

System Dynamics - ME-3017-D

 Edit

ME 3017 D - System Dynamics

Spring 2026

Mon/Wed 9:30 AM - 10:45 AM, Instructional Center room 109

1. Logistics


Instruction Mode: In-person

Class: Mon/Wed 9:30 AM - 10:45 AM, Instructional Center room 109

Questions: Below are many methods to support you in this class. If you have questions, please first post in Ed Discussion (see tab on Canvas) so that other students can benefit!

Instructor: Jacob Blevins

Contact Info: Send an email to jacob.blevins@gatech.edu (<mailto:jacob.blevins@gatech.edu>) with "ME 3017" at the beginning of the subject line. **If you do not include ME 3017 in your subject line, there is a chance I will miss your email!**

Office Hours: Love 126, Time TBD. Please fill out this form for your preferred time by the 2nd week of class: <https://whenisgood.net/j5nr8ci>  (<https://whenisgood.net/j5nr8ci>)

These are **walk-in** office hours. If the time doesn't work for you, please email Jacob to coordinate a separate time (on a one-off basis).

Graders: Arsh Ali aali344@gatech.edu (<mailto:aali344@gatech.edu>) and Brower Zhang bzhang600@gatech.edu (<mailto:bzhang600@gatech.edu>)

For questions or discrepancies regarding grading of homework, please talk with the grader first. The grader will recommend to the instructor whether your grade should be changed.

TA: Saaketh Reddy Chintha Reddy

Recitation Hours (You can go to any):

- **Wednesdays, 5:00–6:15 PM, Culc 129** – Dr. Zhao
- **Thursdays, 5:00–6:15 PM, Bunger-Henry 380** – Dr. Sadegh
- **Fridays, 12:30–1:45 PM, Mason 3132** – Dr. Kousik
- **Fridays, 2:00–3:15 PM, Howey S204**– Mr. Blevins

Office Hours: Tuesdays from 12:00pm to 1:00pm (In-person) 2nd Floor Lounge Area of Love Building and Thursdays from 12:00pm to 1:00pm (Virtually on Teams).

Recitations will start on January 14th.

Contact Info: Send an email to saaketh@gatech.edu (mailto:saaketh@gatech.edu) with "ME 3017" at the beginning of the subject line.

Recitation Recordings Link:- https://gtvault-my.sharepoint.com/:f:/g/personal/sreddy308_gatech_edu/EmZnz3UPd-ZEojhr9XLTbsMBwh3uQytQS0iM2p0PcR4GIA?e=UvgB9e (https://gtvault-my.sharepoint.com/:f:/g/personal/sreddy308_gatech_edu/EmZnz3UPd-ZEojhr9XLTbsMBwh3uQytQS0iM2p0PcR4GIA?e=UvgB9e)
(<https://gatech.instructure.com/courses/499538/files/69467069?wrap=1>)

Virtual Recitation/OH link:- https://teams.microsoft.com/l/meetup-join/19%3ameeting_MjMyMGI4OGYtMjMxNS00YzQxLWFiYjltYWJhZjliYjg1ZTMx%40thread.v2/0?context=%7b%22Tid%22%3a%22482198bb-ae7b-4b25-8b7a-6d7f32faa083%22%2c%22Oid%22%3a%222f63d6a0-20ee-4fe1-996e-2696f998d1e5%22%7d
(https://teams.microsoft.com/l/meetup-join/19%3ameeting_M2E1NWJjOWQtNzgxZi00YmQxLWFKYmUtZjJmMTk5N2EzZmI2%40thread.v2/0?context=%7b%22Tid%22%3a%22482198bb-ae7b-4b25-8b7a-6d7f32faa083%22%2c%22Oid%22%3a%222f63d6a0-20ee-4fe1-996e-2696f998d1e5%22%7d)

Knack (1-1) Tutoring: See here: <https://tutoring.gatech.edu/> (<https://tutoring.gatech.edu/>)

Shell Tutoring: See Below

Course	Days	Tutors & Contact Info
COE 2001 -- Statics	M-Th	Maxwell Willis mwillis64@gatech.edu (mailto:mwillis64@gatech.edu) Ryan Bayes rbayes3@gatech.edu (mailto:rbayes3@gatech.edu)
COE 3001 -- Mechanics of Deformable Bodies	M-Th	Marzanul Islam mislam314@gatech.edu (mailto:mislam314@gatech.edu) Elizabeth Chu echu45@gatech.edu (mailto:echu45@gatech.edu)
ME 2016 -- Computing Techniques	T/Th	Madison Smith msmith748@gatech.edu (mailto:kclark302@gatech.edu)
ME 2202 -- Dynamics	M/W	Madeline Griffith mgriffith39@gatech.edu (mailto:mgriffith39@gatech.edu)
ME 3017 -- System Dynamics	M/W	Sayonee Das sdas356@gatech.edu (mailto:sdas356@gatech.edu)
ME 3180 -- Machine Design	M/W	Ved Zalavadia vzalavadia6@gatech.edu (mailto:vzalavadia6@gatech.edu)
ME 3322 -- Thermodynamics	M/W	David Harrington Dharrington8@gatech.edu (mailto:Dharrington8@gatech.edu)
ME 3340 -- Fluid Mechanics	T/Th	Nihanth Pinnaka npinnaka3@gatech.edu (mailto:npinnaka3@gatech.edu)

ME 3345 -- Heat Transfer T/Th Kevin Andersen Kandersen8@gatech.edu
[\(mailto:Kandersen8@gatech.edu\)](mailto:Kandersen8@gatech.edu)

All Locations are MRDC 4th Floor **Tutoring begins 2nd week of classes** **Tutoring ends final day of classes**

2. Purpose of this Class

TL;DR: There are a bunch of ways to mathematically model and analyze real-world dynamical systems. All models are wrong, but some are useful!

This course teaches the principles required to solve introductory system dynamics problems. The topics addressed include dynamic modeling and simulation of systems with mechanical and electrical elements, plus extensions to thermal and hydraulic elements. The course presents a variety of methods of analysis, including time domain, Laplace domain, frequency response, state space, stability, and introductory feedback control design. The long-term goal is to prepare and motivate you to study control of dynamical systems.

3. Skill Objectives and Student/Instructor Expectations

A. Skill Objectives: What skills should you expect to learn in this class?

Skill 1: Mathematically model a variety of real-world dynamical systems

- 1.1 Use differential equations, transfer functions, block diagrams, and state space models
- 1.2 Model mechanical, electrical, thermal, and fluid systems
- 1.3 Model mixed systems, such as electromechanical or hydromechanical systems
- 1.4 Understand linear vs. nonlinear system models and their pros/cons

Skill 2: Simulate and analyze linear dynamic systems' input-output responses.

- 2.1 Model, simulate, and analyze response to transient inputs (e.g., step inputs) (i.e., time domain analysis)
- 2.2 Model, simulate, and analyze response to input vibrations (i.e., frequency domain analysis)
- 2.3 Model, simulate, and analyze free vibration of multi-degree-of-freedom systems
- 2.4 Determine when to apply time and/or frequency response analyses to system identification and design modification
- 2.5 Determine when to use different system models for different types of analysis

Skill 3: Design and analyze basic feedback control systems.

- 3.1 Relate system specifications to transient, frequency, and stability analysis
- 3.2 Create, simplify, and simulate block diagram system models with feedback

3.3 Design, simulate, and analyze basic automatic controllers using transfer function analysis

3.4 Derive, simulate, and analyze closed-loop feedback control systems in state space

B. Student/Instructor Mutual Expectations: What can we expect of each other?

Practicality: The instructor will make an effort to relate mathematical concepts to real-world, practical examples. "All models are useful" only makes sense when models are actually related to useful things.

Communication: If a subset of students require a particular accommodation or point out a way the course can be improved, and if this is reasonable to implement, the instructor will implement and communicate such changes to the entire course.

Fairness: If a tool, method, or concept helps a particular student or study group, the instructor will attempt to ensure that all students have access to it.

Diligence: System dynamics is often unintuitive and challenging! The instructor will not usually directly answer homework questions, but instead attempt to provide a path for the student to discover solutions on their own.

Attentiveness: The instructor may make small mistakes or errors while teaching. Students who catch errors should point them out for the benefit of the entire class. The class should be informed of errors that are found outside of lecture.

Teamwork: Students are expected to work together both in and out of class. The instructor should create opportunities to enable collaboration.

Honesty: The students and instructor should feel comfortable saying "I don't know" when they genuinely don't know. This is a useful signal for everyone to follow up on uncertain or unclear concepts!

4. Grade Plan

A. Grade Breakdown

GRADED EVENT	POINTS	PERCENT
Homework Problem Sets (5 x 60 pts)	300	30%
Midterm Exams (2 x 250pts)	500	50%
Project (Proposal: 25pts)	200	20%

(Midterm: 75pts) (Report: 100pts)		
TOTAL	1000	100

Note that there may be extra credit opportunities on the homework and exams.

B. Grading Scheme

The following grades are guaranteed:

A \geq 90.0%

B \geq 80.0%

C \geq 70.0%

D \geq 60.0%

F < 60%

C. Extra Credit Opportunities


To ensure fairness, there will be no extra credit opportunities given to only those who need additional points to improve the letter grade. Each homework and exam may include extra points. Also see the exam points back and error bounty points below.

D. Justifying Answers and Citing Sources

Any time you answer a graded question in this class, you are expected to justify your answer. This means presenting a logical reason or sequence of reasons that clearly demonstrate why your answer is correct. **You will not earn full credit for correct answers provided without justification.**

For homework and class projects, any time you make a claim, you must either support it via experiments (in this class, that means simulations), or else cite an academic source, textbook, or your course notes (from either ME 3017 or another course).

A claim is a statement used to support or explain your ideas. Whether or not a citation is required comes down to common-sense judgment about whether or not a claim is “commonly known,” either to the general public, or to a specific research community.

We do not have any specific requirement for how you cite sources, but generally recommend using [IEEE format](https://owl.purdue.edu/owl/research_and_citation/ieee_style/ieee_overview.html)  (https://owl.purdue.edu/owl/research_and_citation/ieee_style/ieee_overview.html).

Examples:

- The claim, “a reasonable choice of spring rate for a front shock absorber is 450 lbs/in” requires a citation, because it is not commonly known. The source [1] below is one way to cite this, via a website.
- The claim, “a quadrotor’s thrust force can be modeled as a linear function of its rotor speed” requires a citation because, while it is commonly known within some communities, it is better to cite

an academic source, such as [2, Equation (2)].

- The claim, “the speed of light is 299,792,458 metres per second,” does not need a citation because it is well-known (and is the definition of a meter).

References

[1] Raceland, Subaru impreza wrx gd classic coilovers (2002-2007), 2025. Available online:

<https://raceland.com/product/subaru-impreza-wrx-gd-adj-damping-coilovers-2002-2007/>

[\(https://raceland.com/product/subaru-impreza-wrx-gd-adj-damping-coilovers-2002-2007/\)](https://raceland.com/product/subaru-impreza-wrx-gd-adj-damping-coilovers-2002-2007/)

[2] D. Mellinger and V. Kumar, “Minimum snap trajectory generation and control for quadrotors,” in 2011 IEEE international conference on robotics and automation, IEEE, 2011, pp. 2520–2525.

E. Sketches on Homework, Projects, and Exams

You will often be asked to sketch system diagrams and plots. These sketches do *not* need to be perfect to earn full credit!

For system diagrams, all components should be clearly labeled. Time-varying quantities or components should be clearly indicated.

For plots, all axes, intercepts, curves, and the origin should be labeled. **You will not receive full credit for a plot that is missing one or more of these labels.**

5. Homework

A. Problem Sets (PS 1-5) (will be graded)

There are 5 problem sets (PS 1-5) during the course.

Problem sets are due at the end of the day (midnight 11:59 PM ET) on the date specified.

Submission must be done electronically via the Canvas "Assignment" function. You cannot submit a homework assignment by email or by handing in a physical copy.

Late penalties will be assessed in accordance with the policy below.

6. Project - TBD

A. Overview

will be a course project meant to allow you to apply your system dynamics knowledge to a problem you really care about. This is your chance to think outside of the box and have fun! The requirements are minimal such that you can be creative.

The project will roughly consist of:

1. choosing a system that your team finds interesting
2. modeling the system's dynamics,
3. analyzing the system's properties,

4. designing a control strategy for the system,
5. simulating your system with MATLAB/Simulink, and most importantly,
6. justifying each of your choices in both words and math.

B. Self-Assigned Groups

The project will occur in self-assigned groups of 3. **Assign yourself to a group on Canvas in the "People" section.**

If necessary, groups of fewer students can be made at the instructor's discretion, but the expectations for the project deliverables will be the same.

Each student is expected to contribute equally to the project throughout the semester.

If you are having issues with your group, please let the instructor know ASAP. It is much easier to rectify issues that are brought up a week before a deadline instead of a week after a deadline.

C. Organization

The project will consist three parts + peer evaluations:

1. Proposal
2. Midterm Update + Midterm Peer Evaluation
3. Final Report + Final Peer Evaluation

Only one member of each group needs to submit the team deliverables.

Overleaf/LaTeX is recommended for report writing.

Late penalties will be assessed in accordance with the policy below.

D. Peer Evaluations

You will submit a midterm and final peer evaluation for your project group. **If you do not submit a peer evaluation, you will receive no points for your midterm/final project report.**

Note that peer evaluations are submitted individually, not through groups.

7. Midsemester Evaluation

There is an opportunity for 5 bonus points in the middle of the semester by answering a short midsemester evaluation. This should be answered via text input on Canvas.

8. Exams

A. Format

Midterm exams will be in person (see the schedule below). You will work on handwritten, printed exams in the usual classroom.

There will be no MATLAB questions on in-person exams.

All students are expected to attend the examinations in the course. **There will not be any make-ahead or make-up exams.** If you have a situation that you feel will prohibit your attendance for an exam, e.g. attendance at an immediate family member's wedding, death, etc., due to legitimate reasons, please consult with the instructor as soon as possible after the beginning of the academic term to discuss.

B. Note Sheet Policy

All exams are closed book and notes unless otherwise specified. For each exam, students are allowed to bring in one (1) 8 ½ X 11 piece of paper with notes on both sides. These sheets are cumulative. For the first exam, one (1) sheet is allowed. For the 2nd exam, you may bring in two (2) sheets, one of which can be your sheet from Exam 1. **The note sheet does not need to be hand-written.** You can choose to hand write it, write it on a tablet and print it, type it up, copy/paste the notes, or whatever helps you study.

C. Logistics

For both exams, you will be provided with the [Laplace transformation table \(https://gatech.instructure.com/courses/499538/files/69467165?wrap=1\)](https://gatech.instructure.com/courses/499538/files/69467165?wrap=1) and [block diagram simplification table \(https://gatech.instructure.com/courses/499538/files/69478279?wrap=1\)](https://gatech.instructure.com/courses/499538/files/69478279?wrap=1).

Midterm exam 1 covering Units 1-5. Closed book and notes. You may bring one (1) 8.5"x11" sheet of notes.

Midterm exam 2 covering Units 6-9. Closed book and notes. You may bring two (2) 8.5"x11" sheets of notes, one of which can be your note sheet from Exam 1.

Past exams and solutions are available for your study. See Files > past exams.

9. Exam Points Back

For each of the two midterms, you may resubmit problems for regrading. It is at the instructor's discretion how many problems or points will be allotted for points back. **For a given number of points allotted, you may resubmit more questions than total to that number of points, but you will only earn up to the total allotted.**

This is due one week after the exams have been handed back -- an assignment will be created on Canvas. The late policy

You must submit the points back question on Canvas as a PDF, and **you must include a picture or scan of your original answer and score for the problem.** If you do not include your original answer, you will receive no credit!

The instructor will not answer any questions about technical content for exam points back. You may ask clarification questions (i.e., the same kinds of questions you might ask during an exam), but we will not provide specific guidance on how to solve the problems.

10. Error Bounty

If you find an error in an exam, homework, solution, or course notes, please email the instructor ASAP.

The instructor *may* award you a "bounty" of extra points. This bounty will typically be the same value as the error (i.e., you get extra points depending on how many points off you would receive due to the error).

It is completely up to the discretion of the instructor whether or not a bounty will be awarded, and how many points will be awarded.

11. Written Submission Documentation (PS 1-5, Project Reports, and Exam Points Back)

You must properly document all written submissions. You should provide sufficient details of your approach and results (code, plots, etc.) to justify your answers. Answers without justification will not receive points. Poorly written reports will not receive full credit.

Create a single PDF file containing all written answers, derivations, and plots, and upload it to Canvas via the appropriate Assignments page. You may upload code separately.

You must document any assistance that you received from any person or any reference.

You may work with each other on the problem sets. Indeed, to maximize your learning, we encourage you to work out the problems separately, then meet in study groups to compare your answers, and to combine forces in trying to solve some of the more difficult problems. However, you are expected to do your own work, and to write up your answers separately after you have met and discussed them. Again, **specifically document the assistance that you receive.**

12. Late Submission Policy

Assignments are due by their listed times on Canvas.

There will be a grace period for all assignments (besides exams) of 48 hours, meaning that you will still receive full credit if you submit your work within this period.

Any work submitted after the grace period (> 48 hrs late) will receive a 0%.

In cases where there may be a legitimate reason for missing the turn-in date (e.g. hospitalization, emergency travel, etc.), contact the instructor as soon as possible to coordinate the late submission. In general, the Office of the Dean of Students will assist you. If you coordinate a late submission in advance of the required submission date and receive approval, you will not incur a late penalty. **Note that legitimate reasons do not include cases where you have assignments, exams, or projects in other courses.**

Note about electronic submission: Extensions will not be given automatically for internet connection or other computer/technical issues. Similar to legitimate reasons mentioned above, you are required to provide evidence to request accommodation.

13. Academic Misconduct:

All students are expected to comply with the Georgia Tech Honor Code. Any evidence of cheating or other violations will be referred to the Dean of Students with a recommendation that the penalty be an award of zero points for the graded requirement, and a one letter grade reduction in the course. Cheating includes, but is not limited to: using unauthorized references or notes; copying directly from any source, including friends, classmates, tutors, or a solutions manual; allowing another person to copy your work; taking an exam or handing in a graded requirement in someone else's name, or having someone else take an exam or hand in a graded requirement in your name; or asking for a re-grade of a paper that has been altered from its original form.


If any cheating activities are identified, the school recommends that the course will void the entire assignment (HW or exam) and give a zero grade to all students.


14. Accommodations for Students with Disabilities and for Students at Higher Risk for Severe Illness with Covid-19:

Students may request an accommodation through the Office of Disability Services (ODS) due to 1) presence of a condition as defined by the Americans with Disabilities Act (ADA), or 2) identification as an individual of higher risk for Covid-19, as defined by the Centers for Disease Control (CDC). Registering with ODS is a 3-step process that includes completing an application, uploading documentation related to the accommodation request, and scheduling an appointment for an "intake meeting" (either in person or via phone or video conference) with a disability coordinator.

If you have been approved by ODS for an accommodation, the instructor will work closely with you to understand your needs and make a good faith effort to investigate whether or not requested accommodations are possible for this course. If the accommodation request results in a fundamental alteration of the stated learning outcome of this course, ODS, academic advisors, and the school offering the course will work with you to find a suitable alternative that as far as possible preserves your progress toward graduation.

15. Medical Concern Policy

Please DO NOT send the test result or any documents of your private medical record to the instructor. **Communicate with the Dean of Students** (<https://studentlife.gatech.edu/about/student-life-directory>  (<https://studentlife.gatech.edu/about/student-life-directory>)). Usually, a notice requesting accommodations will be sent to all courses you are taking in the semester. The notice does not include any specific information about the illness to protect privacy (it says "medical issues" or just "issues"). Once the instructor receives and confirms the official notice, the student is granted an extension following the suggested accommodations.

If you have a medical concern and need to miss class (especially multiple days or exams), please provide documentation here: <https://studentlife.gatech.edu/request-assistance>  (<https://studentlife.gatech.edu/request-assistance>)

16. Reference Materials:

Main reference: Palm, William J., III, System Dynamics, 3rd Edition, McGraw-Hill College.

Additional reference: Ogata, K., System Dynamics, 4th Edition, Prentice-Hall, 2004.

You are encouraged to get one of the reference books, but **you are not required to purchase them.**

MATLAB Examples: <https://ctms.engin.umich.edu/CTMS/index.php?aux=Home> 
(<https://ctms.engin.umich.edu/CTMS/index.php?aux=Home>)

MATLAB Lectures: <https://engineeringmedia.com/videos>  (<https://engineeringmedia.com/videos>)

17. Computer Usage

MATLAB (signal processing toolbox, control system toolbox, SimuLink) will be used for the homework assignments and the project. You can download the latest copy from **OIT**. (<http://software.oit.gatech.edu/>). If you are unable to install MATLAB and toolboxes on your own computer, you can use VLab (mycloud.gatech.edu).

(<http://software.oit.gatech.edu/>) MATLAB-related problems will not be given in Exams.

Homework questions will specify if you must answer them using MATLAB.

For any HW problem, you are always welcome to use MATLAB, WolframAlpha, ChatGPT, StackOverflow, or whatever you like to double-check or help justify your work (e.g., by plotting a time signal). **If you use software to answer problems, you must write out your math/reasoning and submit your code or AI prompts to receive full credit. You must cite any resources that you use to answer problems.** You may include your code/prompts in your PDF submission file, or upload it separately.

18. Website and Structure of Canvas Page

This syllabus page is the home page for this class.

A. Course Notes

Course notes are available and will be regularly updated in the "Files" section in Canvas.

B. Problem Sets and Exams

Solutions for exams and homework assignments will be uploaded in the "Files" section in Canvas.

C. Course Communication

Course communication will be posted in the "Announcements" section. The course instructors will also participate in the "Ed Discussion" section -- please use it to ask questions!

D. Discussions



You are encouraged to post questions on the Ed Discussion board so that other students can benefit. Note that it is possible to post anonymously.



19. Services for Students in Distress

As a student you may experience a range of issues that can cause barriers to learning, such as concerns related to the current pandemic, strained relationships, increased anxiety, alcohol/drug problems, depression, difficulty concentrating, and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce the student's ability to participate in daily activities. GT offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know is experiencing any of the issues noted above, consider utilizing the confidential mental health services available on campus. You are encouraged to reach out to GT CARE (www.care.gatech.edu, 404-894-3498) or the Counseling Center (www.counseling.gatech.edu, 404-894-2575) for support. An on-campus counselor and after-hours services are available to assist you.

20. Contact Information and Helpful Links

This table provides a list of whom to contact for which potential concern. Start with the primary contact, and escalate to the secondary contact if you get no response or an insufficient response.

Concern	Primary Contact	Secondary Contact
Homework grade	Message the graders	Email the instructor
Homework question	Post on Ed Discussion	Email the TA and CC the instructor
Exam grade	Email the instructor	n/a
Missing lecture for personal reason	Email the instructor	See here: https://catalog.gatech.edu/policies/student-absence-regulations/  (https://catalog.gatech.edu/policies/student-absence-regulations/).
Missing lecture or exam for medical reason	Email the instructor but do not include medical records Submit documentation here: https://studentlife.gatech.edu/request-assistance 	See here: https://catalog.gatech.edu/policies/student-absence-regulations/  (https://catalog.gatech.edu/policies/student-absence-regulations/).

	(https://studentlife.gatech.edu/request-assistance)	
Need extension on HW for legitimate reason	Email the instructor and CC the graders	n/a
Issue with graders or TA	Email the instructor	Email the Associate Chair for Undergraduate Studies
Issue with instructor	Email the Associate Chair for Undergraduate Studies	Email the Dean of Students
Issue with course scheduling	Email your academic advisor: https://advising.gatech.edu/find-your-advisor  (https://advising.gatech.edu/find-your-advisor)	n/a
Mental health non-emergency	See here: https://mentalhealth.gatech.edu/  (https://mentalhealth.gatech.edu/)	n/a
Mental health immediate support	Call 404.894.2575	n/a
Emergency on campus	Call GTPD: 404.894.2500	Call 911

21. Schedule:

Note, the problem set due dates are not yet guaranteed.

Note, the lecture schedule is tentative depending on how long it takes to cover each part of the material.

Week	Date	Day	Subject	Deliverables Due (11:59pm)
1	1/12	M	Unit 1: Introduction	
	1/14	W	Unit 2: The Laplace Transform	
2	1/19	M	No Class: MLK	

	1/21	W	Unit 2 continued	
	1/25	Sun	N/A	Verification of Participation (No grace period)
3	1/26	M	Unit 2 continued	
	1/28	W	Unit 3: Modeling of Mechanical Systems	Problem Set 1
4	2/2	M	Unit 3 continued	
	2/4	W	Project Example	Form Project Groups (email Jacob group member names)
	2/8	Sun	N/A	
5	2/9	M	Unit 4: Transfer Functions and Block Diagrams	
	2/11	W	Unit 4 continued Unit 5: The State Space Approach	Problem Set 2
	2/15	Sun	N/A	Project Proposal Project Proposal Peer Eval
6	2/16	M	Unit 5 continued	
	2/18	W	Unit 5 continued	
	2/22	Sun	N/A	Problem Set 3
7	2/23	M	Unit 1-5 Knowledge Synthesis	
	2/25	W	Exam 1 covering Units 1-5	Exam 1
8	3/2	M	Unit 6: Electrical and Electromechanical Systems	



	3/4	W	Unit 6 continued (Exam 1 returned)	
	3/8	Sun	N/A	Midsemester Evaluation Due
9	3/9	M	Unit 6 continued	
	3/11	W	Unit 7: Transient Response	Exam 1 Points Back
	3/15	Sun	N/A	Project Midterm Project Midterm Peer Eval
10	3/16	M	Unit 7 continued	
	3/18	W	Unit 8: Frequency Domain Analysis	
11	3/23	M	No Class: Spring Break	
	3/25	W	No Class: Spring Break	
	3/29	Sun	N/A	Problem Set 4
12	3/30	M	PRE-RECORDED. Unit 8 continued	
	4/1	W	Unit 8 continued	
13	4/6	M	Unit 9: Linearization	










	4/8	W	Unit 9 continued	
	4/12	Sun	N/A	Problem Set 5
14	4/13	M	Unit 10: Feedback Control	
	4/15	W	Unit 10 continued: Special Topics! (Exam 2 returned)	
15	4/20	M	Units 6-10 Knowledge Synthesis	
	4/22	W	Exam 2 covering Units 6-10	Exam 2
16	4/27	M	None: Pick up graded exam 2 in Love 126	
	4/29	W	None: Reading Day	
17	5/4	M	N/A	Project Final Report Project Final Peer Eval Exam 2 Points Back
	5/6	W	N/A	

22. Acknowledgements













This course and its Canvas course page were prepared based heavily on the course pages from Profs. Shreyas Kousik, Jun Ueda, and Ye Zhao.












Course Summary:


Date	Details	Due
Wed Jan 22, 2025	 System Dynamics - ME-3017-D (https://gatech.instructure.com/calendar?event_id=4959959&include_contexts=course_499538)	12:30pm to 1:45pm
Mon Jan 12, 2026	 System Dynamics - ME-3017-D Lecture (https://gatech.instructure.com/calendar?event_id=4993557&include_contexts=course_499538)	9:30am to 10:45am

Date	Details	Due
Wed Jan 14, 2026	 System Dynamics - ME-3017-D Lecture https://gatech.instructure.com/calendar?event_id=4993559&include_contexts=course_499538	9:30am to 10:45am
Mon Jan 19, 2026	 System Dynamics - ME-3017-D Lecture https://gatech.instructure.com/calendar?event_id=4993561&include_contexts=course_499538	9:30am to 10:45am
Wed Jan 21, 2026	 System Dynamics - ME-3017-D Lecture https://gatech.instructure.com/calendar?event_id=4993585&include_contexts=course_499538	9:30am to 10:45am
Sun Jan 25, 2026	 Verification of Participation https://gatech.instructure.com/courses/499538/assignments/2312910	due by 11:59pm
Mon Jan 26, 2026	 System Dynamics - ME-3017-D Lecture https://gatech.instructure.com/calendar?event_id=4993597&include_contexts=course_499538	9:30am to 10:45am
Wed Jan 28, 2026	 System Dynamics - ME-3017-D Lecture https://gatech.instructure.com/calendar?event_id=4993599&include_contexts=course_499538	9:30am to 10:45am
	 Problem Set 1 https://gatech.instructure.com/courses/499538/assignments/2312890	due by 11:59pm
Mon Feb 2, 2026	 System Dynamics - ME-3017-D Lecture https://gatech.instructure.com/calendar?event_id=4993601&include_contexts=course_499538	9:30am to 10:45am
Wed Feb 4, 2026	 System Dynamics - ME-3017-D Lecture https://gatech.instructure.com/calendar?event_id=4993603&include_contexts=course_499538	9:30am to 10:45am
Mon Feb 9, 2026	 System Dynamics - ME-3017-D Lecture https://gatech.instructure.com/calendar?event_id=4993605&include_contexts=course_499538	9:30am to 10:45am

Date	Details	Due
Wed Feb 11, 2026	 System Dynamics - ME-3017-D Lecture (https://gatech.instructure.com/calendar?event_id=4993607&include_contexts=course_499538)	9:30am to 10:45am
	 Problem Set 2 (https://gatech.instructure.com/courses/499538/assignments/2312892)	due by 11:59pm
Sun Feb 15, 2026	 Project Proposal (https://gatech.instructure.com/courses/499538/assignments/2312908)	due by 11:59pm
	 Project Proposal Peer Eval (https://gatech.instructure.com/courses/499538/assignments/2312904)	due by 11:59pm
Mon Feb 16, 2026	 System Dynamics - ME-3017-D Lecture (https://gatech.instructure.com/calendar?event_id=4993609&include_contexts=course_499538)	9:30am to 10:45am
Wed Feb 18, 2026	 System Dynamics - ME-3017-D Lecture (https://gatech.instructure.com/calendar?event_id=4993611&include_contexts=course_499538)	9:30am to 10:45am
Sun Feb 22, 2026	 Problem Set 3 (https://gatech.instructure.com/courses/499538/assignments/2312894)	due by 11:59pm
Mon Feb 23, 2026	 System Dynamics - ME-3017-D Lecture (https://gatech.instructure.com/calendar?event_id=4993613&include_contexts=course_499538)	9:30am to 10:45am
Wed Feb 25, 2026	 System Dynamics - ME-3017-D Lecture (https://gatech.instructure.com/calendar?event_id=4993615&include_contexts=course_499538)	9:30am to 10:45am
Mon Mar 2, 2026	 System Dynamics - ME-3017-D Lecture (https://gatech.instructure.com/calendar?event_id=4993617&include_contexts=course_499538)	9:30am to 10:45am
Wed Mar 4, 2026	 System Dynamics - ME-3017-D Lecture (https://gatech.instructure.com/calendar?event_id=4993619&include_contexts=course_499538)	9:30am to 10:45am

Date	Details	Due
Sun Mar 8, 2026	 Midsemester Evaluation (https://gatech.instructure.com/courses/499538/assignments/2312888) 	due by 11:59pm
Mon Mar 9, 2026	 System Dynamics - ME-3017-D Lecture (https://gatech.instructure.com/calendar?event_id=4993621&include_contexts=course_499538) 	9:30am to 10:45am
Wed Mar 11, 2026	 System Dynamics - ME-3017-D Lecture (https://gatech.instructure.com/calendar?event_id=4993623&include_contexts=course_499538) 	9:30am to 10:45am
Sun Mar 15, 2026	 Exam 1 Points Back (https://gatech.instructure.com/courses/499538/assignments/2312882) 	due by 11:59pm
Sun Mar 15, 2026	 Project Midterm Peer Eval (https://gatech.instructure.com/courses/499538/assignments/2385878) 	due by 11:59pm
Sun Mar 15, 2026	 Project Midterm (https://gatech.instructure.com/courses/499538/assignments/2385876) 	due by 11:59pm
Mon Mar 16, 2026	 System Dynamics - ME-3017-D Lecture (https://gatech.instructure.com/calendar?event_id=4993625&include_contexts=course_499538) 	9:30am to 10:45am
Wed Mar 18, 2026	 System Dynamics - ME-3017-D Lecture (https://gatech.instructure.com/calendar?event_id=4993627&include_contexts=course_499538) 	9:30am to 10:45am
Fri Mar 20, 2026	 VIRTUAL LECTURE System Dynamics - ME-3017-D (https://gatech.instructure.com/calendar?event_id=5100133&include_contexts=course_499538) 	11am to 12:15pm
Sun Mar 29, 2026	 Problem Set 4 (https://gatech.instructure.com/courses/499538/assignments/2312896) 	due by 11:59pm
Wed Apr 1, 2026	 System Dynamics - ME-3017-D Lecture (https://gatech.instructure.com/calendar?event_id=4993635&include_contexts=course_499538) 	9:30am to 10:45am
Mon Apr 6, 2026	 System Dynamics - ME-3017-D Lecture	9:30am to 10:45am

Date	Details	Due
	https://gatech.instructure.com/calendar?event_id=4993637&include_contexts=course_499538	
Wed Apr 8, 2026	 System Dynamics - ME-3017-D Lecture https://gatech.instructure.com/calendar?event_id=4993639&include_contexts=course_499538	9:30am to 10:45am
Sun Apr 12, 2026	 Problem Set 5 https://gatech.instructure.com/courses/499538/assignments/2312898	due by 11:59pm
Mon Apr 13, 2026	 System Dynamics - ME-3017-D Lecture https://gatech.instructure.com/calendar?event_id=4993641&include_contexts=course_499538	9:30am to 10:45am
Wed Apr 15, 2026	 System Dynamics - ME-3017-D Lecture https://gatech.instructure.com/calendar?event_id=4993643&include_contexts=course_499538	9:30am to 10:45am
Mon Apr 20, 2026	 System Dynamics - ME-3017-D Lecture https://gatech.instructure.com/calendar?event_id=4993645&include_contexts=course_499538	9:30am to 10:45am
Mon Apr 27, 2026	 System Dynamics - ME-3017-D Lecture https://gatech.instructure.com/calendar?event_id=4993649&include_contexts=course_499538	9:30am to 10:45am
	 Exam 2 Points Back https://gatech.instructure.com/courses/499538/assignments/2312886	due by 11:59pm
Mon May 4, 2026	 Project Final Peer Eval https://gatech.instructure.com/courses/499538/assignments/2312900	due by 11:59pm
	 Project Final Report https://gatech.instructure.com/courses/499538/assignments/2312902	due by 11:59pm
	 Error Bounty https://gatech.instructure.com/courses/499538/assignments/2312878	
	 Exam 1 https://gatech.instructure.com/courses/499538/assignments/2312880	

Date	Details	Due
	 Exam 2 (https://gatech.instructure.com/courses/499538/assignments/2312884)	