Course Title: College Mathematics
Course Number: MTH1101
Revision Date: 10/23/2019
Online available for approved campuses

<table>
<thead>
<tr>
<th>Quarter Credit Hours: 4.00</th>
<th>Course Length: 5 weeks</th>
<th>Breakdown of Course Hours:</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>40 Lecture Hours</td>
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<tr>
<td></td>
<td></td>
<td>80 Outside Activity Hours</td>
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</tbody>
</table>

Instructor: To Be Determined When Registered
Meeting Days/Times: To Be Determined When Registered
Term(s): To Be Determined When Registered
Course Start: To Be Determined When Registered
Course End: To Be Determined When Registered

Course Catalog Description:
The topics of this course cover the practical use of math through the number system, integers, algebraic expressions, graphs and data, and basic geometric principles.

Prerequisite(s):
None
Corequisite(s):
None

Required Text:
Other Classroom Resources:
Students are expected to supply notebooks, pens, pencils, highlighters, folders, ring binders, calculators, USB storage devices and other general supplies as needed to aid in the collection and storage of information in their courses. Any special equipment or supplies will be communicated via the instructor by the first class meeting.

In addition to textbooks, workbooks, lab manuals or other required materials, courses may utilize sources from the library, Internet sites, periodicals, newspapers, professional (or business) publications, state specific laws or codes, magazines, personal interview, guest speakers, publisher provided information (via CD, DVD, or website), instructor work experience, video, audio or other visual files/documents to convey and aid in obtaining course objectives. Your instructor will provide specific information on resources that will be utilized/required to support content and aid in research.

Courses utilizing an original researched component will have students submit their documents to TurnItIn through Moodle for originality checking, in compliance with the campus' code of conduct. Your instructor will provide detailed information on how and where to submit your documents.

Online Access Requirement:
Students are expected to have computer access with an internet connection. Public access or workplace access may be limited due to firewalls. Students must have word processing software such as Microsoft Word or Office365 in order to submit papers in APA format. Students must have a PDF converter in order to save work in PDF format to submit to their instructor.

** This is not intended to be a comprehensive list and additional items/supplies/equipment may be provided to the student as part of their program fees, or information provided on how to obtain the required items.

Teaching Strategies:
Instructors utilize a variety of teaching strategies and methods in the instruction process. These may include but are not limited to lecture, demonstration, group projects, guest speakers, audio-visual presentations, internet activities, and simulated work experiences.

Outside Activity Hours:
Lecture, Lab, or Externship/Practicum hours as indicated on the syllabus represent hours utilized in determination of total credits awarded in the course for credit bearing courses. Time spent in preparation of new material will require a minimum of two hours for each 1 hour identified as lecture. This preparation time may include the reading of textbook material, homework assignments, preparation for lab assignments, workbook activities, awareness/review of any safety precautions, or research of relevant supplemental information. Additionally, students are expected to record notes to be reviewed as background for subsequent lessons, homework, or in preparation for exams. Review of and reflection on classroom discussions, demonstrations, or presentation is included in the recognition of the additional course hours. For clock hour courses the breakdown of Lecture, Lab, and Clinic represent the clock hours required in the course and the structure of the delivery/acquisition of course material. Clock hour courses do not include outside activities in the calculation of hours.

A. For Ground Portions of the Course: Students will be assigned specific activities to incorporate out-of-class hours in achievement of course objectives. Out-of-class assignments are those activities identified to be completed outside of structured/scheduled class meeting time for non-clock hour program. These assignments will be graded as part of the overall course grade. For specific assignments and required/estimated time on task, see attached course outline. For Campus Based Students these are identified on the Syllabus header as Outside Activity Hours and on the course outline as Out-Of-Class Hours.

B. For Online Portions of the Course: Courses are delivered via [http://learn.ancoraed.com/](http://learn.ancoraed.com/) in an asynchronous format. Students enrolled in online courses/programs are expected to spend an equivalent amount of time on task, as campus-based students, in meeting course objectives.

Grading and Evaluation:
Course requirements include evaluation in the areas of class participation (including attendance), homework/assignments, quizzes/examinations, and project/portfolio items as follows:

<table>
<thead>
<tr>
<th>Final Grades will be determined by:</th>
<th>Letter Grading Scale:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance and Class Participation 20 %</td>
<td>90-100% A</td>
</tr>
<tr>
<td>Homework/Assignments 48 %</td>
<td>80-89% B</td>
</tr>
<tr>
<td>Assessments (Quizzes/Examinations) 32 %</td>
<td>70-79% C</td>
</tr>
<tr>
<td>Project/Portfolio 0 %</td>
<td>60-69% D</td>
</tr>
<tr>
<td>Externship/Practicum/Clinic 0 %</td>
<td>0-59% F</td>
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<tr>
<td>Total 100%</td>
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*Review the Course Objectives/Lessons Page(s) for Grade Criteria requirements in the final section of this syllabus.

Definitions of Graded Activities used to verify objectives of course have been met:

Attendance and Class Participation:
This portion of the grade depends on the delivery method of the course. For ground delivery (and ground portions of hybrid delivery), the grade includes evaluation of self-directed work habits such as attendance, class preparedness, and communication. Class participation may include group activities, peer review, role playing, lab work, or demonstration. Instructor facilitated discussion may be used in verification of course objectives. For hybrid and/or online delivery, the online discussion grade is comprised of two parts: Attendance and Participation. Online students mark attendance by accessing the online classroom and initiating any number of online activities such as forums (discussion), assignments, or assessments. Failure to login or engage in activities which indicate presence in the course may affect a student's financial aid. Participating in the weekly discussions is paramount to the learning experience and allows students and instructors to share understandings, expertise, and study the content from new perspectives. Participation is earned by being an active member of the Lesson's discussion board. Answering the main discussion post is required in order to earn full participation points for the week. Please see the Discussion Rubric for specific details on quantity and length of posts required for assignment of grade. Class preparation will require additional time outside of scheduled hours. Students are expected to have read the assigned materials and be prepared to discuss the content with the instructor and peers.

Homework/Assignments:
Homework will be identified on the course outline or communicated by the instructor. Assignment due dates will be established by the instructor as well as the mode and form of submission. Assignments turned in after the scheduled due date for any reason may be assessed as late credit by the instructor. Homework assignments will require outside preparation to execute activities in attainment of course objectives.

Assessments (Quizzes/Examinations):
Courses are designed with both formative and summative assessments and may be referred to as quizzes or examinations. Announced and unannounced assessments may be used as a means to verify attainment of course objectives. Students will be expected to spend time outside of class studying materials in preparation for any assessment as well as time spent reviewing results in preparation for homework, class discussion, quizzes, or project assignments.

Project/Portfolio:
Project requirements are outlined in detailed separate instructions and reflect the practical application of fundamentals and principles discussed in the course. Projects may include library research as well as classroom/laboratory, externship/practicum/clinic, and/or other activities. Project assignments require utilization of course materials and additional resources in demonstration of course objectives. Students are expected to incorporate time outside of class to research, create, and prepare projects for review and/or demonstration and assessment.

- Portfolio assignments are a part of some course objectives. Portfolio assignments are outlined in separate documentation provided by the instructor. Portfolio submissions may be incorporated into the course grade.
- For externship/practicum courses, the final project is a presentation covering the student’s experience on the externship/practicum site.
- Competencies: Some courses require students complete competencies, or hands on skills. Students have a maximum of three formal attempts to complete a competency (each subsequent attempt may not have points deducted just for it being another attempt). Students must pass competencies with a minimum of a 75% grade. Competency grades are assessed in the Project/Portfolio category of a course.

Externship/Practicum/Clinic:
Some courses require students complete hours on an externship/practicum site to be evaluated by someone external to the campus. This category for these types of courses includes the Mid and Final Performance Evaluations completed by the site, which will be used in the determination of a final grade.

Attendance Policy:
The student is responsible for initiating any request to make up work missed because of class absence (see Make-Up Policy). Make-up of missed classes does not remove an absence from a student's record. If a student is absent from all classes for 14 or more consecutive calendar days, the student may be withdrawn from school.

Clock hour programs: Programs that are considered clock hour programs for Title IV purposes, and are identified as such in this catalog, may have specific attendance requirements. Students are expected to attend all courses and to be in class at the appropriate times. The licensing boards that govern some of these programs may require that all missed class time be made-up and may impose limits on the number of hours that may be missed and subsequently made-up. Make-up hours are scheduled by the instructor and attendance is monitored and recorded. Any make-up allowed must be completed prior to the end of the term in which the course is taken. The instructor of each course will notify students of the specific attendance policy at the beginning of the course. Students who miss class sessions in clock hour programs may experience a delay in the disbursement of their aid, as disbursements are based on the students' successful completion of courses, which is impacted by attendance.

To remain eligible for Title IV funding and to progress to the next course a student in a clock hour program must meet a 90% attendance threshold per course.

Ground courses: Attendance for ground courses is taken in the physical classroom by the instructor. Students who fail to attend the physical class sessions for 14 or more consecutive calendar days may be withdrawn. Regardless of the situation resulting in an absence from class, students are expected to be in attendance a minimum 60% per grading period to pass a course. Any attendance below 60% may result in the student failing the course.

Online courses: Attendance for online courses is taken by students logging in and completing work in the online classroom. Students are expected to actively participate in their online courses at least twice per week. Students who do not submit substantive work for their online courses for 14 or more consecutive calendar days may be withdrawn. Regular Attendance in an online class is an important contributor to student success in online courses. To comply with federal mandates for school's handling of student aid, certain kinds of student activity may or may not count as participation sufficient to qualify as attendance in online courses.

For attendance to be earned, the student must complete at least one of the following academic events (1) complete a quiz, (2) complete and post an assignment, or (3) post at least once a week to a relevant discussion board.

Hybrid courses: Attendance for hybrid courses is taken both in the physical classroom and by students logging in and completing work in the online classroom. Students are expected to attend both the physical class sessions and actively participate in their online classes. Students who fail to either attend the physical class or post attendance by completing substantive work in the online classroom for 14 or more consecutive calendar days may be withdrawn. Regardless of the situation resulting in an absence from class students are expected to be in attendance a minimum 60% per grading period to pass a course. Any attendance below 60% may result in the student failing the course.

Some programmatically accredited programs or programs that require licensure may have additional attendance requirements. These requirements are outlined under State/Programmatic-Mandated Policies. Where the state attendance and make-up work policy differs from the institutional policy, the stricter policy applies.

Make-up Policy:
The campus recognizes that there are circumstances and events which require students to miss classes, resulting in the need for makeup work. Because Ancora believes the purpose of completing work is to help the student learn and be successful, instructors are expected to work with students on the submission of makeup work. Students must initiate contact with the instructor to discuss the makeup work in question. The student will work with the instructor on new deadlines and any deductions that may result based on the late work, not to exceed 20% per assignment. Examinations may be made up only with documented extenuating circumstances. The deadline must be prior to the end of the term, or else the student must apply for an Incomplete (see the Incomplete policy). Online modality assessments are considered normal makeup work, not examinations for purposes of this policy. The procedure for requesting the opportunity to makeup required work can be obtained from the instructor. *Students will not be charged for completing makeup work.

Accommodations:
Students in need of special accommodation should notify the instructor in writing by the second class session. All accommodations will be sent to the Director of Education for approval prior to being implemented in the classroom.

Course Outline:
Courses are scheduled on campus to accommodate classroom availability and time required to deliver course content. Online meeting requirements will be posted in the online classroom. The syllabus reflects total hours required to meet course objectives. The number of sessions and length of sessions may vary and should not be taken as a direct representation of days/weeks in the classroom. Time on task is identified for the various options utilized to deliver and assess student achievement of course objectives. The sessions represent the systematic delivery of course content with direction for faculty and students in the logical delivery of the materials to be covered.
Course Student Learning Outcomes:

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

1. Apply problem solving skills and strategies to solve mathematical problems;
2. Calculate rate and ratio from proportion;
3. Identify the units in the U.S. and metric system for length, weight, capacity and temperature;
4. Convert units between the U.S. and metric system;
5. Determine perimeter and area of rectangular and circular objects and their applications to consumer related projects;
6. Calculate basic statistical methods such as mean, median and mode;
7. Create and interpret data from line, bar and pie graphs;
8. Perform mathematical computations with signed numbers; and
9. Solve basic algebraic problems.
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<thead>
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| Week 1: Ratios and Proportions | Upon completion of this Week, the student will be able to:  
1.1 Complete tech-enabled assessment.  
1.2 Apply problem solving skills for proportions  
1.3 Apply problem solving skills to ratios | Course Introductions  
Instructor Announcements  
Overview Key topics –  
- Ratio and Proportion  
- Ratios  
- Rates  
- Proportions  
- Proportions and Problem Solving  
Review additional material assigned by the instructor. | Preparation for Lesson Participation:  
Log into McGraw-Hill ALEKS and click on the link to begin.  
ALEKS  
Once registered:  
- Complete the initial assessment (Prerequisite Topics).  
- This will determine where you will start your work within ALEKS.  
Moodle Discussion  
Discuss the following:  
PART A  
Passing Time  
- Please describe your time management plan to complete the assigned work each week and | 24 hours |


achieve a passing grade in this course.

- How much time do you plan to spend per week on ALEKS assignments and quizzes?
- What methods and tools will you use to carve time out of your schedule to succeed in this course?

PART B

This week we begin our discussion on ratios, rates, and proportions.

- What proportion of your time per week will you use to work on assignments for this course?
- Express in ratio form your time spent working in ALEKS this week compared to time spent watching TV, movies, or browsing the internet.
- Explain how the rate of change for time spent working in ALEKS might change if you watched 3 fewer television shows next week.
Assignment(s):

**ALEKS Mastery**
Complete the Unit 1 activities in ALEKS, covering the following “Ratio and Proportion” topics:
- Ratios
- Rates
- Proportions
- Proportions and Problem Solving

**Assessment**
- Complete the Unit 1 Assessment directly in ALEKS.
<table>
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Upon completion of this Week, the student will be able to:

2.1 Complete tech-enabled activities on measurement.
2.2 Solve measurement topics for length, weight and mass, and capacity.
2.3 Solve for conversions of measurement.

[SLO 1,2,3,4]

Key topics in ALEKS Measurement
- Length – U.S. and Metric Systems of Measurement
- Weight and Mass – U.S. and Metric Systems of Measurement
- Capacity – U.S. and Metric Systems of Measurement
- Conversions Between U.S. and Metric Systems of Measurement
- Temperature – U.S. and Metric Systems of Measurement
- Energy – U.S. and Metric Systems of Measurement

Review additional material assigned by the instructor

Moodle Discussion
Discuss the following:

PART A
The use of measurement is common in all our lives, every day. Measurement is also part of national and world travel. It is often interesting to determine the measurement of landmark items.

For example, your textbook described the Crazy Horse monument that is near Mount Rushmore.

- Pick three national or international landmarks and research to find their measurement (can be height, weight, etc.).
  - One example might be the height of the Eiffel Tower in Paris; another could be the weight of the Liberty Bell in Philadelphia.

- Once you have your three landmark measurements, convert them to the metric system so you have both the U.S. and Metric measurements. Share your measurement details and picture links of the three landmarks you selected with your classmates.

PART B
In 1999, NASA lost its $125 million Mars Climate Orbiter.

- Take a moment to research this incident via your favorite search engine and explain in your own words how measurement influenced this loss.

- Be sure to also offer your
suggestions on how this problem could have been avoided and what could be done to avoid such similar issues in the future.

- What elements of measurement are most difficult for you? What areas of measurement do you wish you understood better?

Assignments:

**ALEKS Mastery**

Complete Unit 2 “Measurement” within McGraw-Hill ALEKS.

- Length – U.S. and Metric systems of measurement
- Weight and Mass – U.S. and Metric systems of measurement
- Capacity – U.S. and Metric systems of measurement
- Conversions – between U.S. and Metric systems of measurement

**Assessment**

Complete your Lesson 2 Assessment directly in ALEKS.
<table>
<thead>
<tr>
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</table>
| Week 3: Geometry | Upon completion of this Week, the student will be able to:  
3.1 Complete tech-enables assignments in Geometry.  
3.2 Practice geometry concepts to include lines, angles, perimeter, area, and volume.  
3.3 Complete Knowledge Checks in ALEKS.  
[SLO 1,3,5,] | Preparation for Lesson Participation: Complete Unit 3 Geometry within McGraw-Hill ALEKS  
Key topics in ALEKS  
Geometry  
- Lines and Angles  
- Plane Figures and Solids  
- Perimeter  
- Area  
- Volume  
Review additional material assigned by the instructor | Assignments:  
ALEKS Mastery  
Complete Unit 3 “Geometry” activities within McGraw-Hill ALEKS.  
- Lines and Angles  
- Plane Figures and Solids  
- Perimeter  
- Area  
- Volume  
Moodle Discussion  
Discuss the following:  
PART A  
What were some of the geometry concepts you practiced this week that were clear, and which others do you need additional support to understand and solve?  
Although geometry is a topic you may think you will never use outside a classroom, | 24 hours |
geometry is very useful in everyday situations and in your profession.

- Think about your career path and discuss ways geometry may be used in your chosen major and future career.

PART B
Explain how concepts we have covered and learned in class so far (ratios, proportions, and measurements) relate to geometry.

- How are these mathematical tools used in geometry?
- What areas of clarification or additional examples would help you to better understand and solve these concepts? Give an example of your toughest problem to solve for Geometry in Week 3. Where did you get stuck?

Assessments
You will be completing your Lesson 3 Assessment directly in ALEKS.

**Complete Knowledge Check in ALEXS.

***Mid-Term Evaluation of Progress
<table>
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</table>
| Week 4: Introduction to Statistics | Upon completion of this Week, the student will be able to:  
4.1 Complete tech-enabled assignments on Statistics.  
4.2 Use basics statistical methods such as mean, median, and mode.  
4.3 Interpret data from multiple graphs.  
[SLO 1,6,7] | Preparation for Lesson Participation: Complete Unit 4 Introduction to Statistics within McGraw-Hill ALEKS  
Key topics - Introduction to Statistics  
- Reading Pictographs, Bar Graphs, Histograms, and Line Graphs  
- Reading Circle Graphs  
- Mean, Median, and Mode  
Review additional material assigned by the instructor | Moodle Discussion  
Discuss the following:  
PART A  
What types of graphs have you produced or used in your current work environment or in other courses?  
Why is it so important to know how to create graphical depictions of your data?  
What types of graphs would you like to use more effectively?  
PART B  
What questions do you have about mean, median, and mode? What was the most difficult concept to understand so far and what tools might help you?  
How has this unit helped you to use these | 24 hours |
Assignments:

ALEKS Mastery
Please complete the Unit 4 activities in ALEKS covering the following “Statistics and Probability” topics:

- Reading Pictographs, Bar Graphs, Histograms, and Line Graphs
- Reading Circle Graphs
- Mean, Median, and Mode

Assessments
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<tr>
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</table>
| Week 5: Introduction to Algebra | Upon completion of this Week, the student will be able to: 5.1 Complete tech-enabled problems to solve algebraic equations. 5.2 Review introduction to variables 5.3 Solve equations using | Preparation for Lesson Participation: Complete Unit 5 Introduction to Algebra within McGraw-Hill ALEKS. Key topics - Introduction to Algebra - Introduction to Variables | Moodle Discussion  
Discuss the following:  
PART A  
To prepare for this class discussion, you can either look at prices of a grocery product online or in a grocery store.  
1. Pick a product that comes in at least two | 25 hours           |
addition and multiplication properties.

- [SLO 1, 8, 9]

- Solving Equations – the Addition Property
- Solving Equations – the Multiplication Property
- Solving Equations Using Addition and Multiplication Properties
- Equations and Problem Solving

Review additional material assigned by the instructor

different sizes and compare the unit prices of that product at the same store or online

2. Pick a product and compare the unit price of that product at two different stores/online shops (the sizes can be the same or different).

3. Give your answer in cents per unit size and round your answer to the nearest hundredth.
   Which is the better deal?

PART B
What are the steps you would follow or use to solve an algebraic equation?

- Describe why you would do each step in the process and how that step would help lead correct solution.
- What additional clarification or resources do you need to better understand algebra?

Assignments:
ALEKS Mastery
Please complete the Unit 5 activities in ALEKS covering the following “Introduction to Algebra” topics:
- Introduction to Variables
• Solving Equations – the Addition Property
• Solving Equations – the Multiplication Property
• Solving Equations Using Addition and Multiplication Properties
• Equations and Problem Solving

Assessment
You will be completing your **Unit 5 Assessment directly in ALEKS.**

*Complete Knowledge Check in ALEKS