

**MATH-0482-007: SYLLABUS  
COLLEGE OF DUPAGE: SPRING 2022**

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### 1. COURSE INFORMATION

- Course Title: Foundations for College Mathematics II
- Course Number: 0482
- Credit Hours: 5; Clinical Hours: 0; Lecture Hours: 5; Lab Hours: 0
- Meet Times: Monday, Wednesday, Friday 11:30AM - 12:55PM
- Meet Location: 3541
- Course Description: Students will survey topics from elementary algebra and intermediate algebra. Topics include: operations with algebraic fractions, solving equations with the algebraic fractions, radicals and rational exponents, complex numbers, solving quadratic equations, variation, solving equations and inequalities involving absolute value, function notation, graphing functions, inverse functions, exponential and logarithmic functions, applications, and problem solving.
- Repeatable for Credit: NO
- Pre-Enrollment Criteria: N/A
- Prerequisite: MATH 0481 Foundations for College Mathematics I with a grade of "C" or better, or equivalent or,
- Prerequisite: a qualifying score on the mathematics placement test

### 2. INSTRUCTOR INFORMATION

- Name: Michael McCabe, M.S.
  - Email: [mccabem85@cod.edu](mailto:mccabem85@cod.edu)
  - Office: 3436B or Blackboard Collaborate
  - Office Phone: 630 942 2152
  - Office Hours: Labeled on Blackboard (always available by appointment)
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### 3. GENERAL COURSE OBJECTIVES

Upon successful completion of the course the student should be able to do the following:

- 1 Demonstrate the ability to reduce rational expressions
- 2 Demonstrate the ability to add, subtract, multiply, and divide rational expressions
- 3 Express complex rational expressions in simplest form
- 4 Solve equations containing rational expressions
- 5 Solve equations and formulas containing rational expressions for a designated variable
- 6 Use rational expressions in problem solving
- 7 Convert a radical expression into an exponential expression
- 8 Convert an exponential expression into a radical expression
- 9 Express radical expressions in simplest form
- 10 Demonstrate the ability to add, subtract, multiply, and divide radical expressions
- 11 Solve equations that contain radicals
- 12 Demonstrate the ability to add, subtract, multiply, and divide complex numbers
- 13 Use radicals and complex numbers in problem solving

- 14 Solve quadratic equations using factoring, completing the square, and using the quadratic formula
- 15 Use the discriminant to describe the nature of the roots
- 16 Solve equations that are in quadratic form
- 17 Use quadratic equations in problem solving
- 18 Solve direct, inverse, and joint variation problems
- 19 Solve absolute value equations and inequalities
- 20 Analyze relations and functions
- 21 Identify the domain and range of relations from a graph
- 22 Demonstrate use of function notation
- 23 Construct the graphs of linear, quadratic, square root, and absolute value functions
- 24 Construct the graphs of step functions in the context of applied problems
- 25 Find the inverse of a linear function
- 26 Evaluate an exponential function
- 27 Construct the graph of the exponential function
- 28 Evaluate a logarithmic function
- 29 Construct the graph of the logarithmic function
- 30 Convert an exponential expression to logarithmic form
- 31 Convert a logarithmic expression to exponential form
- 32 Solve problems using functions

#### 4. TOPICAL OUTLINE

- 1.: Review of topics from Math 0481
- 2.: Algebraic fractions
  - a.: Operations with fractions
  - b.: Reducing fractions to lowest terms and finding equivalent fractions ii. Multiplication and division of fractions iii. Addition and subtraction of like fractions iv. Addition and subtraction of fractions with different denominators
  - c.: Simplification of complex fractions
  - d.: Solution of algebraic equations involving fractions
  - e.: Algebraic equations with one variable
  - f.: Linear
  - g.: Factorable quadratics ii. Literal equations iii. Applications
- 3.: Rational exponents and radicals
  - a.: Definition of rational exponents and their radical form
  - b.: Simplification of radicals
  - c.: Equations involving radicals
  - d.: Complex numbers
  - e.: Applications
- 4.: Quadratic equations
  - a.: Solutions of equations by factoring
  - b.: Solutions of quadratic equations by completing the square
  - c.: The quadratic formula and the use of the discriminant
  - d.: Equations in quadratic form
  - e.: Applications of the Pythagorean Theorem
- 5.: Variation

- a.: Direct
- b.: Inverse
- c.: Joint
- 6.: Absolute value equations and inequalities
- 7.: Functions
  - a.: Definition, domain, and range
  - b.: Function notation
  - c.: Graphing functions
  - d.: Linear functions ii. Quadratic functions iii. Absolute value functions
    - iv. Step functions
  - e.: Inverse functions
  - f.: Exponential functions
  - g.: Logarithmic functions and their properties
  - h.: Applications

## 5. REQUIRED TEXTS, MATERIALS, AND SUPPLIES

- 5.1. **Required Text.** The required Textbook is: Beginning and Intermediate Algebra by Sherri Messersmith.
- 5.2. **Materials.** Access code for ALEKS, notebook for taking notes in class, writing tools, and if possible a internet enabled device.
- 5.3. **Supplies.** Internet, extra notebooks, and extra writing tools
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## 6. SCHEDULE

### 6.1. Academic Calendar.

- Class Begins: Monday, January 24
- Spring Break: March 28 to April 3 (No Class)
- Last Day to Withdraw: April 17
- Finals Week: May 14 to May 20

### 6.2. Exam Dates (Tentative).

- Exam 1: 2/18/2022
- Exam 2: 3/18/2022
- Exam 3: 4/08/2022
- Exam 4: 5/06/2022

### 6.3. Content Coverage.

- Week 1 thru 4, Chapter 8
- Week 5 thru 8, Chapter 10
- Week 9 thru 11, Chapter 11
- Week 12 thru 15, Chapter 9 and 12
- Week 16, Chapter 13

## 7. METHOD OF EVALUATION

## 7.1. Assessment Categories:

- (1) Exams [Weight 40%]
  - (a) There will be at least 3 exams throughout the semester.
  - (b) Accommodations will be available, please refer to the Office of Access and Accommodations for the method of requesting accommodations.
  - (c) Each exam:
    - (i) Will be taken in class with the expectation to take 1 hour to complete.
    - (ii) Don't expect to have open book, open notes, or "cheat-sheets".
    - (iii) Aimed to have at least 10 worked out problems with an addition 2 extra credit problems.
  - (d) Do not expect dropped exams.
  - (e) It is important to email prior to the start of the exam if unable to attend the exam. It is better email before the start of the exam, rather than after the exam. I necessary email the day before of any concerns, I will work with you to accommodate.
  - (f) Advice:
    - (i) Historically, poor performance on exams are due to miscommunication on shown work.
      - (A) The work done for each problem is more important than the final answer.
      - (B) Each problem involves multiple topics covered throughout the lectures prior to the exam. The goal of the exam is to assess understanding, as many of those topics as possible.
      - (C) Each questions should be answered like it is a presentation for the class.
      - (D) Practice for this process of answering is done through the Turn-In assignments.
    - (ii) One week before the exam is assigned, expect to receive an outline of the exam. With this outline attempt to create a mock exam. With the mock exam construct a test taking environment and attempt the mock exam (I will not be creating this mock exam, but I am willing to help). The idea is that, by treating the mock exam as a real exam will hopefully alleviate some of the pressure of the actual exam.
    - (iii) Questions on the exam may not be something you have seen before, this aims to assess understanding and not memorization.
- (2) ALEKS Homework Sets [Weight 20%]
  - (a) Every section that we will cover throughout the semester will have an associated homework set done in ALEKS.
  - (b) There will be at least 3 dropped assignments at the end of the semester.
  - (c) Outside of required accommodations from the Office of Access and Accommodation, there will be no extensions or make-ups for these homework sets. Why?
    - (i) There will be several drops at the end of the semester; life happens, if unable to complete an assignment it is safe to count it as a dropped assignment.

- (ii) Throughout this semester we will be covering almost too much content, extending an ALEKS homework set can cause a student to fall behind.
  - (iii) It is not uncommon for me to push due dates. Through constructive communication via Discord or Email, it is possible to alleviate stresses where ever possible.
  - (d) It is okay to seek help from office hours and learning commons to complete ALEKS homework sets.
- (3) In-Class Polling [Weight 20%]
- (a) Assessments will be given during lecture graded based on participation not correctness.
- (4) Final Exam [Weight 20%]
- (a) Test on everything covered throughout the semester (Cumulative Exam).
  - (b) Constructed to be completed during a 2 hour time limit on the scheduled Final Exam day.
  - (c) I plan to construct the Final Exam with about 20 questions, with 2 extra credit questions.
  - (d) I plan to construct the Final Exam similar to twice the amount of a regular exam.

7.2. **How to Calculate Grade:** Create a spreadsheet (Excel File) similar to the following:

ALEKS	%	Exams	%	Final	%	In-Class	%
Section 1.1	89%	Exam 1	75%	Final	87%	Day 1 Attend.	100%
						Day 1 Partic.	100%
⋮	⋮	⋮	⋮			⋮	⋮
% Ave W/ drops		% Ave		% Ave		% Ave W/ drops	

Apply the weights:

Category	%	Weight	% times Weight
Final		20	
Exam		40	
ALEKS		20	
In-Class		20	
		Grade->	

**Example.** This is an example on how to calculate:

- The values used is based on averaging the ALEKS and In-Class with the dropped assignments. That is, if the list of percentages for the ALEKS homework sets is:

{90, 91, 90, 90, 100, 85, ~~82~~, ~~76~~, 98, 76, 84, 98, 93, 85, 95, 100, 89, 98, 89, 76, 98, 91, 100, 99}

then with the drops we have (Blackboard will automatically choose the lowest scores.):

{90, 91, 90, 90, 100, 85, 82, 98, 76, 84, 98, 93, 85, 95, 100, 89, 98, 89, 76, 98, 91, 100, 99}

then the average is about:

91.17

However, if you didn't calculate with drops then you have the incorrect average:

83.58

- Consider the following outcomes:

Category	List of ALL scores in Percent Form
Final	{83}
Exams	{95, 84, 93}
ALEKS	{90, 91, 90, 90, 100, 85, 0, 82, 0, 76, 98, 76, 84, 98, 93, 85, 95, 100, 89, 98, 89, 76, 98, 91, 100, 99}
In-Class	{83, 97, 85, 81, 83, 93, 85, 80, 80, 88, 84, 95, 81, 77, 80, 80, 75, 80, 99, 83, 92, 94, 92, 87, 0, 0}

- With the drops:

Category	%	Weight	% times Weight
Final	83	20	1660
Exam	90.6666	40	3626.664
Aleks	91.1739	20	1823.478
In-Class	85.9565	20	1719.13
	Totals	100	8829.272
		Grade:	$\frac{8829.272}{100} = 88.29272$

### 7.3. Grade Scale.

- A:** 90% to 100%
- B:** 80% to 89%
- C:** 70% to 79%
- D:** 60% to 69%
- F:** 59% or less

I do round.

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## 8. ACADEMIC HONESTY

As members of the College of DuPage community, we share a commitment to the highest standards of learning and ethical behavior. The College and its faculty strive to build meaningful and productive relationships with our students. The expectation of honesty and effort is the foundation of that relationship. Academic dishonesty damages the learning partnership built between student and faculty and is considered a serious breach of the principles of learning and growth. Violations of the Code of Academic Conduct will be dealt with appropriately and may become part of a student's educational record. Please don't risk it! For further information about the expectations, please review the Code of Academic Conduct found at the following website: Code of Academic Conduct.

## 9. ACCESS AND ACCOMMODATIONS

- As a course policy, I do not accept late work/make up for ALEKS assignments, attendance, and participation. I am committed to providing fair, equal, and unbiased accommodations. If you believe that your circumstances qualify you for accommodations, please contact the Center for Access and Accommodations at [access@cod.edu](mailto:access@cod.edu). Staff from the Center can help you better understand if your situation qualifies you for an accommodation.
- If you are student who is registered with the Center for Access and Accommodations, please send me your Letter of Accommodation as soon as possible.
- Please do not send me personal medical records or similar personal documents.
- Here is a to start the process for accommodations: Center for Access and Accommodations Intake Form ([https://cod-accommodate.symplcity.com/public\\_accommodation/](https://cod-accommodate.symplcity.com/public_accommodation/)).

The College of DuPage is committed to the equitable access of educational opportunities for students with disabilities in accordance with The Americans with Disabilities Act, As Amended and Section 504 of the Rehabilitation Act of 1973. Any student who feels they may need an accommodation on the basis of an illness, injury, medical condition, or disability should contact the Center for Access and Accommodations to determine eligibility for accommodations and to obtain an official Letter of Accommodation. The Center for Access and Accommodations can be reached via email at [access@cod.edu](mailto:access@cod.edu). Students may also initiate a request for services by going to [www.cod.edu/access](http://www.cod.edu/access) and clicking on the green box labeled “complete form to request accommodations.” If you are already registered with the Center for Access and Accommodations, please email me your Letter of Accommodation as soon as possible. Please DO NOT send any private health documentation or Doctor’s notes to me.

## 10. WITHDRAW POLICY

**Withdrawal from a Class.** The final day for a student to withdraw from any course will be equal to 75% of the time for the respective academic session (see the Registration Calendar) through MyAccess or in person at the Registration office, Student Services Center (SSC), Room 2221.

**Administrative Withdrawal.** After the deadline, students will be required to appeal for late withdrawal and provide appropriate documentation to the Student Registration Services Office for all requests. Students who are granted approval to withdraw by petition will not be eligible for refunds of tuition or fees and will receive a ‘W’ grade on their transcript. Appeals must be submitted prior to the designated final exam period for 16-week classes and before the last class meeting for all other session classes.

**Coronavirus Information.** Stay up to date with information provided by the college about alternative withdrawal policies. [Coronavirus Information](#)

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## 11. CORONAVIRUS INFORMATION

**11.1. Cononavirus Information.** For up to date information about what the College of DuPage is doing in response of the Coronavirus please visit the website <https://www.cod.edu/coronavirus/>.

As of 8/17/2021:

- Due to the highly contagious Delta variant of COVID-19, the Centers for Disease Control and Prevention (CDC) updated their masking guidelines, recommending that fully vaccinated people wear a mask in public indoor settings in areas of substantial or high transmission. Our mask protocol (<https://www.cod.edu/coronavirus/mask-protocol.aspx>) has been updated for unvaccinated or not fully-vaccinated individuals and for fully-vaccinated individuals.
- The College of DuPage Library is open to employees, students, and the public. For hours of operation, visit the Library's website (<https://library.cod.edu/>).
- All doors are now unlocked from 5 a.m. to 11 p.m. on days the College is open. Additional staff from areas around the College will be called back to work, in-person, to ensure appropriate support for the summer and beyond. The Bookstore is also open.
- Those who enter a facility are expected to follow safety guidelines.
- College faculty and staff should continue to work from home to the maximum extent possible.

For information on how we are keeping students safe and support services that are available, view Frequently Asked Questions.

**11.2. What to Expect on Campus.** As of 8/17/2021:

- Individuals who are unvaccinated or not fully vaccinated for COVID-19 are required to wear a facemask covering their mouth and nose while inside campus buildings and when outside on College property.
- Individuals who are fully vaccinated for COVID-19 are required to wear a facemask covering their mouth and nose while inside campus buildings. COD's mask protocol outlines exceptions to the protocol, which include actively eating and drinking.
- All screening will be eliminated at the main campus and centers and employees no longer need supervisor approval to enter the College.
- Maintain social distancing. Stand six feet apart when meeting, talking or standing in line.

While regular classroom cleaning will be followed and hand sanitizer will be available, students are encouraged to bring their own wipes for cleaning their space and their own hand sanitizer.

**11.3. Additional Information.** As of 8/17/2021

**11.3.1. COVID-19 Protocols and Instruction.** The following documents are used to screen and self-report COVID-19 symptoms to help prevent the spread of the virus on campus:

- Coronavirus (COVID-19) Student Self-Reporting Form ([https://cm.maxient.com/reportingform.php?CollegeofDuPage&layout\\_id=9](https://cm.maxient.com/reportingform.php?CollegeofDuPage&layout_id=9))

- Student Concern Form – Communicable Disease  
([https://cm.maxient.com/reportingform.php?CollegeofDuPage&layout\\_id=10](https://cm.maxient.com/reportingform.php?CollegeofDuPage&layout_id=10))
- Suspected or Confirmed Exposure  
([https://www.cod.edu/coronavirus/pdf/suspected\\_confirmed\\_exposure.pdf](https://www.cod.edu/coronavirus/pdf/suspected_confirmed_exposure.pdf))
- Instructions  
(<https://www.cod.edu/coronavirus/pdf/instructions.pdf>)

11.3.2. *ICCB/College of DuPage COVID-19 Case Reporting.* College of DuPage is keeping track of confirmed cases of students and employees:

- View information on confirmed COVID-19 cases.  
(<https://www.cod.edu/coronavirus/case-reporting.aspx>)

11.3.3. *If you Experience COVID-19 Symptoms.* If you or a person you know is experiencing symptoms such as fever, cough and difficulty breathing, seek medical care right away. Report your symptoms by filling out the Student Concern Form ([https://cm.maxient.com/reportingform.php?CollegeofDuPage&layout\\_id=10](https://cm.maxient.com/reportingform.php?CollegeofDuPage&layout_id=10)).

For additional questions, contact the Dean of Students Office at (630) 942-2485 or email [deanofstudents@cod.edu](mailto:deanofstudents@cod.edu). Include your name and student ID number in your message.

There is more information at the COD HEERF website  
(<https://www.cod.edu/coronavirus/heerf.aspx>)

11.4. **Mask Protocol.** Wearing a facemask that covers the mouth and nose can help reduce the transmission of the virus responsible for COVID-19 and its variants.

As of 8/17/2021. If someone refuses to comply with COD's mask protocol, according to <https://www.cod.edu/coronavirus/mask-protocol.aspx>.

- Staff and Faculty: If an employee declines or fails to wear a facemask as required, the employee's supervisor is responsible for addressing the issue with the employee. Employees should refrain from addressing noncompliance or perceived noncompliance directly with other employees, and should instead report issues to their supervisor.
- Students: If a student declines or fails to wear a facemask as required, they should be asked to comply with the protocol, or leave the campus immediately. If they fail to comply or refuse to leave the campus, the College Police should be called to handle the situation, and the student should be reported to the Dean of Student Affairs.

If the situation occurs in a classroom or other academic setting, it is considered a classroom management issue, and the faculty member should remind the student of the requirement and give the student a chance to comply. If the student refuses to comply, the faculty member should ask the student to leave the classroom or academic setting immediately, and should report the student to the Dean of Student Affairs. If the student refuses to leave the classroom or academic setting, the College Police should be called to handle the situation, and the student should be reported to the Dean of Student Affairs.

- Visitors/members of the Public: If a visitor or member of the public declines or fails to wear a facemask as required, they should be asked to comply with the protocol, or leave the campus immediately. If they fail to comply or

refuse to leave the campus, the College Police should be called to handle the situation.

#### 11.5. Contact Information:

- For Student Affairs Related Questions
  - Campus Central
  - (630) 942-3000
  - campuscentral@cod.edu
- For Campus Health and Safety or COVID-related Specific Questions
  - Phil Gieschen
  - Coordinator of Risk Management
  - (630) 942-2993
  - giesche@cod.edu

## 12. SHUTDOWN OR QUARANTINE

If me/I (the instructor) or you (the student) are required to quarantine or the campus shuts down. Here are some (not all) things to consider if a quarantine or shutdown is implemented.

- (1) Blackboard Collaborate will be used for remote instruction. If you are required to quarantine notify Access and Accommodations and they will contact me with instructions.
- (2) Twitch, in the event Blackboard Collaborate fails to work, I do have a twitch page ([twitch.tv/codmccabe](https://twitch.tv/codmccabe)).
- (3) It is okay to request videos from me on any topic covered in class.
- (4) It is possible for the method of administrating exams to change in the event of a campus shutdown. All other methods of assessments will be and are already be tracked electronically.
- (5) More information will be provided via Blackboard Announcements in the event of campus shutdown or other events causes the presentation of lecture to change.