MA 238

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Course Information

- Semester: 2019 Fall
- Title: Differential Equations
- Instructor: Dr. Steven Clontz
- Sections: MA 238-101
- TR 9:30am-10:45am
- MSPB 360
- Office Hours
- TR 10:45am-1:45pm
- MSPB 314

Course Content

The course is split into five **Modules**, each of which is split into several **Standards** of learning.

In particular, our course standards are aligned with the following learning outcomes defined by the Association of American Colleges & Universities:

- Students will evaluate information presented in mathematical forms (e.g., equations, graphs, diagrams, tables, words).
- Students will convert relevant information into various mathematical forms (e.g., equations, graphs, diagrams, tables, words).

Textbook and Resources

Much of the material for this course will be provided on the course website or uploaded to Google Drive.

The textbook carried in the univeristy bookstore will not be required. A free online respository of homework exercises will be provided instead.

The use of any calculator is allowed on assessments, as long as it does not support communication functionality or internet connectivity.

Grading

Grades in this course are determined based upon your mastery of the Course Standards. Each time you successfully demonstrate mastery of a Standard by correctly completing a relevant exercise/project, you will earn a **Mastery Mark** . Up to two per Standard will be awarded for the 16 non-modeling standards, and one per Standard will be awarded for the 8 modeling standards, for a maximum of 40 .

Letter grades are assigned based on how much content was learned by each student, measured by how many were earned.

- **A**: **38**
- **B**: **33**
- **C**: **28**
- **D**: **23**

Student Data

Grade data will be provided to students via regular printed progress reports. Students are also highly encouraged to opt-in to using the Gradescope platform to receive instant notficiation of assignment results via email and the web.

Active/Inactive Students

By default all students are considered **Active** in the course. However, students that meet any of the following criteria may be designated as **Inactive**:

- Accumulating two unexcused absences within three weeks of each other.
- Failing a Readiness Quiz.
- Receiving excessive negative feedback on a Peer Evaluation Survey (or neglecting to complete it).

When a student becomes Inactive, they will receive an email from the instructor requesting an appointment. At this appointment the student will make an agreement with the instructor to address the issues that caused the Inactive status, and will return to Active status provided this agreement is kept. A student that becomes Inactive three times will remain Inactive permanently for the semester.

Teams

Teams will be organized near the beginning of the semester. Much of our class meetings will be spent in teams completing activities related to the material, allowing students to master the course standards in an environment where they may discuss topics and ask questions freely with their peers and the instructor.

If any student from the class submits a request to the instructor by email to do so, a **Peer Evaluation Survey** will be conducted to allow teammates to provide anonymous feedback to each other.

Attendance

Attendance will be taken daily. Generally, only absences that have been previously approved by the instructor or that are related to a medical issue (with accompanying documentation from a medical professional) will be considered excused. All excused absences must be documented via email with the instructor.

Readiness Assurance

Before each module of the course, students are given a list of materials for review. Readiness for that module will be assessed on a **Readiness Quiz**, first individually and then as a team. High scores reflect sufficient preparedness for the module, while low scores demonstrate a need for further review. A 70% average of both quizzes is required to pass this quiz.

Class Activities

The instructor will introduce each course Standard, providing theory, formulas, and examples. After this introduction, students will collaborate on one or more team activities similar to exercises that will be assigned for that standard. These should be completed by each team on the provided whiteboard, showing all details and uploaded to Google Drive.

Mastery Quizzes

During most class days, Active students will be able to complete a short **Mastery Quiz**. Each non-modeling standard covered in class will appear on up to three Mastery Quizzes, at most once a week. Submissions by Inactive students will not be counted until they return to Active status. A schedule of which standards are covered on each quiz is available on the Calendar.

In addition, all students will be offered two 75-minute **Comprehensive Mastery Quizzes** and a 120-minute **Final Exam** that include exercises for every standard covered in the class to that date.

Quizzes are randomized and personalized for each student based upon their current progress; standards that have already been completely mastered by a student will not be assigned on the personalized quiz.

Marking Quizzes

Each submitted solution will be marked as follows:

- **Mastery Mark** : The solution demonstrates complete mastery of the given standard.
- **Revision Mark** : The solution might demonstrate mastery of the given standard, but needs to be revised for clarity/accuracy.
- **Issues Mark** : The solution demonstrates partial understanding of the given standard, but has one or more issues that suggest that further study is required to develop complete mastery.
- : The solution demonstrates negligible understanding of the given standard.

Only affect a student's letter grade for the course; all other accumulated marks will be ignored at the end of the semester. So, a student who earns 35 and 3 throughout the semester will earn the same grade as a student who earns 35 and 300 .

Revising Solutions

A student may improve a solution marked as to by completing a Revision Form outside of class and promptly submitting it in class, usually the following Tuesday.

This submission will be marked as usual, with at most one additional re-revision allowed in the case of a very minor mistake.

Modeling Projects

As they are covered in class, individualized take-home projects will be assigned based upon the modeling standards and given a deadline for an initial submission via Gradescope, and a deadline for resubmission if necessary. Projects with even minor errors will be returned for corrections, so it's highly encouraged that students write in pencil for ease of resubmission.

Once a project is accepted as demonstrating mastery, a will be awarded. Projects not mastered earlier in the semester may be submitted at the final exam.

Office Reassessments

During office hours each week, Active students may take advantage of Office Reassessments. Students that satisfactorily meet the requirements given on the linked form will be given the opportunity to solve a new exercise for credit.

Note that availability for this opportunity may be limited due to student demand, particularly later in the semester.

Missed Quizzes

Students that miss one or more quizzes due to excused absences may request additional time on a Comprehensive Mastery Quiz.

Final Exam

The **Final Exam** is the same format as a Comprehensive Mastery Quiz, except that students will have 120 minutes and no revisions will be allowed. Instead, up to four marks earned on the Final Exam will be automatically upgraded to .

In particular, demonstrating mastery on the Final Exam has the same benefit as demonstrating mastery on Mastery Quizzes throughout the semester, so students who keep up with the material throughout the semester will have a shorter final than students who attempt to cram everything in at the last minute.

Academic Honesty

Academic Honesty is defined in USA's Student Academic Conduct Policy. Any student who is caught cheating will immediately lose credit for all earned throughout the entire semester, will become permanently Inactive in the course, and will have to take the remaining assessments by appointment in the instructor's office. In addition, the incident will be reported to the university.

Any student who is caught cheating twice will automatically receive an F letter grade for the course.

USAOnline and USA Course Policies

The official syllabus for this course is available on USAOnline. USA's Course Policies apply to this course.