MA26200 SPRING 2021 COURSE SYLLABUS

THIS DOCUMENT CONTAINS INFORMATION COMMON TO ALL MA26200 SECTIONS
YOUR PROFESSORS MAY HAVE ADDITIONAL INFORMATION ABOUT THEIR PARTICULAR SECTIONS -- CHECK YOUR SECTION BRIGHTSPACE PAGE

- Instructors teaching the course: Maria Berardi, Gayane Poghotanyan, Antônio Sá Barreto, Samy Tindel and Jianlin Xia
- There will be different meeting times for lectures. Some lectures are delivered in person and others online. *Consult the schedule for times, location and format.*
- *Recitations will also be online or in person, and you will receive more details about this from your professor and TA.*
- Course Brightspace page. There are different Brightspace pages for lectures and recitations.

Instructors Contact Information

- Maria Berardi
- Gayane Poghotanyan
- Antônio Sá Barreto (please do not leave phone messages, he will not get them)
- Samy Tindel
- Jianlin Xia

Learning Resources, Technology & Texts

- MyMathLab is required. Students will use it to do homework, take online quizzes and exams.
- Students should access MyMathLab though their recitation Brightspace page. Their lecture page is not linked with MyMathLab.
- Students can buy access to MyMathLab once they access it from their recitation Brightspace page. They get a two-week grace period at the beginning of the semester, after the grace period, they have to buy access to MyMathLab.
- Required text -- Edwards/Penney/Calvis: Differential Equations & Linear Algebra, 4th Edition.
- Electronic version of the textbook comes with MyMathLab. A hard copy of the textbook is not required.
- This textbook is not used in any other math class at Purdue. Students only need to buy a one semester access.
- Students can find qualified tutors through the Mathematics Department Home page. But keep in mind that your professors do not select those tutors. If you want to hire a tutor, feel free to ask your professor to recommend someone from that list.

Assignments

Assignments	Due	Points
Online homework	Throughout the semester	Average=100
Online quizzes	Throughout the semester	Average=100
Online midterm 1	March 3rd. Covers lessons 1 to 14	100
Online midterm 2	April 9th. Covers lessons 15 to 27	100
Online final exam	To be scheduled. Covers lessons 28 to 36	100
		Total: 500

Homework

- There will be 36 homework assignments
- TAs will assign online homework along the semester, when material is covered in lecture. Due dates will be stated in MyMathLab.
- The lowest three homework grades will be dropped
- Students who want to appeal a homework score due to possible computer error should contact their TA.

Quizzes

- TAs will prepare and assign weekly online quizzes according to what has been covered in lecture and recitation. Tas will also set due dates and duration of quizzes.
- The lowest three quiz grades will be dropped.
- Students who want to appeal a quiz score dues to possible computer error should contact their TA.

Exams:

- There will be two midterm exams and one final exam; all online in MyMathLab.
- Students will have at least 24h to take each exam, and a fixed amount of time (between 60 min and 120 min) to finish it once they start.
- Students that are entitled to special accommodations will get the appropriate time for exams.
- Exam 1: Wednesday, March 3rd, covers lesson 1 to 14.
- Exam 2: Friday, April 9th, covers lessons 15 to 27.
- Final Exam (date TBA by Purdue): covers Lessons 28 to 36
- No exam grades will be dropped.
- Students who want to appeal an exam score because of computer errors should contact their TA.

Grading Scale:

- A+: 475 - 500
- A: 450 - 474
- A-: 425- 449
- B+: 400 - 424
- B: 376 - 399
- B-: 350 - 375
- C+: 336- 349
- C: 321 - 335
- C-: 300 - 320
- D+: 280- 299
- D: 260 – 279
- F: 259 or below
- Borderline cases (for example 375.5) will be considered on a case-by-case basis

Academic Integrity

Due to the current situation, all MA262 quiz and exams will be online, without any supervision. However, students are expected to abide by Purdue's Honor Pledge: "As a boilermaker pursuing academic excellence, I pledge to be honest and true in all that I do. Accountable together - we are Purdue." This is no place for cheaters.

Students are encouraged to discuss homework problems with other students, faculty and TAs. However, quizzes and tests are individual assignments. Students may consult their textbook and use calculators during quizzes and exams. However, students are not allowed to discuss exam or quiz problems with other students, or anyone else. If they have a question, they can only ask their professor or their TA. Students are not allowed to consult online resources (such as Chegg, Wolfram Alpha, etc.).

Students caught cheating on quizzes or exams will get an F in the course. Students are encouraged to report to their professor or TA if they have knowledge that other students have cheated on exams or quizzes, and the more evidence they can present the better. Students can also report issues of academic integrity that they observe anonymously, through the OSRR by calling 765-494-8778 or emailing integrity@purdue.edu.

Course Schedule

TEXT: *Differential Equations & Linear Algebra*, 4th edition, by Edwards, Penney, and Calvis, published by Pearson
Handwritten problems (the bolded problems ONLY): From the textbook. These do NOT need to be turned in.
Online homework problems using MyMathLab through Brightspace

Sec 1.1 (Differential Equations and Mathematical Models) 15, 19, 21, 23, 25, 31, 35,
Sec 1.2 (Integrals as General and Particular Solutions) 1, 5, 7, 11, 13, 21, **35, 37**
Sec 1.3 (Slope Fields and Solution Curves) 3, 5, 22, 25, **27, 30**
Sec 1.4 (Separable Equations and Applications) 1, 4, 6, 19, 22, 33, 35, **29, 49**
Sec 1.5 (Linear First-Order Equations) 2, 5, 6, 9, 13, 18, 24, **27**
Sec 1.5 (Linear First-Order Equations) 33, 36, **37, 45**
Sec 1.6 (Substitution Methods and Exact Equations) 1, 5, 9, 15, 17, 19, 27
Sec 1.6 (Substitution Methods and Exact Equations) 31, 35, 37, 39, 45, 46, **56, 59**
Sec 2.1 (Population Models) 1, 5, 17, 21, **30, 31**
Sec 2.2 (Equilibrium Solutions and Stability) 1, 7, 15, **17, 19**
Sec 2.4 (Numerical Approximation: Euler's Method) 1, 5, 27
Sec 3.1 (Introduction to Linear Systems) 5, 7, 9, 13, 17, 23, 27 , **22, 25**
Sec 3.2 (Matrices and Gaussian Elimination) 3, 5, 9, 11, 15, 24, **13, 23**
Sec 3.3 (Reduced Row-Echelon Matrices) 3, 9, 14, 19, 21, 23, **24**
Sec 3.4 (Matrix Operations) 2, 3, 5, 7, 9, 10, 14, 21, **15, 17**
Sec 3.5 (Inverse of Matrices) 1, 5, 9, 13, 21, 27, **28**
Sec 3.6 (Determinants) 2, 3, 6, 8, 11, 17, 21, 28, 33, **29, 37**
Sec 4.1 (The Vector Space $\mathbf{R}^3$) 1, 3, 7, 11, 17, 19, 23, 25, **31, 33**
Sec 4.2 (The Vector Space $\mathbf{R}^n$ and Subspaces) 1, 3, 5, 15, 19, **21**
Sec 4.3 (Linear Combinations and Independence of Vectors) 3, 5, 9, 15, 17, 19, **21**
Sec 4.4 (Bases and Dimension for Vector Spaces) 3, 5, 9, 13, 15, 19, **23**
Sec 4.5 (Row and Column Spaces) 1, 5, 9, 13, 15, 19, 21, **23**
Sec 5.1 (Introduction: Second-Order Linear Equations) 1, 3, 9, 11, 33, 35, 39, 44, 45, 47, **51, 52, 54**
Sec 5.2 (General Solutions of Linear Equations) 1, 4, 5, 7, 13, 17, 38, **19, 41**
Sec 5.3 (Homogeneous Equations with Constant Coefficients) 1, 3, 5, 7, 11, 13, 25, 28, 39
Sec 5.3 (Homogeneous Equations with Constant Coefficients) 9, 17, 18, 23, 33, 35, 54, **58**
Sec 5.4 (Mechanical Vibrations) 3, 4, 13, 15, 17, 19, **35**
Sec 5.5 (Non-hom Eqns and Undetermined Coefficients) 1, 2, 3, 4, 8, 10, 13, 15, 19, **21, 22, 24, 29**
Sec 5.5 (Non-hom Eqns and Undetermined Coefficients) 49, 50, 51, 53, **54, 61**
Sec 6.1 (Introduction to Eigenvalues) 5, 13, 17, 23, 29, **40**
Sec 7.1 (First-Order Systems and Applications) 1, 3, 8, **26**
Sec 7.2 (Matrices and Linear Systems) 5, 9, 15, 17, 21, **29**
Sec 7.3 (The Eigenvalue Method for Linear Systems) 1, 5, 17, 22, 25, **43**
Sec 7.6 (Multiple Eigenvalue Solutions) 7, 11, 15, 19, 23, 25, **33**
Sec 7.4 (A Gallery of Solutions Curves of Linear Systems) 1, 5, 6, 9, 17
Sec 7.4 (A Gallery of Solutions Curves of Linear Systems) 19, 23, 24, **29**

Students should also consult *Academic Calendar. Key University dates for the Spring 2021 semester are:*

Jan. 4 – Academic Year Faculty/Staff First Day
Jan. 19 – Classes Begin
Feb. 17 – Reading Day
March 18 – Reading Day
April 13 – Reading Day
May 1 – Classes End
May 3-8 – Final Exams
May 8 – Semester Ends
May 11 – Grades Due

Accessibility

Purdue University strives to make learning experiences as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, you are also to contact the Disability Resource Center at: drc@purdue.edu or by phone: 765-494-1247.

If you have been certified by the Disability Resource Center (DRC) as eligible for academic adjustments on exams or quizzes, any accommodations for extra time for exams will be entered automatically by your TA in MyLabMath. If you have other questions about exams, please contact Stephanie Foster (foster80@purdue.edu). For accommodations regarding quizzes, please contact your TA and/or lecturer.

In the event that you are waiting to be certified by the Disability Resource Center we encourage you to review our procedures prior to being certified.

For all in-class accommodations please contact your instructor as soon as possible. Here are instructions for sending your Course Accessibility Letter to your instructor:
https://www.purdue.edu/drc/students/course-accessibility-letter.php

Students will receive additional time during online quizzes and exams according to their Course Accessibility Letter.

Academic Guidance in the Event a Student is Quarantined/Isolated

If you become quarantined or isolated at any point in time during the semester, in addition to support from the Protect Purdue Health Center, you will also have access to an Academic Case Manager who can provide you academic support during this time. Your Academic Case Manager

can be reached at acmq@purdue.edu and will provide you with general guidelines/resources around communicating with your instructors, be available for academic support, and offer suggestions for how to be successful when learning remotely. Importantly, if you find yourself too sick to progress in the course, notify your academic case manager and notify your professor and TA via email or Brightspace. They will make arrangements based on your particular situation. The Office of the Dean of Students (odos@purdue.edu) is also available to support you should this situation occur.

Attendance Policy during COVID-19

Students should stay home and contact the Protect Purdue Health Center (496-INFO) if they feel ill, have any symptoms associated with COVID-19, or suspect they have been exposed to the virus. In the current context of COVID-19, in-person attendance will not be a factor in the final grades, but the student still needs to inform the instructor of any conflict that can be anticipated and will affect the submission of an assignment or the ability to take an exam. Only the instructor can excuse a student from a course requirement or responsibility. When conflicts can be anticipated, such as for many university-sponsored activities and religious observations, the student should inform the instructor of the situation as far in advance as possible. For unanticipated or emergency conflict, when advance notification to an instructor is not possible, the student should contact the instructor as soon as possible by email. When the student is unable to make direct contact with the instructor and is unable to leave word with the instructor's department because of circumstances beyond the student's control, and in cases of bereavement, quarantine, or isolation, the student or the student's representative should contact the Office of the Dean of Students via email or phone at 765-494-1747. Our course Brightspace includes a link on Attendance and Grief Absence policies under the University Policies menu.

Classroom Guidance Regarding Protect Purdue

The Protect Purdue Plan, which includes the Protect Purdue Pledge, is campus policy and as such all members of the Purdue community must comply with the required health and safety guidelines. Required behaviors in this class include: staying home and contacting the Protect Purdue Health Center (496-INFO) if you feel ill or know you have been exposed to the virus, wearing a mask in classrooms and campus building, at all times (e.g., no eating/drinking in the classroom), disinfecting desk/workspace prior to and after use, maintaining proper social distancing with peers and instructors (including when entering/exiting classrooms), refraining from moving furniture, avoiding shared use of personal items, maintaining robust hygiene (e.g., handwashing, disposal of tissues) prior to, during and after class, and following all safety directions from the instructor.

Students who are not engaging in these behaviors (e.g., wearing a mask) will be offered the opportunity to comply. If non-compliance continues, possible results include instructors asking the student to leave class and instructors dismissing the whole class. Students who do not comply with the required health behaviors are violating the University Code of Conduct and will be reported to the Dean of Students Office with sanctions ranging from educational requirements to dismissal from the university.

Any student who has substantial reason to believe that another person in a campus room (e.g., classroom) is threatening the safety of others by not complying (e.g., not wearing a mask) may leave the room without consequence. The student is encouraged to report the behavior to and discuss next steps with their instructor. Students also have the option of reporting the behavior to the Office of the Student Rights and Responsibilities. See also Purdue University Bill of Student Rights.

Nondiscrimination Statement

Purdue University is committed to maintaining a community which recognizes and values the inherent worth and dignity of every person; fosters tolerance, sensitivity, understanding, and mutual respect among its members; and encourages each individual to strive to reach his or her own potential. In pursuit of its goal of academic excellence, the University seeks to develop and nurture diversity. The University believes that diversity among its many members strengthens the institution, stimulates creativity, promotes the exchange of ideas, and enriches campus life. More details are available on our course Brightspace table of contents, under University Policies.

Mental Health Statement

If you find yourself beginning to feel some stress, anxiety and/or feeling slightly overwhelmed, try WellTrack. Sign in and find information and tools at your fingertips, available to you at any time.

If you need support and information about options and resources, please contact or see the Office of the Dean of Students. Call 765-494-1747. Hours of operation are M-F, 8 am- 5 pm.

If you find yourself struggling to find a healthy balance between academics, social life, stress, etc. sign up for free one-on-one virtual or in-person sessions with a Purdue Wellness Coach at RecWell. Student coaches can help you navigate through barriers and challenges toward your goals throughout the semester. Sign up is completely free and can be done on BoilerConnect. If you have any questions, please contact Purdue Wellness at evans240@purdue.edu.

If you're struggling and need mental health services: Purdue University is committed to advancing the mental health and well-being of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of mental health support, services are available. For help, such individuals should contact Counseling and Psychological Services (CAPS) at 765-494-6995 during and after hours, on weekends and holidays, or by going to the CAPS office of the second floor of the Purdue University Student Health Center (PUSH) during business hours.

Emergency Preparation

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances beyond the instructor's control. Relevant changes to this course will be posted onto the course website or can be obtained by contacting the instructors or TAs via email or phone. You are expected to read your @purdue.edu email on a frequent basis.

Related Considerations and Guidelines

1. *If you experience any symptoms of COVID-19 or suspect you may have been exposed to someone with COVID-19 stay home and call the Protect Purdue Health Center at 765-496-INFO.*
2. *Keep your cell phone on to receive a Purdue ALERT text message.*
3. Emergency preparedness is your personal responsibility. Purdue University is actively preparing for natural disasters or human-caused incidents with the ultimate goal of maintaining a safe and secure campus. Let's review the following procedure
    - For any emergency text or call 911.
    - There are more than 300 Emergency Telephones (aka blue lights) throughout campus that connect directly to the Purdue Police Department (PUPD). If you feel threatened or need help, push the button and you will be connected right away.
    - If we hear a fire alarm, we will immediately evacuate the building. Do not use the elevator. Go over the evacuation route (see specific Building Emergency Plan).
    - If we are notified of a Shelter in Place requirement for a tornado warning we will stop classroom or research activities and shelter in the lowest level of this building away from windows and doors.
    - If we are notified of a Shelter in Place requirement for a hazardous materials release, we will shelter in our classroom shutting any open doors and windows.
    - If we are notified of a Shelter in Place requirement for an active threat such as a shooting, we will shelter in a room that is securable preferably without windows.
    - **(NOTE: Each building will have different evacuation & shelter locations. The specific Building Emergency Plan will provide specific locations and procedures)**