



SYLLABUS

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| Course Title | Modeling and Applications |
| Course Number | MTH 108 ONL |
| Number of Credits | 3 |
| Course Dates | 5/25/20 - 7/25/20 |
| Instructor | Dr. Darla Berks |
| Email Address | darla.berks@doane.edu |
| Office Hours/Availability | Varies; contact instructor to arrange |
| Phone Number | (I prefer to not give out my cell number.) |
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| Textbook Information: (e.g. title, edition, publisher, ISBN) | Textbook: <i>Excursions in Modern Mathematics 8th Edition</i> , by Peter Tannenbaum (ISBN-10: 032182573X) |
| Additional Course Materials | A scientific calculator (with at least a square root key) |
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| Course Description | This is an algebra-based course with an emphasis on practical applications. An examination of real-life models and their applications using algebra as a foundation. Students successfully completing this course will effectively use algebra and technology to analyze models |

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| | of real-world phenomena; effectively read, interpret and analyze problems; and gain quantitative literacy and confidence. |
| Foundational Area of Knowledge | <p>FAK: Mathematical Reasoning</p> <p>Students will work to:</p> <ul style="list-style-type: none"> • analyze and model mathematical situations using a variety of techniques to solve problems effectively • communicate a clear understanding of conclusions • apply mathematical systems of thinking |
| Course Learning Outcomes/Objectives | <p>As a student in this course, students will:</p> <ul style="list-style-type: none"> • develop persistence in solving mathematical problems • make connections among ideas and mathematical representations • develop reasoning and sense making • communicate their thinking • apply mathematics to the real world situations |
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| Technology Requirements | https://www.doane.edu/faq/minimum-computer-requirements |

Course Schedule

| Week or Module | Topic | Content | Assessments Matched to Learning Outcomes | Due Date & Time |
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| (e.g. 1) | (e.g. What is economics?) | (e.g. Read Chapter 1 and 2, view video, guest speaker | e.g. Vocabulary quiz (LO1) Problem set (LO3) Case study | e.g. Week 2 by 6 p.m. |

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| 1 | Module 1: Introductions & The Mathematics of Elections (Ch 1) | <ul style="list-style-type: none"> • Discussion board posts related to Lockhart's essay • Participation with the interactive PPTs • Problem Presentations and peer replies on discussion board | <ul style="list-style-type: none"> • TERRIFIC TWO • Quizzes | varies |
| 2 | Module 2: The Mathematics of Power (Ch 2) & The Mathematics of Sharing (Ch 3) | <ul style="list-style-type: none"> • Discussion board posts related to math stereotypes/myths • Participation with the interactive PPTs • Problem Presentations and peer replies on discussion board | <ul style="list-style-type: none"> • TERRIFIC TWO • Quizzes | varies |
| 3 | Module 3: The Mathematics of Getting Around (Ch 5) | <ul style="list-style-type: none"> • Discussion board posts related to brain plasticity • Participation with the interactive PPTs • Problem Presentations and peer replies on discussion board | <ul style="list-style-type: none"> • TERRIFIC TWO • Quizzes | varies |
| 4 | Module 4: The Mathematics of Touring (Ch 6) | <ul style="list-style-type: none"> • Discussion board posts related to mindset • Participation with the interactive PPTs • Problem Presentations and peer replies on discussion board | <ul style="list-style-type: none"> • TERRIFIC TWO • Quizzes | varies |
| 5 | Module 5: Population Growth Models (Ch 9) | <ul style="list-style-type: none"> • Discussion board posts related to mistakes • Participation with the interactive PPTs • Problem Presentations and peer replies on discussion board | <ul style="list-style-type: none"> • TERRIFIC TWO • Quizzes | varies |

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| 6 | Module 6: Financial Mathematics (Ch 10) | <ul style="list-style-type: none"> • Discussion board posts related to devices and focus • Participation with the interactive PPTs • Problem Presentations and peer replies on discussion board | <ul style="list-style-type: none"> • TERRIFIC TWO • Quizzes | varies |
| 7 | Module 7: Censuses, Surveys, Polls and Studies (Ch 14) & Graphs, Charts and Numbers (Ch 15) | <ul style="list-style-type: none"> • Participation with the interactive PPTs • Problem Presentations and peer replies on discussion board • Discussion board posts related to misleading graphs found in the media | <ul style="list-style-type: none"> • TERRIFIC TWO • Quizzes | varies |
| 8 | Module 8: Probabilities, Odds, and Expectations (Ch 16) & The Mathematics of Normality (Ch 17) | <ul style="list-style-type: none"> • Participation with the interactive PPTs • Problem Presentations and peer replies on discussion board | <ul style="list-style-type: none"> • TERRIFIC TWO • Quizzes | varies |

Grading Assessments

| Type of Assessment | Points | Total possible points |
|------------------------|-----------------------------------|-----------------------|
| (e.g. Vocabulary Quiz) | (e.g. 10 points each (weeks 1-5)) | (e.g.. 50) |
| Terrific Two | 30 (x8) | 240 |
| Problem Presentations | 15 (x8) | 120 |
| Chapter Quiz | 10 (x11) | 110 |

Online Courses ONLY

Online Course

This is an online course and therefore there will not be any face-to-face class sessions. All assignments and course interactions will utilize internet technologies.

Communicating with the Instructor

This course uses a “three before me” policy in regards to student to faculty communications. When questions arise during the course of this class, please remember to check these three sources for an answer before asking me to reply to your individual questions:

1. Course syllabus
2. Announcements in Blackboard
3. The “Question Center” discussion board

This policy will help you in potentially identifying answers before I can get back to you and it also helps your instructor from answering similar questions or concerns multiple times.

If you cannot find an answer to your question, please first post your question to the “Question Center” discussion board. Here your question can be answered to the benefit of all students by either your fellow students who know the answer to your question or the instructor. You are encouraged to answer questions from other students in the discussion forum when you know the answer to a question in order to help provide timely assistance.

If you have questions of a personal nature such as relating a personal emergency, questioning a grade on an assignment, or something else that needs to be communicated privately, contact me via email or phone. My preference is that you will try to email me first. Please allow 24 hours for me to respond to emails Monday-Friday and 48 hours on the weekend.

If you have a question about the technology being used in the course, please contact the Doane University Help Desk for assistance.

Phone: 402-826-8411

Email: helpdesk@doane.edu

Web: <http://www.doane.edu>

Computer Requirements

Minimum computer requirements for the successful use of Blackboard:

http://www.doane.edu/about-doane/offices/its/help-and-support#min_requirements

Minimum computer requirements for success in this course:

- Reliable computer and internet connection
- A web browser (Chrome or Mozilla Firefox)
- Adobe Acrobat Reader (free)
- Adobe Flash Player (free)
- Word processing software—Microsoft Word or Google Docs
- Webcam and mic

You are responsible for having a reliable computer and internet connection throughout the course.

Email and Internet

You must have an active Doane University e-mail account and access to the Internet. *All instructor correspondence will be sent to your Doane University e-mail account.* Please plan on checking your Doane Gmail account regularly for course related messages.

This course uses Blackboard for the facilitation of communications between faculty and students, submission of assignments, and posting of grades. The Blackboard Course Site can be accessed at <http://bb2.doane.edu>

Submitting Assignments

All assignments, unless otherwise announced by the instructor, MUST be submitted via Blackboard. Each assignment will have a designated place to submit the assignment.

Campus Network or Blackboard Outage

When access to Blackboard is not available for an extended period of time (greater than one entire evening - 6pm till 11pm) you can reasonably expect that the due date for assignments will be changed to the next day (assignment still due by midnight).

Grade Scale

A+ = 97-100% A = 94-96% A- = 90-93% B+ = 87-89% B = 84-86% B- = 80-83%
C+ = 77-79% C = 74-76% C- = 70-73% D+ = 67-69% D = 64-66% D- = 60-63%
F = 59% or below

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| Participation Policy | A student is expected to be prompt and regularly attend on-ground classes in their entirety. Regular engagement is expected for on-line courses. Participation in class discussions is an integral part of your grade. (Faculty to insert any additional class participation; see resource page for ideas.) |
| Study Time | Expectation of the amount of time the course requires students to spend preparing and completing assignments. Typically, students could expect to spend approximately 18 hours a week preparing for and actively participating in this 8-week 3 credit hour course. This actual time for study varies depending on students' backgrounds. |
| Late Work | ALL assignments must be finished and turned in to complete the course. Unless the instructor is notified BEFORE the assignment is due and she provides an opportunity for the student to submit an assignment late, points may be taken off for a late assignment (up to 50% of the assignment's points). |
| Submitting Assignments | All assignments, unless otherwise announced by the instructor, must be submitted via Blackboard. Each assignment will have a designated place for submission. |
| Communication Policy including Assignment Feedback | If you have questions of a personal nature such as relating a personal emergency, questioning a grade on an assignment, or something else that needs to be communicated privately, you are welcome to contact |

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| | <p>me via email. I will usually respond to email quickly, but please allow 24 hours for me to respond. You will receive frequent feedback throughout the course. If you ever have any questions about your progress in the course, please don't hesitate to contact me.</p> |
| Academic Integrity Policy | <p>Doane University expects and requires all its students to act with honesty and integrity and respect the rights of others in carrying out all academic assignments. Academic dishonesty, the act of knowingly and willingly attempting or assisting others to gain academic success by dishonest means, is defined in four categories:</p> <p>Cheating - "Intentionally using or attempting to use unauthorized information or study aids in an academic exercise."</p> <p>Fabrication - "Intentional and unauthorized falsification of invention or any information or citation in an academic exercise."</p> <p>Facilitating Academic Dishonesty - "Intentionally or knowingly helping or attempting to help another to commit an act of dishonesty," and/or coercing others to do the same.</p> <p>Plagiarism - "Intentionally or knowingly representing the words or ideas of another as one's own in any academic exercise," in both oral and written projects.</p> <p>Gehring, D., Nuss, E.M., & Pavela, G. (1986). Issues and perspectives on academic integrity. Columbus, OH: National Association of Student Personnel Administrators</p> <p>For more information on the sanctions for academic dishonesty, please visit the website: https://catalog.doane.edu/content.php?catoid=16&navoid=1333</p> |
| Academic Support | <p>Please contact academicsupport@doane.edu https://www.doane.edu/graduate-and-adult/academic-support</p> |
| Disability Services | <p>https://www.doane.edu/disability-services Doane University supports reasonable accommodations to allow participation by individuals with disabilities. Any request for accommodation must be initiated by the student as soon as possible. Each student receiving accommodations is responsible for his or her educational and personal needs while enrolled at Doane University.</p> |
| Military Services | <p>https://www.doane.edu/graduate-and-adult/military</p> |
| Anti-Harassment Policy | <p>http://catalog.doane.edu/content.php?catoid=5&navoid=452</p> |

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| Grade Appeal Process | http://catalog.doane.edu/content.php?catoid=5&navoid=238 |
| Credit Hour Definition | Doane University follows the federal guideline defining a credit hour as one hour (50 minutes) of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks (one semester), or the equivalent amount of work over a different time period (e.g., an 8-week term). This definition applies to courses regardless of delivery format, and thus includes in-person, online, and hybrid courses (combination of in-person and online). It also applies to internship, laboratory, performance, practicum, research, student teaching, and studio courses, among other contexts. |
| Syllabus Changes | Circumstances may occur which require adjustments to the syllabus. Changes will be made public at the earliest possible time. |