#  Click here to enter Course Name

# Syllabus

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| Class: | MAT 110 -- (5 digit section) |
| Semester: | Spring 2019 |
| Classroom and Class Time: | Room 205 Western Dubuque High School 9:12-10:14 |
| ***Start and End Dates:***  | 8/23/2018to5/31/2019 |

## Academic Department: Liberal Arts, Sciences, and Business -- Peosta

Final:The final examination date and time will be announced by the tenth week of classes. I will announce the final examination date and time for this course on Brightspace once it is known. Do not plan your end of the semester travel plans until the final exam schedule is made public. It is your responsibility to know the date, time, and place of the final exam. Every class must have a final meeting during the established time frame. All classes are required to meet throughout their scheduled timeframe including the final exam date.

### Instructor Information

**Name**: Jennifer Galle

Phone: (563) 876-3442 x3067

Email: jennifer.galle@wdbqschools.org

Office Location: Room 205 Western Dubuque High School

Office Hours: 7:45am-8:00am and 3:10pm-3:45pm

Best method to contact instructor: Email

*NICC has a commitment to respond to student communication within*

*24 hours on a school day, and 48 hours on non-school days.*

### Course Information

### Course Description

#### A survey of mathematical ideas emphasizing mathematical techniques for problem solving. Topics include: set theory, logic, algebra, geometry, graphs, counting techniques, probability, statistics, and consumer math.

**Primary Common Learning Outcome Assessed**: Apply knowledge and skills to life

#### **Unit Objectives**

#### Chapter 2: SetsAt the end of this chapter students should be able to:• define set, element, and null set• designate sets in three different ways• classify sets as finite or infinite• identify equal sets, equivalent sets• find subsets and proper subsets of a set• find the union and intersection of two sets• find the complement of a set• draw Venn diagrams for set operations• solve survey and classification problems using sets• find the general term of an infinite set• determine whether or not a set is infiniteChapter 3: LogicAt the end of this chapter students should be able to:• determine whether or not a sentence is a statement• classify statements as simple or compound• write compound statements in symbols using the four basic connectives• write symbolic statements in words• construct truth tables for statements• identify the type of statement according to the hierarchy of connectives• determine whether or not two statements are logically equivalent• determine if one statement is the negation of another statement• write the converse, inverse, or contrapositive of a statement• determine the validity of arguments by using truth tables• determine whether or not an argument is valid using Euler circlesChapter 6: Topics in AlgebraAt the end of this chapter students should be able to:• simplify algebraic expressions by combining like terms and using the distributive property• evaluate algebraic expressions and formulas• solve linear equations in one variable• identify equations that have no solution or infinitely many solutions• translate verbal expressions into mathematical symbols• solve real-world problems using linear equations• solve linear inequalities and graph the solutions on a number line• solve real-world problems using linear inequalities• write ratios as fractions• simplify ratios• solve proportions• solve real-world problems using proportions and variation• solve quadratic equations using factoring or the quadratic formula• solve real-world problems using quadratic equationsChapter 7: Additional Topics in AlgebraAt the end of this chapter students should be able to:• graph points on the Cartesian plane• graph lines on the Cartesian plane• find the slope of a line given two points• write an equation of a line in slope-intercept form and identify the slope and intercepts• solve a linear system of equations in two variables by three methods: graphing , substitution, and  addition/subtraction (elimination)• determine whether a system of linear equations is consistent, inconsistent, or dependent• solve real-world problems involving a system of linear equations• solve a system of linear inequalities in two variablesChapter 8: Consumer MathematicsAt the end of this chapter students should be able to:• convert percents to fractions and decimals• convert fractions and decimals to percents• solve the three types of percent problems• solve word problems that use percents• find the simple interest on a loan or savings• find the principal or rate or time given that simple interest and the other two variables• find the compound interest and maturity value for a savings account• find the effective rate when interest is compounded for a specific stated rate • find the future value of an annuity• compute the finance charge and new balance for a credit card statement using the unpaid balance  method• compute the finance charge and new balance for a credit card statement using the average daily  balance method• find the annual percentage rate for an installment loan using the constant ratio formula• find the refund (unearned interest) using the Rule of 78’s when an installment loan is paid off early• find the monthly payment and total interest for a mortgage• compute an amortization schedule for the payments on a mortgage• find the property tax on a home• find the markup on cost and selling price for an item sold at a retail store• find the markup on the selling price on an item sold at a retail store• find the selling price when an item is marked downChapter 11: Probability and Counting TechniquesAt the end of this chapter students should be able to:• determine sample spaces and find the probability of an event using the classical probability or  empirical probability• using a tree diagram or table, find the sample space for a sequence of events, then find the  probability of various events• given the probability of an event, find the odds of the event• given the odds of an event, find the probability of the event• find the expected value of an event• find the probability of two or more events using the addition rule• find the probability of two or more events using the multiplication rule• find the conditional probability of an event• use the counting rule to determine the total number of outcomes for a sequence of events• use the permutation rule to determine the number of different ways r objects can be selected from n  objects when the order is important• use the combination rule to determine the number of ways r objects can be selected from n objects  when order is not important• use the counting rule, the permutation rule, and the combination rule to find the number of outcomes  in a sample space, then determine the probabilities of various events of the sample spaceChapter 12: StatisticsAt the end of this chapter students should be able to:• define statistics• explain the difference between a population and a sample• explain the four basic sampling methods• construct a frequency distribution for a data set• construct a stem and leaf plot for a set of data• draw a bar graph and a pie graph for the data in a categorical frequency distribution• draw a histogram and a frequency polygon for the data in a grouped frequency distribution• draw a time series graph• find the mean, median, mode and midrange for a set of data• find the range, variance, and standard deviation for a set of data• find the percentile rank for a data value• find the data corresponding to a percentile rank• sate the properties of a normal distribution• find the z value for a specific data value• find the area under the standard normal distribution corresponding to various z values• answer questions about a normally distributed variable by finding the areas under the normal  distribution• draw and analyze a scatter plot• find the value for a correlation coefficient• determine whether or not the correlation coefficient is significant• find the equation of a regression line• given a value for the independent variable, find the corresponding value for the dependent variable  using the equation of the regression line

**Required Materials:** The textbook required for this course will be provided by the high school for the student use.  The text is titled:  Math In Our World by Sobecki, Bluman, and Schirck-Matthews. Students will need to have a notebook, pens, pencils, student agenda, and a calculator.

**Methods of Delivery:** Face-to-face

#### **Grading Procedures and Scale**

#### Assignments: Assignments will be given for each section. Answers to assignment questions will be provided for students to monitor their progress in the understanding of the course content. Students are responsible for checking answers and asking questions to better their understanding. Assignments will not be graded. Methods of Assessment: Exams will be given at the end of each chapter as well as a cumulative final test at the end of the trimester. The average on chapter exams will be weighted at 80% of a student’s overall grade. The final exam will be weighted at 20% of a student’s overall grade. Section quizzes will be given on a regular basis to help students evaluate their own progress, but will not be graded. All exams will be graded and returned to students within one week of their completion.

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| --- | --- | --- |
| Grade | Grading Scale by Percent of Total Points*Ex. (94 - 100%)*  | Grading Scale by Points*Ex. (940 - 1000+)* |
| A | 93-100% | 930-1000 |
| A- | 90-93% | 900-929 |
| B+ | 87-90% | 870-899 |
| B | 83-87% | 830-869 |
| B- | 80-83% | 800-829 |
| C+ | 77-80% | 770-799 |
| C | 73-77% | 730-769 |
| C-(or P) | 70-73% | 700-729 |
| D+ | 67-70% | 670-699 |
| D | 63-67% | 630-669 |
| D- | 60-63% | 600-629 |
| F (or NP) | Below 60% | Below 600 |

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| --- | --- | --- |
|  | # of Assignments | Points |
| Chapter homework | 30 | 0 |
| Mid-Chapter Quizzes | 7 | 0 |
| Tests | 9 | 1000 |
| Total Points possible |  | 1000 |

### Course Calendar

Details of the course, deadlines, and organization can be found at the end of the syllabus.

### Student Course Feedback

Prior to course completion you will receive an email providing a link to share your feedback. You are **EXPECTED** to complete the feedback form for each class.

### Assessment

Northeast Iowa Community College is an institution dedicated to continuous instructional improvement as part of our assessment efforts. It is necessary for us to collect and analyze course level data. Data drawn from student work for the purposes of institutional assessment will be posted in aggregate and will not identify individual students. Your continued support in our ongoing effort to provide quality instructional services at NICC is appreciated.

### Course Policies

### Attendance/Academic Engagement

Students are expected to attend class regularly. Each student, whether or not present for class will be held responsible for all information presented in class and any assignments given. If you know you will be absent in advance, please notify the instructor and make plan to make-up missed work.

#### **Academic Dishonesty**

#### Cheating is any behavior that attempts to achieve something by dishonest or deceitful means. Examples of cheating include, but are not limited to:\*Using unauthorized materials during an assessment\*Copying assignments or exam answers from another student\*Discussing exam questions and answers with other students\*Purposefully allowing another student to copy their work and submit that work as their ownThe consequence for academic dishonesty is the student will receive a “0” for the given assignment or exam.For a detailed explanation of plagiarism, visit the Lib Guide on plagiarism at http://nicc.libguides.com/citingsources

#### **Late Work**

All assignments for a unit are due by the day of the exam for that unit. Assignments will not be accepted after the exam has been given.

#### **Missing Assignments**

Students are expected to monitor their gradebook. Missing work will be accepted until the exam is given for that unit.

#### **Makeup Testing**

If you are absent the day of an exam, you need to set-up a day and time with the instructor to make it up. It will need to be made up outside of class time. It needs to be made up within 2 days.

### Use of Technology in the Classroom

#### **Cell Phone/Text Messaging Usage**

Student cell phones should be shut off and not in use during class unless instructed to use by the teacher. School procedures outlined in the student handbook will be used for anyone caught using their phone during class when not instructed to do so.

#### **Laptop Use**

Students may use laptop and other devices during class when instructed to do so.

#### **Recording**

The instructor will record all lectures and post links to her website. Student recording will not be necessary.

### Classroom Conduct

Students are expected to follow posted rules and procedures.

#### **Behavior**

Student behavior is regulated by the student code of conduct section in the student handbook.

 *(Students are responsible to know the Student Conduct code in the student handbook)*

#### **Emergency Procedures**

Emergency procedures are posted on the wall near the doorway and will be covered the first day of clas

## Additional Information

### Disclaimer:

The instructor reserves the right to make any necessary changes to the information in this document as the course progresses. Dates, assignments, and point values are subject to change. Any changes to the information presented this syllabus will be given in class.

### Learning Center

The NICC Learning Centers provide tutoring assistance free of charge to any student Monday through Friday. Students are encouraged to utilize the Learning Centers in Calmar, Peosta or Dubuque.

### Access

Take advantage of the *ReadSpeaker Listen Button* to enhance understanding and comprehension of the materials in this and any syllabus within the content area. All of the materials posted in the content area of NICC Brightspace classrooms have a *Listen Button* to have the text highlighted and read for you. Listening to text read aloud is shown to improve reading comprehension. www.nicc.edu/readspeaker



### Course Copyright

All course materials students receive or to which students have online access are protected by copyright laws. Students may use course materials and make copies for their own use as needed, but unauthorized distribution and/or uploading of materials without the instructor’s express written permission is strictly prohibited. Students who engage in the unauthorized distribution of copyrighted materials may be held in violation of the College’s Code of Conduct, and/or liable under Federal and State laws.

### Netiquette

The term "Netiquette" refers to the etiquette guidelines for electronic communications, such as e-mail and bulletin board postings. Netiquette covers not only rules to maintain civility in discussions, but also special guidelines unique to the electronic nature of forum messages.

### Accommodation Policy:

The Americans with Disabilities Act (ADA) provides protection from illegal discrimination for qualified students with disabilities. Northeast Iowa Community College is committed to the equal provision of education for all students. Any student who needs instructional accommodation is encouraged to contact the Coordinator of Disability Services, Peosta Campus, 1-800-728-7367, ext. 280 or Calmar Campus, 1-800-728-2256, ext. 258.

### Statement of Non-Discrimination

Northeast Iowa Community College prohibits discrimination in educational programs, employment, and activities on the basis of age, race, creed, color, sex, sexual orientation, gender, gender identity, national origin, religion, disability, pregnancy or genetic information as required by the 1964 Civil Rights Act, Titles VI and VII; the 1972 Education Amendments, Title IX; the Age Discrimination in Employment Act of 1975 (ADEA); the Federal Rehabilitation Act of 1973, Section 504; the Americans with Disabilities Act (ADA) of 1990, Title II; Titles I and V; the Civil Rights Act of 1991, the Genetics Information Nondiscrimination Act of 2008 and the Iowa Code, Chapter 216.

It is also the policy of this District that the curriculum content and instructional materials utilized reflect the cultural and racial diversity present in the United States and variety of careers, roles and lifestyles open to everyone regardless of gender or gender identity in our society. One of the objectives of the total curriculum and teaching strategies is to reduce stereotyping and to eliminate bias on the basis of age, race, creed, color, sex, sexual orientation, gender identity, national origin, religion or disability. The curriculum should foster respect and appreciation for cultural diversity found in our country and an awareness of the rights, duties and responsibilities of each individual as a member of a pluralistic society. Inquiries and grievances regarding compliance with applicable state and federal laws may be directed to the executive director of human resources, P.O. Box 400, Calmar, Iowa 52132, kuennenc@nicc.edu, 800.728.2256 ext 300 or to the executive director for risk management, 8342 NICC Dr, Peosta IA 52068, mcmahonke@nicc.edu, 800.728.7367 ext 477 or to the Director of the Office for Civil Rights, U.S. Department of Education, Citygroup Center, 500 W. Madison, Suite 1475, Chicago, IL 60661, 312.730.1560 or fax 312.730.1576.

### Course Calendar

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| Due Date | Assignment | PointValue | Program Learning Outcome | Common Learning Outcome |
| 9-7-2018 | Chapter 2 Exam | 100 | Students will demonstrate competence in problem-solving, logical thinking, and the application of mathematical processes. | Apply Knowledge and Skills to Life |
| 9-25-2018 | Chapter 3 Exam | 100 | Students will demonstrate competence in problem-solving, logical thinking, and the application of mathematical processes. | Apply Knowledge and Skills to Life |
| 10-12-2018 | Chapter 6 Exam | 100 | Students will demonstrate competence in problem-solving, logical thinking, and the application of mathematical processes. | Apply Knowledge and Skills to Life |
| 11-1-2018 | Chapter 7 Exam | 100 | Students will demonstrate competence in problem-solving, logical thinking, and the application of mathematical processes. | Apply Knowledge and Skills to Life |
| 11-15 and 11-16-2018 | Trimester 1 Exam | 100 | Students will demonstrate competence in problem-solving, logical thinking, and the application of mathematical processes. | Apply Knowledge and Skills to Life |
| 3-20-19 | Chapter 8 Exam | 100 | Students will demonstrate competence in problem-solving, logical thinking, and the application of mathematical processes. | Apply Knowledge and Skills to Life |
| 4-15-18 | Chapter 11 Exam | 100 | Students will demonstrate competence in problem-solving, logical thinking, and the application of mathematical processes. | Apply Knowledge and Skills to Life |
| 5-17-18 | Chapter 12 Exam | 100 | Students will demonstrate competence in problem-solving, logical thinking, and the application of mathematical processes. | Apply Knowledge and Skills to Life |
| 5-22 and 5-23-19 | Trimester 2 Exam | 100 | Students will demonstrate competence in problem-solving, logical thinking, and the application of mathematical processes. | Apply Knowledge and Skills to Life |