom is one of the best ways to ensure focused, productive learning takes place.

We are patient and persistent, even in the face of frustration (*with others and ourselves*).

It is completely understandable *and expected* for students to be 'stumped' by problems at first. **What separates successful students from unsuccessful students is almost entirely their willingness to be *patient and persistent with the mathematics and their own learning*.**

We will communicate with each other promptly, especially in regards to problems, concerns, or absences. Regular, direct communication solves more problems than it causes. Please do not hesitate to contact me for any reason, and I will do the same.

WHERE TO GET HELP:

At this level of mathematical sophistication, your fellow students and I are your best, most immediate resources for learning. Even so, there are *many* other sources to consider and investigate. Be creative, be resourceful, and *share what you find* -- we're all in this together!

I strongly suggest you start up a regular study group as soon as you are able with some of your classmates. At the very least, write down names and contact information for your peers and call on each other when needed. For more information on starting and maintaining a study group, check out the following link: <http://bit.ly/math-study-group>

Other sources of help:

- ✓ *Office Hours*: Meet with Steve during [office hours](#) or by appointment (perhaps online).
- ✓ *Jackson College's Center for Student Success (CSS)*: Free tutoring in Room 138 Bert Walker Hall is available on weekdays (<https://www.iccm.edu/center-for-student-success/>). Remember, finding tutoring for upper-level mathematics often takes time and patience, and just because someone is a *tutor*, that doesn't make them an *expert*.
- ✓ *Online Help & Computation Sites*: There are several online sources for help, some of which are high-quality and easy to use, including: www.wolframalpha.com, www.mathway.com, & www.symbolab.com. I recommend these for *checking* your homework.

IMPORTANT DATES:

Check the JC website and calendar (<https://www.iccm.edu/academics/academic-calendar>) for important dates (e.g., holidays, last day to drop/refund/withdraw).

TENTATIVE COURSE OUTLINE:

The following is a brief (and *tentative*) list of the textbook sections covered in this course.

- ✓ Just In Time Review (online)
- ✓ Chapter 1: Sections 1.1 – 1.6 (online)
- ✓ Chapter 2: Sections 2.1 – 2.6
- ✓ Chapter 3: Sections 3.1 – 3.5
- ✓ Chapter 4: Sections 4.1 – 4.6
- ✓ Chapter 5: Sections 5.1 – 5.6
- ✓ Chapter 6: Sections 6.1 – 6.6
- ✓ Chapter 7: Sections 7.1 – 7.5
- ✓ Chapter 8: Sections 8.1, 8.2, 8.4
- ✓ Chapter 9: Sections 9.1 – 9.3
- ✓ Chapter 10: Sections 10.1 – 10.3, 10.7

NOTE: This outline is *tentative* and subject to change. To know exactly what material was covered on which day, you must attend class or contact others who did.

PLANNING AND STUDYING:

This class will move *VERY* fast. Expect **SUBSTANTIAL** amounts of homework; you must plan on **no fewer than 3 hours** of outside-class work time *for every class session* (this is a 5-credit course!). In addition, projects will require more time over longer periods, and involve working with your peers and others outside of regular class time.

The single most frequent piece of advice given by successful students to future students of this class is: ***“Don’t fall behind -- do your homework every day.”***

Name:	Contact Info:	Availability: