



## Intermediate Algebra

MAT 131.11

Spring 2022

**Number of Credits:** 4

**Instructor:** Brian Gemalsky

**Days Class Meets:** Tuesday and Thursday

**Contact Email:**

gemalskbriand@jccmi.edu

**Virtual Meeting Times:** 9:00 – 11:00 am

**Online Office Hours:** [Link](#)

**Location/Venue:** Zoom/JetNet

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### Virtual Sessions

This online course utilizes virtual (live) class sessions (see meeting dates and times above). Discussion and participation in the live sessions is one of the best ways to receive support and feedback as you learn and grow throughout the course. Students who do not, or are unable to, attend synchronous sessions may be tasked watching the live session videos and completing the session's work on their own, or with an assigned partner, and may also be assigned additional learning-check assignments.

### Course Description

This course emphasizes simplifying expressions, solving equations, and graphing functions, including linear, quadratic, polynomial, rational, radical, exponential and logarithmic. Problem solving and mathematical modeling are integrated throughout.

### Prerequisite(s)

Course placement or equivalent SAT/ACT score.

### Course Goals

The purpose of this course is to develop a progressive understanding of basic and intermediate algebraic skills, concepts, and 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. Great emphasis will be placed on understanding of terms, concepts, principles and theories rather than cramming and memorization.

## Course Objectives

Students successfully completing Math 131 should be able to:

1. Simplify Algebraic expressions involving polynomial, rational, radical, exponential, and logarithmic functions.
2. Solve equations, inequalities, and systems of equations and inequalities.
3. For functions described algebraically or graphically:
  - a. evaluate, find domain and range, find inverse
  - b. perform algebraic operations and graphical translations
4. Solve application problems, including the ability to:
  - a. represent a situation using a graph, table or equation
  - b. forecast outcomes from above representations
  - c. solve optimization problems
5. Use appropriate technology as part of their completing the objectives above.
6. Demonstrate knowledge of current technology and/or scientific issues.

GENERAL EDUCATION OUTCOMES: The course goals and objectives incorporate specific General Education Outcomes (GEOs) established by the JC Board of Trustees, administration, and faculty. These goals are in concert with four-year colleges and universities and reflect input from the professional communities we serve. GEOs guarantee students achieve goals necessary for graduation credit, transferability, and professional skills needed in many certification programs. The GEOs and course objectives addressed in this class include the following:

GEO3 - Demonstrate Computational Skills and Mathematical Reasoning

## Textbook

- Mathematics In Action, 6e (ISBN-13: 9780135115619)
- MyMathLab Access
- **Text Book Zero!** This text is available in a digital format and is included with your MyMathLab Access and registration.

## [Learn about the new textbook program at JC](#)

For account billing questions, please contact the Jackson College Cashier at [jccashier@jccmi.edu](mailto:jccashier@jccmi.edu)

### Extras

- 3-Ring Binder, Pencils, Pens, Highlighters, Erasers
- Regular access to a device with internet access such as a laptop, chromebook, or smartphone [NOTE: We will use DESMOS as a graphing calculator, but you may wish to have a graphing or scientific calculator.]
- Access to a laptop or desktop computer (not a tablet, chromebook or smartphone) will be required for online proctored course exams.

### Exam Process- Respondus

To protect the fairness and integrity of the exams, students will be required to take exams using Respondus Lockdown Browser and Monitor. This is an online test proctoring software that requires a download to your computer. Training and practice of Respondus technology will be provided in advance of the first exam. A Mac or PC that has a webcam and microphone is required to use Respondus. If you do not have this technology, please contact your instructor right away. Students are expected to complete the Respondus Practice test on time. This is to give our IT department time to help troubleshoot issues **before** exam 1 begins. Failure to complete the Respondus test on time may result in instructor-initiated drop.

### Grading Procedure

**Learning Checks (LCs):** There will be frequent opportunities to check your learning throughout the course. Learning Check points can be earned in either of the following ways:

- **During Live Sessions:** There will be frequent partner and group-based in-class activities during our synchronous sessions. These may be turned in for credit or scored based on participation during the live class session (either for completion or correctness). Students may be able to choose their own partner/group or may have a partner/group assigned by the instructor. Students must be active and present during the live class session to receive credit for the session's learning check activity.
- **Session Recording and Learning Check Assignments:** If you are unable to attend a synchronous/live session, you may watch the live session video and complete the day's Learning Check assignment. Learning Check assignments will be posted to JetNet on

the day of the live session. You will have (at least) 2 days to complete or make up any live session's LC assignments.

- Your lowest two (2) LC scores will be dropped at the end of the semester.

**Desmos Technology Project (DTP):** A major component of this course is the 30-part Desmos Technology Project, which uses the free online graphing calculator <https://www.desmos.com/>. The multi-part project is designed to improve students' mathematical and technological skills and connect course concepts with applications. The DTP is broken into many pieces and assigned weekly. These pieces will be discussed in class, but the majority of work required to complete them will take place outside of regular class time.

A few special project assignments, labeled as "Capstones," will count towards both the DTP score and the exam score. These Capstone project assignments have 2 parts – a project part and a voice-over video part. The project portion will count towards your DTP score, while the sum of the project and voice-over part will count towards your exam score (see exam section below).

- Your lowest two (2) DTP scores will be dropped at the end of the semester.

**MyMathLab (MML) Quizzes:** These assignments must be done outside of class time on a computer with internet access at MyMathLab (reachable through <http://www.mymathlab.com>). MML Quizzes are assigned as pre-skills checks at the beginning of each Chapter and/or Cluster and post-skills checks at the end of each Chapter. There may also be additional quizzes posted on MyMathLab for students to take outside of class.

- You have an unlimited number of tries to do each quiz/test (up until the due date), however the entire quiz/test must be resubmitted each time.
- Your score on the Pre-Assessment (P.A.) quizzes will determine how many homework questions are suggested during the Chapter or Cluster.
- If your score on a P.A. is less than 80% (or higher), I suggest that you retake the P.A. to improve your score and practice before completing the Chapter Review Quiz.
- Your quiz scores will be posted on JetNet and updated several times per semester (at least once per chapter).
- Your lowest (1) quiz score will be dropped at the end of the semester.

**MyMathLab (MML) Homework:** These assignments must be done outside of class time on a computer with internet access at MyMathLab (reachable through <http://www.mymathlab.com>).

Homework assignments are *optional*. Homework is provided to give you extra questions to practice with, and review, before retaking Quiz or taking Exam assignments. Check MyMathLab for suggested due dates.

- You have an unlimited number of tries to do the homework.
- The number and types of suggested homework questions are personalized based on your Chapter and Cluster Pre-Assessment (P.A.) Quizzes.
- Homework assignments contain additional resources such as “Help Me Solve This,” “View an Example,” etc.
- At the end of the semester, your lowest exam score (Chapters 1-5) can be replaced with your homework average (if applicable).

**Chapter Exams or Tests:** Each chapter exam, or test, will include a MyMathLab portion, with a prerequisite Honesty Pledge agreement. By signing the agreement, students affirm that they will not give or receive any unauthorized help on the exam, and that all work will be their own. Students are allowed to use a calculator, Desmos, and a standard formula sheet (provided by the instructor) during the exam. Students are *not* allowed to access other resources including notes or the textbook during the exam. If the instructor has any reason to believe that a student or class has violated the honesty agreement, the student or class may be required to use proctored exams (see Final Exam information).

- To protect the fairness and integrity of the exams, students will be required to take exams using Respondus Lockdown Browser and Monitor. This is an online test proctoring software that requires a download to your computer. Training and practice of Respondus technology will be provided in advance of the first exam. A Mac or PC that has a webcam and microphone is required to use Respondus. If you do not have this technology, please contact your instructor right away. Students are expected to complete the Respondus Practice quiz on time. This is to give our IT department time to help troubleshoot issues before exam 1 begins. Failure to complete the Respondus quiz on time may result in instructor-initiated drop.
- Chapter exams will be timed. The time lengths vary (based on number of questions) and range between 90 and 150 minutes.
- Students may take each Chapter Exam up to 2 times, as long as both attempts are completed by the deadline. Once started, the exam must be completed in a single session; unlike the quizzes, it cannot be resumed at a later time.

- After completing the exam you will be shown your score, but will not be able to see which questions were answered correctly or incorrectly. After the exam deadline has passed you will have the opportunity to review your score, question-by-question, via the gradebook in MML.
- Exams may not be made up except under extreme, well-documented circumstances. Final decisions as to whether a make-up exam will be allowed rest solely with the instructor, so contact me immediately if there is a problem. Make-up exams must be arranged before the exam deadline has elapsed or a zero will be given for that exam.
- DTP Capstone assignments also count towards your exam score as  $\frac{1}{2}$  an exam score each (each is weighted at 50% compared to the 100% weight for each of the MML exams). The Capstone Exam score is the sum of the project and voice-over components of the assignment.
- At the end of the semester, your lowest exam score will be dropped and replaced with your MML homework average (provided your MML homework average is higher).

**Final Exam (2 parts):** The final exam consists of two parts: Final Exam Part 1 – Desmos (project-style) and Final Exam Part 2 – MML (proctored).

**Project-Style Final Exam:** The Final Exam Part 1 – Desmos will consist of 3 questions that are similar to the capstone DTP assignments and 1 voice-over video component. This part of the final exam will be assigned during the last 2 weeks of the semester. You will have 1-2 weeks to complete the project-style assignment.

**Proctored Final Exam:** The Final Exam Part 2 – MML will be proctored the Respondus Lockdown Browser and Monitor, the JC Testing Lab, or with your instructor. A webcam is required for proctored exams. In addition, you may be required to screen-share and/or scan your environment during the exam. A standard formula sheet may be provided given by the instructor; students are not permitted to use other note sheets. The final exam is cumulative for the entire course.

- Exams may be proctored by the Respondus Lockdown Browser and Monitor, or by the JC Testing Lab.
  - To protect the fairness and integrity of the exams, students will be required to take exams using Respondus Lockdown Browser and Monitor. This is an online test proctoring software that requires a download to your computer. Training and

practice of Respondus technology will be provided in advance of the first exam. A Mac or PC that has a webcam and microphone is required to use Respondus.

- If you are unable to use the Respondus Lockdown Browser (Chrome OS, low internet speeds, etc.), please contact your instructor immediately. The JC Testing Lab fills its appointments on a first-come-first serve basis and appointments for proctoring can only be set up once your instructor notifies the Testing Lab of your exam requirements.
- Your instructor will be proctoring the exam during class' live session time. This option is available to students who are unable to use the lockdown browser reliably (Chrome OS, low internet speeds, etc.).
- The Final Exam is during the last week of the course and can NOT be taken early so do not schedule travel plans during that week or you will receive a ZERO on the final.
- The Final Exam is timed, with a time limit of 120 minutes.
- The Final Exam can be completed 1 time.

## Grading Scale

GPA	GRADE	GRADE CALCULATION
4.0	90-100%	Learning Checks – 5%
3.5	85-89%	Desmos Projects – 40%
3.0	80-84%	MML Quizzes – 5%
2.5	75-79%	MML Homework – 0% (Optional)
2.0	70-74%	Chapter Exams – 30%
1.5	65-69%	Final Exam – 20%
1.0	60-64%	
0.5	50-59%	
0.0	0-49%	

## Attendance/Participation Policy

Regular class participation and keeping up on the reading and assignments is strongly correlated with survival in college. It is my recommendation that you plan to do your

assignments and take your exams BEFORE the last day they are due. If problems occur, there is time to fix them before the deadline.

In compliance with Federal Title IV funding requirements, as well as college initiatives, I will be monitoring student participation on a regular basis and officially reporting student activity throughout the term to assure compliance with college policy and federal regulations. It is imperative that you log in to the course and actively participate within the first couple of days of the term to validate your enrollment in the course. After that, not actively participating in class may result in you being withdrawn from the course. Being withdrawn from a course can have an impact on financial aid, billing, athletic eligibility, and housing status. As a college student you are responsible for how your participation impacts your academic progress; the accountability lies with you.

To be “present” during a given week, students will:

- Attend and participate in synchronous class sessions *OR* complete learning check (LC) assignments in place of missed activities.
- Complete online assignments by the required due date *OR* establish, and follow, a make-up plan with the instructor.
- Engage in regular communication with the instructor.

## Academic Honesty Policy

Academic Honesty is defined as ethical behavior that includes student production of their own work and not representing others' work as their own, by cheating or by helping others to do so.

### Plagiarism

Plagiarism is defined as the failure to give credit for the use of material from outside sources.

Plagiarism includes but is not limited to:

- Submitting other's work as your own
- Using data, illustrations, pictures, quotations, or paraphrases from other sources without adequate documentation
- Reusing significant, identical or nearly identical portions of one's own prior work without acknowledging that one is doing so or without citing this original work (self-plagiarism)



## **Cheating**

Cheating is defined as obtaining answers/material from an outside source without authorization.

Cheating includes, but is not limited to:

- Plagiarizing in any form
- Using notes/books/electronic material without authorization
- Copying
- Submitting others' work as your own or submitting your work for others
- Altering graded work
- Falsifying data
- Exhibiting other behaviors generally considered unethical
- Allowing your work to be submitted by others

## **Accessibility**

Jackson College understands that cultivating a broadly diverse community is crucial to our educational mission and to our foundational commitment to leadership and service. Jackson College is fully committed to ensuring our courses are accessible to everyone including those with disabilities. We are currently working to increase accessibility and usability of our course materials in order to meet or exceed the requirements of Section 508 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1991 and Web Content Accessibility Guidelines (WCAG) 2.0. For more information about Jackson College's efforts to ensure accessibility please visit the [Jackson College accessibility web page](#).

If you have an accessibility need in any of our classes please e-mail the Center for Student Success at [JCCSS@jccmi.edu](mailto:JCCSS@jccmi.edu) or visit the [Center for Student Success web page](#).

## **Support**

At the Center for Student Success (CSS), we are committed to providing all students the opportunity to achieve academic success by providing a variety of support services free of charge to Jackson College students. This includes, but is not limited to, peer and faculty tutoring, mental health referral, temporary assistance with transportation, various workshops/seminars, and the TRIO program.

In addition, the CSS staff is committed to adapting the College's general services to meet the individual needs of otherwise qualified students with disabilities, for the purpose of providing equal access to all programs and facilities.

## **Oasis Center**

During a student's college experience, one might encounter situations that impact their learning environment. When these situations occur, support from the Oasis Center is available to provide short-term assistance. If the situation requires ongoing support, the Oasis Center staff can provide that level of support or will assist the individual in securing an outside agency to provide it.

For more information visit the Jackson College Oasis Center webpage

<https://www.jccmi.edu/the-oasis-center/>

## **Health Clinic**

Jackson College has partnered with Henry Ford Allegiance Health to offer healthcare to Jackson College students and employees. The Jackson College Health Clinic (JCHC) is located on Central Campus in the Justin Whiting Hall, Room 111. The caring and professional staff at the JCHC provides quality healthcare, including annual exams (physicals, program physicals and sports physicals), acute and chronic illness care and preventative health care (It's Your Life).

For more information visit the Jackson College Health Clinic webpage

<https://www.jccmi.edu/health-clinic/>

## **Dental Clinic**

Community members may utilize Jackson College Dental Hygiene Clinic, which offers dental hygiene services while helping students gain experience. Students work under the supervision of license dental hygiene instructor and dentist as they offer preventative services.

For more information visit the Jackson College Dental Clinic webpage

<https://www.jccmi.edu/dental-hygiene/dental-hygiene-dental-clinic/>

## **Academic Advising**

It is important to contact a Center for Student Success professional prior to the start of the semester in order to receive accommodations in a timely manner. While we will make every effort to coordinate accommodations in a timely manner, failure to self-identify prior to the start of the semester may delay notification to instructors and timeliness of acquiring

accommodations. Accommodations do not automatically carry over to the next semester. Please e-mail [JCCSS@jccmi.edu](mailto:JCCSS@jccmi.edu) or visit the [Accommodations for Students with Disabilities](#) web page.

## Absence Policy

Students are expected to attend all synchronous class sessions, arriving on time, and staying until the end. We do a variety of individual and group activities which must be made up if you are unable to attend the session. Please remember that office hours are not a replacement for class time. If absence from a synchronous session is unavoidable the student is responsible for the following:

1. Email the instructor regarding your absence. Include your course and section number.
2. Complete the related textbook notes for the given sections.
3. Complete the related homework, quiz, or text assignments.
4. Complete the Learning Check (LC) assignment from the missed class by the deadline posted on JetNet.
5. Come to the next synchronous class session prepared and ready to move into new material.

**Student absence:** Students are responsible for submitting work by the due date, except in well-documented, emergency situations, which require notification of the instructor as soon as possible. Please note that travel, vacations (including breaks observed by other schools that are not JC breaks) and work schedules are not considered emergencies. You may work ahead in this class and submit items in advance, but late work will not be accepted in these situations.

**JC Scheduled Breaks:** No 'extra' work will be assigned over any JC break, and no due dates will coincide with a day on which the college is scheduled to be closed/on break. Typically, one standard length assignment will be given just prior to any break, just as it is on any class day, and that assignment will be due when classes resume.

## Incomplete 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: An "Incomplete" grade is not a way to avoid a failing one.

## Extra Credit Policy

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

## Help

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 me during my open office hours or contact me to request an individual meeting.
- Jackson College's Center for Student Success (CSS): Peer tutoring is available most days (<https://www.jccmi.edu/center-for-student-success/tutoring-center/>). There are usually several tutors available for each class. Check through the tutors' schedules until you find one whose availability matches yours. You do not have to return to the same tutor each time, sometimes it is advantageous to try several tutors until you find a person that you feel comfortable working with.
- Supplemental Instruction: Some sections of this course have Supplemental Instruction (SI) Leaders assigned to them. These students will serve as peer "math coaches" for the students in that section and will facilitate weekly study sessions. These study sessions are open to all students and are completely voluntary, but highly recommended. In a recent semester, students that utilized SI study sessions experienced an increase of over 18% in their pass rates, compared to those who did not. Even if your class doesn't have an SI Leader, you are encouraged to attend SI Sessions for your course. For times and locations of SI sessions, visit the Center for Student

Success webpage and click on “Supplemental Instruction” in the menu or go to <https://www.jccmi.edu/supplemental-instruction/>.

- MyMathLab: There are videos, extra problems, sample exams, lecture notes, PowerPoint lectures and more available in MyMathLab. It’s a great resource! In particular, the Study Plan in MyMathLab can help with studying for exams as it gives you unlimited extra problems to do for practice, without affecting your gradebook.

## Caveat

Please note: The format and timing of this course may need to change due to unforeseen circumstances. In particular: school closings, instructor illness, weather, or other situations that may arise. If you are taking an in -person class, you will be required to complete a Reintegration Video Training course in JetNet prior to being admitted to campus. All COVID safety protocols in place are based on current guidelines and will be enforced while students are on campus.

## Important Dates:

Date	Event
Monday 01/10/2022	Beginning of Spring Semester
Monday 03/07 - Sunday 03/13	Mid-Semester Break - No Classes
Saturday 04/30/2022	End of Spring Semester

## Calendar

*\*Calendar timelines and assignments are an approximation and could be changed.*

WEEK #	DATE	TOPIC	COURSEWORK
1	1/10 – 1/16	Chapter 1, Cluster 1: Modeling with Functions	Sections 1.1 – 1.4
2	1/17 – 1/23	Chapter 1, Cluster 1: Modeling with Functions	Sections 1.5 – 1.6
3	1/24 – 1/30	Chapter 1, Cluster 2: Linear Functions	Sections 1.7 – 1.10
4	1/31 – 2/6	Chapter 1, Cluster 3: Systems of Linear Equations, Inequalities, and Absolute Value Functions	Sections 1.11 – 1.14

5	2/7 – 2/13	Chapter 2, Cluster 1: Addition, Subtraction, and Multiplication of Polynomial Functions	Sections 1.15 – 2.2
6	2/14 – 2/20	Chapter 2, Cluster 2: Composition and Inverses of Functions	Sections 2.3 – 2.6
7	2/21 – 2/27	Chapter 3, Cluster 3: Exponential Functions	Sections 2.7 – 3.2
8	2/28 – 3/6		Sections 3.3 – 3.7
9	3/7 – 3/13	Mid-Semester Break – No Classes	
10	3/14 – 3/20	Chapter 3, Cluster 2: Logarithmic Functions	Sections 3.8 – 3.11
11	3/21 – 3/27	Chapter 4, Cluster 1: Introduction to Quadratic Functions	Sections 3.12 – 4.2
12	3/28 – 4/3		Sections 4.4 – 4.6
13	4/4 – 4/10	Chapter 4, Cluster 2: Curve Fitting and Higher-Order Polynomial Functions	Sections 4.7 – 4.9
14	4/11 – 4/17	Chapter 5, Cluster 1: Rational Functions	Sections 4.10 – 5.3
15	4/18 – 4/24	Chapter 5, Cluster 2: Radical Functions	Sections 5.4 – 5.8
16	4/25 – 4/30	Final Exam	Final Exam