Kent State University  Math 10051-004 Quantitative Reasoning

INSTRUCTOR: M. Donzella  OFFICE HOURS: MTWRF: 9:00am-5:00pm & by appt OFFICE: CUE112A
E-MAIL: mdonzell@kent.edu

KENT CORE REQUIREMENT:

This course may be used to satisfy a Kent Core Requirement. Kent Core courses are intended to broaden intellectual perspectives, foster ethical and humanitarian values, and prepare students for responsible citizenship and productive careers.

COURSE PREREQUISITE:

You are expected to have successfully completed (with a grade of C or better) MATH 00022 here at Kent or have a score of 22 or higher on the ACT Mathematics exam, or an appropriate placement score on the university placement exam. If you do not satisfy these prerequisites, the Registrar may de-register you from this course.

COURSE MATERIALS: All students are required to purchase the textbook and the access code for the Quantway 2 Materials, this product is only available from the campus bookstore. Additionally, students will need at a minimum a scientific calculator. While not mandatory use of your own laptop in class is encouraged as we will frequently use EXCEL.

CLASS WEBSITE (Blackboard):

Through http://flashline.kent.edu (click on “Student Tools & Courses” tab, then the “Blackboard Single Sign On” link near top left.) OR click on the “Blackboard” Icon on the top right toolbar on the flashline homepage. From here you will be able to access Quantway and log into your pathways account.

COURSE DESCRIPTION:

In the broadest sense mathematics should provide students the needed quantitative tools, logical reasoning and problem-solving skills, and a sense that quantitative modeling can be used to describe and understand developments in many areas of daily living. This course will explore various applications of mathematics in the social sciences, financial world, and the health and environmental fields. The emphasis in this course will be on developing students’ quantitative and logical reasoning and improving students’ abilities to communicate quantitative ideas both orally and in writing. Topics from numeracy, finance, probability, statistics, and mathematical modeling with linear and exponential functions will be embedded in each module. This course is for students not planning to major in a field requiring advanced mathematical skills.

SUGGESTED INSTRUCTIONAL METHODS:

Multiple instructional methods will be used to ACTIVELY engage students in the learning process.

“FLIPPED PEDAGOGY.” Flipping the classroom” is an active-learning technique in which students learn the basics of the course content by preparing for class. In this course, you are expected to complete assigned exercises BEFORE coming to each class. The students and instructor then spend class time interacting with and elaborating on that content, deepening learning and making it “stick”. Much of our class time will be spent working on problems and engaging in activities either in a group or individually. This daily work will encourage students to think, reflect, discuss, and write about mathematical ideas and concepts in context. This course organization will help you “learn by doing” and develop a strong understanding of algebraic modeling.
LEARNING OUTCOMES:

- Use and interpret ratios in a variety of contexts; quantify risk by calculating and interpreting probabilities.
- Solve real world problems relating to rate of changes and differentiating when to use models that utilize absolute change and models that use relative change.
- Gain knowledge of mathematics as a practical tool in examining the world of finance through a realistic study of simple and compound interest and loans, credit cards, and budgeting.
- Interpret and make inferences from statistical graphs, tables, and chart regarding shape, center and spread.
- Understand how statistics are used in analyzing polls.
- Investigation of sampling methods and graphs with applications in scientific studies including the use of spreadsheet.
- Critically evaluate statistical studies and can describe the strengths, limitations, and deceptiveness.
- Understand the basics of probability.
- Investigation of linear modeling including piecewise models, linear systems, and regression.
- Estimating solutions to real world problems using equations with variables. And identifying how changing parameters can affect results
- Investigation of exponential modeling with applications in personal finance.
- Use basic logarithm properties to address the questions such as regarding times periods arising in real-world situations modeled exponentially.

WHY ARE MY MATH AND WRITING COURSES “LINKED”?
Your College Writing I and Quantitative Reasoning courses complement each other because they feature thinking skills directly connected to each other both in college and in the world outside of college. Successful students learn to analyze, synthesize, and critically evaluate; to listen to alternative viewpoints; and to reconsider their first ideas on a topic. They use these skills to succeed not only in their coursework, but also in their careers, and as citizens.

If we examine the course goals for College Writing I and Quantitative Reasoning, we see overlap in the skills learned in the two courses, as the table below shows.

Your instructors will use this overlap to help you succeed, collaborating to show you ways to apply the work you are doing in one course to your work in the other course. The linked classes will help you succeed in all your courses at the university by developing your critical thinking.

WHY DOES THIS MATTER TO ME?
Your linked courses will give you a competitive edge in college and beyond. College educated people develop certain habits of mind: asking critical questions, listening to alternative views, revising work in progress, persisting through complexity and difficulty, and understanding their own thinking processes. These habits add up to what we call “critical thinking,” which is fundamental to coursework in all majors.

You have probably noticed that successful professionals in leadership roles can communicate persuasively. These people have influence in large part because they can blend writing and quantitative reasoning skills to make decisions, as well as to motivate, inspire and influence other people.

ATTENDANCE POLICY:

Excellence attendance is mandatory for your success in the course. A significant portion of your grade is based on your preparation for and participation in each class. Failure to attend and participate in class can cause you to fail this course. According to the university policy 3 – 01.2 “Administrative policy regarding class attendance and class absence, students may be excused from class for PROPERLY DOCUMENTED “illness and injury, disability related concerns, military service, death in the immediate family, religious observance, academic field trips, participation in an approved concert or athletic event and direct participation in university disciplinary hearings.”
STUDENTS IN THIS COURSE MUST

- Document absences in hard copy form, no phone or email excuses will be accepted.
- Submit excuses in a timely manner: All excuses for anticipated absences must be submitted before the anticipated absence, or in the case of an unanticipated absence, on the first day of the student’s return to class.
- Assume all responsibility for getting assignments and submitting work. Even when the absence is excused it is still your responsibility to catch up and submit the required work. Please note, the instructor is not your accountability “buddy”, get the information from a trusted group member.

COURSE GRADES

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prep for Next Lesson; PNL exercises (5% each module)</td>
<td>15%</td>
</tr>
<tr>
<td>Daily class participation, completion of daily workbook activity</td>
<td>10%</td>
</tr>
<tr>
<td>Out of class exercises; OCE (3% each module)</td>
<td>9%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>9%</td>
</tr>
<tr>
<td>News of the Day articles/presentations (3 @ 5% each)</td>
<td>15%</td>
</tr>
<tr>
<td>Module exams (3 @ 10% each)</td>
<td>30%</td>
</tr>
<tr>
<td>Final assessment</td>
<td>10%</td>
</tr>
<tr>
<td>QLRA assessment (based on improvement from initial assessment)</td>
<td>Up to 2%</td>
</tr>
</tbody>
</table>

NOTE: If PNL and OEC exercises are not completed prior to each module exam you could lose up to 8 percentage points on any module exam.

GRADING SCALE

<table>
<thead>
<tr>
<th>Grade Letter</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93 – 100</td>
</tr>
<tr>
<td>A-</td>
<td>90 – 92</td>
</tr>
<tr>
<td>B+</td>
<td>87 – 89</td>
</tr>
<tr>
<td>B</td>
<td>83 – 86</td>
</tr>
<tr>
<td>B-</td>
<td>80 – 82</td>
</tr>
<tr>
<td>C+</td>
<td>77 – 79</td>
</tr>
<tr>
<td>C</td>
<td>73 – 76</td>
</tr>
<tr>
<td>C-</td>
<td>70 – 72</td>
</tr>
<tr>
<td>D+</td>
<td>67 – 69</td>
</tr>
<tr>
<td>D</td>
<td>60 – 66</td>
</tr>
<tr>
<td>F</td>
<td>0 – 59</td>
</tr>
</tbody>
</table>

SOCIAL MEDIA POLICY:

Being physically in the room while class is in session but being on your phone or social media is not being present in class, it is considered disruptive and as such you will forfeit the day’s class points. When you are in class put your phone away, set it to silence, and close your social media. **BE PRESENT!**

LATE OR INCOMPLETE WORK:

Follow the course calendar however it is subject to changes. Any changes in due dates will be announced in class. Late work will NOT be counted for credit without an official accepted excusal form (see attendance policy).
MAKE-UP EXAMS:
Given only under EXTRAORDINARY CIRCUMSTANCES with written verification of a university-accepted excuse (documented illness, death in immediate family, university-sponsored event, see attendance policy). Please notify me IN ADVANCE, if possible, if an exam is to be missed.

CHEATING AND PLAGIARISM:
University policy 3342-3-01.8 deals with the problem of academic dishonesty, cheating, and plagiarism. None of these will be tolerated in this class. The sanctions provided in this policy will be used to deal with any violations. If you have any questions, please read the policy here or ask me.

STUDENTS WITH DISABILITIES:
University policy 3342-3-01.3 requires that students with disabilities be provided reasonable accommodations to ensure their equal access to course content. If you have a documented disability and require accommodations, please contact the instructor at the beginning of the semester to plan for necessary classroom adjustments. Please note, you must first verify your eligibility for these through Student Accessibility Services (contact 330-672-3391 or visit www.kent.edu/sas for more information on registration procedures).

REGISTRATION REQUIREMENT:
The last day to add a full-term class or change sections of a class is midnight on Sunday. The last day to drop any or all courses that meet the full semester before grade of "W" is assigned is midnight on Sunday, September 10th. University policy requires all students to be officially registered in each class they are attending. Students who are not officially registered for a course by published deadlines should not be attending classes and will not receive credit or a grade for the course. Each student must confirm enrollment by checking his/her class schedule (using Student Tools in Flash Fast) prior to the deadline indicated. Registration errors must be corrected prior to the deadline.

WITHDRAWAL DEADLINE:
The official withdrawal deadline for this course is Sunday, November 5th at midnight.