

Math 1190 – Real World Math Skills

COURSE DESCRIPTION

In this course, students will develop and use the concepts of numeracy to investigate and explain quantitative relationships and solve problems in a variety of real-world contexts, make decisions by analyzing mathematical models, and use the language and structure of statistics and probability to investigate, represent, make decisions, and draw conclusions from real-world contexts.

In this course, students will explore these four units: Numeracy, Algebraic Thinking, Consumer Math, and Probability & Statistics. Topics that will be investigated include: percentages, bar graphs, pie charts, estimation & number sense, dimensional analysis, relative difference and error, scientific notation, apportionment, linear & exponential growth, graphing, slope, rates of change, lines & curves of best fit, linear relationships, interest, installment buying, education & home loans, stocks & bonds, income taxes, probability, sample spaces, counting techniques, odds & expected value, gathering & organizing data, measures of average & variation, normal distributions and z scores, polling and margin of error, and missuses of statistics.

Math 1190 (Real World Math Skills) is a four (4) credit hour course that meets four (4) days a week.

Time in the classroom is divided into three areas: guided instruction, group discussions/activities and individual work.

REQUIRED COURSE MATERIALS

This course will use Sobecki/Mercer: Math in Our World, A Quantitative Literacy Approach. (McGraw Hill) – ALEKS 360. An E-Book is included in this product.

CALCULATORS: Students will be permitted to use their own **scientific calculator** in all coursework, but no graphing calculators will be allowed.

CLASS ATTENDANCE, PARTICIPATION, AND GENERAL EXPECTATIONS

Keeping up with the course schedule, attending class, and asking questions when necessary are all essential to a successful semester in Math 1190. **You are expected to attend every class on time for the full class period and actively participate in this course as a member of Ohio's premier learning community.**

COURSE PROCEDURES

Each week students will participate in guided instruction, group discussions, and/or individual work. Assignments, paper and computer-based, will be given in and out of class to assist students with learning. All instruction will address the BGP and Course Learning Outcomes listed below.

BGP Learning Outcomes*

Interpret mathematical and statistical models such as formulas, graphs, tables, and schematics, and draw inferences from them.

1. *Represent mathematical and statistical information symbolically, visually, numerically, and verbally.*
2. *Use arithmetical, algebraic, geometric and statistical methods to solve problems.*
3. *Estimate and check answers to mathematical problems in order to determine reasonableness, identify alternatives, and select optimal results.*
4. *Recognize that mathematical and statistical methods are based on assumptions and have limits.*

*** A BGP Quiz, given during the last week, will be used to assess the BG Perspective Learning Outcomes.**

Course Learning Outcomes

1. Solve real-world problems requiring the use and interpretation of ratios in a variety of contexts.
2. Solve real-world problems relating to rates of change, distinguishing between and utilizing models that describe absolute change and relative change including growth and decay.
3. Compare and contrast statements by applying proportional reasoning appropriately to real-world situations.
4. Demonstrate numerical reasoning orally and/or by writing coherent statements and paragraphs.
5. Create and use tables, graphs, and equations to model real-world situations.
6. Model financial applications.
7. Create basic linear and exponential models for real-world problems and be able to choose which one is most appropriate for a given context and describe the limitations of the proposed models.
8. Use basic logarithm properties to address questions arising in real-world situations modeled exponentially.
9. Explain and critique models orally and/or by writing coherent statements and paragraphs.
10. Critically evaluate statistics being presented in the media, journals and other publications by evaluating sampling strategy, the impact of sample size, correlation versus causation, and any inferences made.

11. Summarize and interpret data sets with regard to shape, center, and spread using graphical and/or numerical information.
12. Create visual representations of real-world data sets such as charts, tables, and graphs and be able to describe their strengths, limitations, and deceptiveness.
13. Calculate probabilities and conditional probabilities in real-world settings, and employ them to draw conclusions.
14. Justify decisions based on basic statistical modeling orally and/or by writing coherent statements and paragraphs.

FINAL GRADES

Attendance	5 %
Exams	30 % (3 at 10% each)
Individual Work	30 % (2 projects @ 10% each; 10% homework)
Group Work	30 % (2 projects @ 10% each; 10% in-class participation)
BGP Quiz	5 %

The grading scale is as follows:

90% - 100%	A
80% - <90%	B
70% - <80%	C
60% - <70%	D
Less than 60%	F

COURSE BINDER

Keeping an organized course binder MAY earn you extra credit at the end of the semester. Binder MUST include clearly marked sections for: lecture notes, group work, individual work, and graded materials.

EXAM POLICY

Exams must be taken on their scheduled day. Students who do not take their scheduled exam will receive a "o" for that exam unless they have a documented absence or situation. This must be communicated to the Instructor as soon as reasonably possible before or after the scheduled exam date.

ACADEMIC HONESTY

The instructors and students in this course will adhere to the University's General Codes of Conduct defined in the BGSU Student Handbook. Specifically, the Code of Academic Conduct (Academic Honesty Policy) requires that students do not cheat, fabricate, plagiarize or facilitate academic dishonesty. Students who passively engage in cheating (i.e., allowing others to cheat off of them) may receive the same consequences as the person copying. **Please see** <https://www.bgsu.edu/catalog/academic-policies/academic-honesty.html> (Links to an external site.) for more information.

DURING an EXAM: * USING your cell phone (or any other prohibited device or material, including but not limited to notes, papers, notebooks, graphing calculators, smart watches, etc.) during a quiz or exam WILL RESULT IN A GRADE OF ZERO FOR THAT QUIZ OR EXAM, AND A REPORT OF ACADEMIC DISHONESTY TO THE DEAN. *** Please see previous paragraph, "Academic Honesty," for more information.**

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STUDENTS REGISTERED with ACCESSIBILITY SERVICES

Students who have or acquire a disability, injury, or illness which raises academic concerns may contact Accessibility Services, located at 38 College Park Office Building [419-372-8495 (voice), 419-372-8496 (fax), 419-372-9455 (tty), access@bgsu.edu]. If a student is currently registered with Accessibility Services, the student is required to give the Instructor a copy of any official paperwork to allow us to make any necessary accommodations. Please give copies of your paperwork to your Instructor as soon as possible at the start of each semester, preferably NO LATER THAN the start of the SECOND WEEK of CLASSES. If it is not available the first two weeks of the semester, please turn it in as soon as you get it during the semester!

PLEASE NOTE: When taking exams in Accessibility Services, all classroom exam rules apply. Students with calculator accommodations MUST take the exam in Accessibility Services. **Please see** <http://www.bgsu.edu/disability-services.html> (Links to an external site.) for more information.

BGSU VETERANS

Please see <http://www.bgsu.edu/registration-records/bgsu-veterans.html> (Links to an external site.) or call Veteran Benefits at 419-372-9636 for more information.

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TITLE IX INFORMATION

Bowling Green State University (BGSU) is committed to providing a safe learning environment for all students that is free of all forms of discrimination and harassment. Sexual misconduct

and relationship violence in any form are antithetical to the university's mission and core values, violate university policies, and may also violate federal and state law. Faculty members are considered "Mandatory Reporters" and are required to report incidents of sexual misconduct and relationship violence to the Title IX Coordinator. If you or someone you know has been impacted by sexual harassment, sexual assault, dating or domestic violence, or stalking, please visit www.bgsu.edu/TitleIX ([Links to an external site.](#)) to access information about university support and resources.

In order to promote an inclusive and constructive learning environment, demeaning, marginalizing, and otherwise negative language and behavior will not be tolerated in the classroom. Respect and courtesy toward the instructor, classmates, and classroom guests are expected. Language and behaviors that are disruptive, abusive, or harassing may result in disciplinary action as specified by the Student Code of Conduct.

DROPPING/ADDING/CHANGING GRADING OPTION

During the fall and spring semesters, a student may enroll in a course within seven calendar days from the beginning of classes; fourteen calendar days are allowed for a student to change the grading option without college approval or to drop a course with no record on the transcript. During summer term, students may enroll in courses during the first three calendar days of a given session; five calendar days are allowed for a student to change the grading option or drop a course with no record on the transcript.

After the above deadlines, a student may choose to change the grade option for a course with the approval of the college in which they are enrolled. The student is responsible for filing a schedule change form in the college office on or before the last day of the 12th week of fall and spring semesters. For summer and all other sessions, the student is responsible for filing a schedule change form in the college office before the 80% completion date.

After these dates exceptions may be granted only by the dean of the student's college. For information about withdrawing from a course after the drop date, see [Grading policies \(Links to an external site.\)](#). Students should also consult the grading policies for a discussion of the S/U grading option.

ALSO NOTE:

A grade of "F" (failing) is assigned under the following circumstances:

- * the student withdraws after the intervals described above;
- * the student stops attending the class without processing a withdrawal;
- * the student has never attended the class and has not processed an official withdrawal.

These provisions apply to the A-F, the S/U and the No Credit grading systems. **Students taking courses that are graded S/U or No Credit should be aware that it is possible to earn a grade of "F" if they do not follow the guidelines for withdrawing from a course.**

The previous grading information is from the student catalog. For more information, please see <https://www.bgsu.edu/catalog/academic-policies/grading-policies.html> (Links to an external site.), <https://www.bgsu.edu/archived-catalog> or <https://www.bgsu.edu/catalog/academic-policies.html> (Links to an external site.). You may also call the Office of Registration & Records (110 Administration Building) at 419-372-8441.

THE LEARNING COMMONS (TLC)

The Learning Commons provides free math tutoring services to all BGSU students and is located on the first floor of Jerome Library. In addition to tutoring, TLC also offers resources such as textbooks, computers, a variety of handouts, and a lending library. They also have FREE, one-hour, one-on-one tutoring sessions available by appointment! **Please see their website** at www.bgsu.edu/learning (Links to an external site.)-commons.html for current hours of operation and additional information.

DEPARTMENT MEDIATOR

If you have a problem or concern that cannot be resolved by discussing the issue with your Instructor or the Course Coordinator, you may contact the Math Department Mediator. The Mediator for the Department of Mathematics and Statistics is: Dr. Kit Chan, 415 MSC, 419-372-7468, kchan@bgsu.edu.

Please see <http://www.bgsu.edu/arts-and-sciences/mathematics-and-statistics/general-math-course-info/departmental-mediator.html> (Links to an external site.) for more information.

YOU ARE REQUIRED TO CHECK your BGSU email DAILY for important information from your Instructor.

WHEN EMAILING: Please be sure to INCLUDE your COURSE and the TIME your class meets in the SUBJECT LINE. (For example – SUBJECT: Math 1190 8:30 AM)

This will help your Instructor respond to your email more quickly