

ME 1670 Syllabus

Introduction to Engineering Graphics and Design, 3 credits

Fall 2026

Description

Introduction to engineering graphics, visualization, and design, including sketching, line drawing, and solid modeling. Development and interpretation of drawings and specifications for product realization.

Course Learning Outcomes:

- Develop creative design ideas
- Visualize objects and engineering concepts
- Create 2D orthographic and pictorial drawings of 3D objects using good sketching techniques
- Create 3D solid models and assemblies
- Interpret and create engineering drawings following established conventions
- Participate constructively in team-based engineering activities
- Understand and apply the methods used for decision-making
- Gain exposure to basic additive manufacturing techniques and establish awareness of their capabilities and limitations

Textbooks

- There are no required textbooks. All materials needed to successfully complete this course will be provided in Canvas.
- The following reference books are recommended but **not required**:
 - *Visualization, Modeling and Graphics for Engineering Design*, 2016 (2nd Ed), Lieu and Sorby, Delmar, Cengage Learning ISBN: 978-1-2851-7295-8
 - *Rapid Visualization: Hanks and Belliston*, 2006, ISBN: 159863268X
 - *How to Draw*, 2013, Scott Robertson, ISBN 978-1933492735

Required Sketching Supplies:

- 8.5x11 plain paper (no grid, no lines)
- Pencil (0.5 or 0.7 mm, mechanical preferred)
- Black fine and ultra-fine Sharpie markers
- Assorted colors ultra-fine Sharpie markers (optional)

Instructor:

Dr. Denis Dorozhkin

denis.dorozhkin@me.gatech.edu

Office: MRDC 4109

Office Hours: Will be posted in Canvas Modules

Graduate Teaching Assistants:

GTA contact information and office hours will be posted in Canvas Modules

Graded Components:

- Participation
 - Attendance 5%
 - Lab Activities / Quizzes 5%
- Homework Assignments 30%
- Projects
 - Individual Project 30%
 - Team Project 30%

Final Exam

In lieu of the Final Exam, the final Team Project presentation will be held during the final exam period, as specified in the [Final Exam matrix](#)

Grading Scale:

90 – 100	A
80 – 89	B
70 – 79	C
60 - 69	D
0 - 59	F

Attendance Policy

- Lab, homework, and project activities will be based on the material covered in lectures and labs. Students who miss lectures hurt their own grade as well as their project team members. **Therefore, you are expected to attend the lecture and lab sessions, unless you have a compelling reason not to do so.**
- If you do have a compelling reason for not coming to the class, you need to send me a brief email explaining your absence **in advance**. You will remain responsible for completing any outstanding course deliverables unless a justified and documented excuse is provided (please see the ***Definition of a documented excuse*** section below for details).
- Lecture and lab attendance will be taken and used in computing your final grade (see ***Grading*** above).

This course cannot be dropped. Due to the high demand for this required course, no student may drop or withdraw from this course.

Course Announcements

Announcements will be regularly posted on Canvas and may contain critical notifications. I highly recommend setting your Canvas Announcement preferences to “NOTIFY ME RIGHT AWAY” to get notified by email.

Assignment submissions in Canvas

- All course deliverables must be submitted on Canvas, unless explicitly specified otherwise.
- **Any Canvas course deliverables submitted as email attachments will be discarded and assigned a grade of 0**, unless a justified and documented excuse is provided (see below).
- Sketch scans, SOLIDWORKS drawings, and written documents must be submitted as **PDFs**
 - Other file formats (e.g., Mac-formatted files such as .pages, .heic, etc.), might not open correctly in Canvas and, thus, will be assigned a grade of 0.
- **Students must check their submissions in Canvas and confirm the following:**
 - All deliverables were successfully submitted to the correct assignment
 - All deliverables will open correctly once downloaded for grading
- You can resubmit a Canvas assignment as many times as you'd like before the deadline.
 - Only the latest submission will be graded
 - Make sure to resubmit the assignment in its entirety (all required deliverables)
- Detailed assignment feedback will be provided in Canvas. **You are responsible for checking all written comments and drawing/sketch annotations.**

Notes on late or missing work:

- Assignments are due by the deadline designated for that activity unless otherwise stipulated.
- No individual extensions will be granted without a justified and documented excuse (see below)
- Late assignments without a justified and documented excuse (see below) will receive the following grade penalty:
 - Up to 24 hours late - 25% penalty
 - Up to 48 hours late - 50% penalty
 - More than 48 hours late - no credit given
- For justified and documented excuses (see below), a new due date must be negotiated with the course instructor immediately.

Make-up policy

There will be no make-ups unless absolutely exceptional and fully documented situations arise. If you miss an assignment without a fully documented reason, you get a zero (0) for that assignment.

Definition of a documented excuse

- What **is** a documented excuse: A note from the Dean of Students' office (see ***Student Illness*** below), approved Institute activities letters (section IV.B.3 of the Student Rules and Regulations).
- What is **not** a documented excuse: Student Health Center notes, Counseling Center notes, doctor appointments, family trips, flights, etc.

Academic Dishonesty

- Students are expected to do their own work on all course deliverables, including homework assignments, projects, etc., except when otherwise specified by the instructor.

- Embedded metadata in the SolidWorks files submitted for any and all course deliverables must match your personal information (creator's name, time, date, and modification history of every feature in the model).
- Do not allow anyone to copy any portion of your completed sketches or computer files you create for this class as a part of any assignment or required project during this course or any time in future semesters after having taken this course.
- The Georgia Tech Academic Honor Code (<http://www.catalog.gatech.edu/policies/honor-code/Links> to an external site.) will be used as the standard for this class. Any student suspected of cheating or plagiarizing on a quiz, exam, or assignment will be reported to the Office of Student Integrity, which will investigate the incident and identify the appropriate penalty for violations.

Use of Generative AI

- Generative AI tools (such as ChatGPT, Claude, or Grammarly) are permitted for basic developmental tasks, such as brainstorming, checking grammar, or translating difficult concepts. Any direct use of AI-generated output must be clearly acknowledged and disclosed, detailing the prompt used and how the output was utilized.
- You **may not** submit AI-generated text, sketches, drawings, SW models, engineering drawings, complete design elements, or any other graded course deliverables as your own work. Using AI to generate such content violates the Georgia Tech Honor Code and will be treated as academic misconduct.

Midterm Evaluation:

In accordance with Georgia Tech policy for 1000 and 2000-level courses, midterm grades (Satisfactory/Unsatisfactory) will be issued to the Registrar.

Errors and Omissions

All re-grade requests or grade protests must be submitted in writing with an explanation of why the grade should be adjusted **within one week of receiving the grade**. Please provide an explanation for why the assigned scores are incorrect.

Extra Credit

- If available, the extra credit opportunities will be announced along with the maximum extra credit to be received, the due date, and the grading category it will apply to.
- **The maximum grade in any category with extra credit (e.g. Team Project) cannot exceed 100%.**

Getting help (outside of the classroom)

- Your FIRST avenue for getting help should be the instructor and/or GTA office hours. This is the most efficient way to get your questions answered.
- If your schedule does not permit the attendance of the available office hours, or you need an individual meeting for non-homework/exam-related discussions, please e-mail the instructor or GTA to schedule an appointment.

- The “Discussion” feature on the course Canvas site is also a great resource, but should not replace office hours attendance. “Discussions” should be used for clarifications/questions that could benefit all and can be answered without much back and forth. Please reserve questions that require detailed discussions for office hours.
- It is not appropriate to ask the instructor or GTA if your homework solution is correct. Instead, indicate why you think your solution might be incorrect, where you think it might have gone wrong, or where any confusion is coming from, so that we can better help improve your understanding.

Accommodations for Students with Disabilities

If you wish to request an accommodation due to a documented disability, please inform your instructor and contact Disability Services as soon as possible. They can be reached at dsinfo@gatech.edu, <http://disabilityservices.gatech.edu/>, or 404-894-2563 (voice)/ 404-894-1664 (TDD).

Student Illness

In the event of a medical emergency or an illness that is severe enough to require medical attention, students are responsible for contacting the Office of the Dean of Students as soon as possible to report the medical issue or emergency, providing dated documentation from a medical professional, and requesting assistance in notifying their instructors. The medical documentation will be handled confidentially within the Office of the Dean of Students and will inform a decision as to whether communication with instructional faculty is appropriate. It is the expectation of the Institute that instructional faculty will honor a request from the Office of the Dean of Students to excuse a medical emergency or illness and allow make-up of the work missed, including homework, quizzes, presentations, examinations, or other class assignments.

Mental Health and Wellness

As a student, you may experience a range of issues that can cause barriers to learning, such as 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 your 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 using the confidential mental health services available on campus:

- GT CARE (www.care.gatech.edu, 404-894-3498)
- Counseling Center (www.counseling.gatech.edu, 404-894-2575)

Student-Faculty Expectations:

At Georgia Tech, we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. Please refer to [this catalog page](#) for an articulation of some basic expectations that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.

Changes

When appropriate or necessary, the instructor may adjust, amend, or otherwise modify the information presented in the syllabus. Changes will be made in a manner to minimize disruption and in the interest of fostering learning. Every effort will be made to ensure that all changes are brought to the attention of students, so as to minimize inconvenience.

Course materials

Woodruff School faculty own the copyright to all course materials created for ME 1670. This includes (but is not limited to) lecture slides, assignments, and project materials. Any such materials provided to you in any form, including those posted on Canvas, are for the exclusive use of students enrolled in the course. Students are not allowed to reproduce, distribute, or publicly post course materials without express written permission from the Woodruff School faculty. In particular, marketing, selling, or reposting any of these documents on any website is strictly forbidden - it constitutes academic misconduct, is a violation of the Georgia Tech Student Code of Conduct (see section D92), and is a copyright violation. If such illicit postings of intellectual property are discovered, these violations will be reported to the Office of Legal Affairs and the Dean of Students.

Accessing online LinkedIn Learning (formerly Lynda) Modules:

Throughout the course, students will be required to view training modules online. These can be accessed by visiting <https://linkedinlearning.gatech.edu/> and clicking on “Log in” at the top of the homepage. Follow the instructions to log in via the GaTech authentication service. Once logged in, use the search box at the top of the page to search for “SolidWorks 2024 Essential Training”. Click on the first search result with the aforementioned name, and scroll down. All modules required for the course will be visible on the left. Modules consist of narrated videos and the option to read the corresponding text along with the narration. Students are encouraged to watch the modules as many times as needed to understand the material. Concepts will be reinforced during labs and lectures.

Accessing SolidWorks Software:

- Log in with your GT ID and password to mycloud.gatech.edu and select ‘**COE-1070-1670**’ (designated course server) or ‘**ME-2027**’ (other servers might also have SW). You will be able to access SolidWorks anywhere from your personal or campus computer (assuming you have internet access).
- You will be able to download a copy for your personal computer once the specific SW version is finalized by GT OIT (the corresponding instructions will be posted in Discussions in Canvas).