

ID 2101: Digital Design Methods

Sections: 1, 2

Credit Hours: 3 Hours

Lab: Sec. 1 : Tuesday, 8:00 am - 11:00 am // Sec. 2 : Thursday, 8:00 am - 11:00 am

Lecture: Sec. 1 & 2 : Friday, 9:00 am - 9:50 am

Room: 359, West Architecture Building

Instructor Information

Name	Email	Office Hours & Location
Kevin Brown <i>Lecturer</i>	kbrown89@gatech.edu	Thursday, 11:00 am - Noon Grad Studio (Part-Time Faculty Space)
TBD <i>TA</i>	-	- Grad Studio

Meetings and office hours can be held in person or online, depending on your preference. Please reach out via email to schedule.

Course Overview

Welcome to Digital Design Methods!

In this course, you'll learn the fundamentals of 3D modeling and product visualization. Using tools like Fusion 360 and KeyShot, you'll explore the same digital workflows that professional industrial designers use to design, develop, and bring their concepts to life.

Throughout the semester, you'll complete hands-on projects that explore solid and surface modeling, Sub-D modeling, and more. Whether it's through polished still images or product animations, you'll also learn how to render your designs to clearly communicate your ideas.

By the end of the course, you'll have a strong foundation in digital design tools that will support your studio work and future industrial design endeavors.

Pre- and/or Co-Requisites: ID 1419 – Intro Sketch & Model 2

Course Goals & Learning Outcomes

By the end of this course, you'll be able to:

- Demonstrate proficiency in Computer-Aided Industrial Design using tools like Fusion 360 and KeyShot to create accurate and well-structured digital models.
- Apply a range of digital modeling techniques, including solid, surface, and Sub-D (T-spline) modeling, to develop detailed product designs.
- Produce high-quality renderings and animations that clearly communicate design intent, material selection, and product functionality.

Course Format

This course combines **lecture and lab-based instruction** to better support hands-on skill development. Students will participate in one lab section each week, which will include guided demonstrations, hands-on exercises, and in-class work time. In addition, a weekly lecture will introduce and reinforce the concepts practiced in the lab. When available, the lab will also be open throughout the week to support coursework outside of scheduled class time.

Students are expected to:

- Attend and actively participate in both weekly lecture and lab sessions.
- Engage in in-class activities and discussions.
- Spend additional time outside of supervised lab hours completing homework exercises and project assignments.

Grading Policy

Component	Weight
Exercises (10 total)	40%
Assignments (3 total)	50%
Attendance & Participation	10%
Extra Credit	6%
Total	106%

Grading Scale

Your final grade will be assigned as a letter grade according to the following scale:

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

Grading Notes

- There will be 10 graded **exercises**. These will reinforce lecture content and develop technical skills.
- You will complete 3 major **assignments**, each building on prior knowledge and progressively increasing in complexity.
- **Attendance and participation** are required during both lectures and workdays.
- You will have the opportunity to earn up to **6 extra credit points** that will be applied to your overall grade.

Each assignment and exercise will be accompanied by detailed rubrics and feedback through Canvas.

Submission Requirements

All files must be submitted electronically via Canvas. If required, compress multiple files into a single **.zip** file. For assignments requiring a PDF, submit the PDF as a separate file so it's easier to review.

If Canvas is unavailable at the time of submission, you may email your assignment directly to the Teaching Assistant with the Professor copied.

Late Work Policy

- **Assignments:** Assignments lose **2% per day** if submitted late.

For example, turning in an assignment 3 days late means 6% off your grade for that assignment.

- **Exercises:** Exercises lose **10% per calendar day** if submitted late. These are designed to build on each other, so staying current is important. To provide some flexibility, your **lowest exercise grade will be dropped** at the end of the semester.

For example, turning in an Exercise a week late means 70% off your grade for that assignment.

- **Emergencies and Illnesses:** If you're facing challenges, illness, emergencies, or anything else that might affect your ability to keep up, please reach out to me as soon as possible. I'm happy to work with you when I know what's going on. Staying in touch is one of the most important things you can do to be successful in this course.
- **Accessibility and Accommodations:** Georgia Tech is committed to providing an inclusive learning environment for all students. If you are registered with the **Office of Disability Services (ODS)** and require accommodations, please share your accommodation letter with me as early in the semester as possible. I will work with you to ensure your access needs are met. For more information or to request accommodations, visit disabilityservices.gatech.edu.

Extra Credit

There are two optional ways to earn **up to 6 extra credit points**, which will be added to your final course grade:

1. **Early Submissions:** Submit any of the 3 assignments at least 24 hours early to receive 1 extra credit point per assignment, up to a maximum of **3 points**. Early submission does not apply to lab exercises.
2. **Research Participation:** Volunteer as a participant in an approved on-campus research project to earn **3 extra credit points**. To receive credit, you must complete the Research

Participant Form available on Canvas and obtain a signature from one of the study investigators confirming your participation.

Attendance and Participation Policy

Attendance and participation make up **10% of your final grade** in this course. Being present and engaged will be imperative to your success in this class. Your attendance will be tracked every class. That said, there will be some flexibility when evaluating your overall attendance and participation.

- Unexcused Absences: You may have up to **three unexcused absences** without it affecting your grade. After that, each additional unexcused absence will result in a 10% deduction from your attendance and participation grade.

For example, if you have five unexcused absences, you would lose 20% of the attendance/participation portion of your grade.

- Excused Absences: Absences will be considered excused for the following reasons:
 - Personal illness
 - Family or personal emergencies
 - Institute approved events (such as athletic events or academic conferences)

At the end of the day communication is key. If you need to miss class for any of these reasons, please let me know as early as you can. I'm happy to work with you! Clear communication helps me support you and keeps things running smoothly for everyone.

Course Resources

Course Text

No textbook is required for this course. A wide range of learning tutorials and resources will be provided throughout the semester. Please refer to the "Course Resources & Tutorials" page in Canvas for access to these materials.

Additional Materials & Resources

- Fusion 360 Help: [Fusion 360 Documentation](#)
- KeyShot Tutorials: [KeyShot Learning Resources](#)
- LinkedIn Learning (Free for GT Students): <https://linkedinlearning.gatech.edu>

- SoID Video Tutorials: [SoID MediaSpace Channel](#)

You'll also find an "Introduction Module" in Canvas that includes key information on required software and how to access learning content.

Course Website & Communication

All course information, including the syllabus, assignment details, lab exercises, grades, and announcements, will be available through **Canvas**. You'll also use Canvas to submit all assignments and lab exercises electronically.

Additionally, we will utilize Microsoft Teams to record class lectures and to meet online in the event of modified operations.

Course Expectations & Guidelines

Academic Integrity

Georgia Tech aims to cultivate a community built on trust, academic integrity, and honor. Students are expected to uphold the highest standards of ethical behavior. For more information, please review Georgia Tech's [Academic Honor Code](#) and [Student Code of Conduct](#).

Any instance of cheating or plagiarism will be reported to the **Office of Student Integrity** for review and appropriate action.

Use of Generative AI Tools in Industrial Design

You may use generative AI tools (e.g. ChatGPT, Midjourney, Photoshop, etc.) to support brainstorming, ideation, and early-stage exploration in your design process. These tools can be useful for sparking ideas, generating visual references, or exploring alternate approaches, but **they should not replace your own creative thinking, design skills, or authorship.**

Please keep in mind:

- AI-generated content can be inaccurate, biased, generic, or misleading. It should never be relied upon as a sole source for technical, conceptual, or design decisions.
- Your work must reflect your own thinking and process. AI-generated outputs (text, images, code, etc.) cannot be submitted as-is and passed off as original work. Doing so violates the Georgia Tech Honor Code.
- AI tools may be used as a part of your process, but not as a substitute for doing the work yourself, especially when it comes to sketching, modeling, rendering, and iteration.

If you choose to use generative AI tools:

- You must clearly document where and how you used them in your process.

- Include the platform used, tools or prompt(s) you entered, and a short explanation of how the output influenced your work.
- AI-generated content (text, images, code, etc.) should be cited like any external source.

Example: "I used ChatGPT to help brainstorm three possible use cases for my lighting system. Prompt: 'Give me three ways a modular lighting product could be used in educational settings.'"

Industrial Design is a hands-on, process-driven discipline. Your ability to think critically, iterate, and create original work is central to your success. AI may assist your thinking, but it cannot replace it.

Accommodations for Individuals with Disabilities

If you require accommodations due to a documented disability, contact the **Office of Disability Services** at (404) 894-2563 or visit disabilityservices.gatech.edu. Once you receive your accommodations letter, please email me as soon as possible so we can arrange the necessary support.

Additional Student Resources

If you're experiencing challenges that impact your well-being or academic performance, Georgia Tech offers several resources that can help:

- [Center for Mental Health Care & Resources](#): Offers counseling, mental health support, and wellness services. Both in-person and virtual appointments are available.
- [Stamps Health Services](#): Provides medical care, health education, and prevention services to support your physical well-being.
- [Dean of Students Office](#): Assists with personal or academic concerns, emergency situations, and access to campus support systems.
- [Division of Student Life](#): Connects students to programs and services that promote well-being, engagement, and success.

If you're unsure where to start, the **Dean of Students** is a good first point of contact. They can help guide you to the right support.

Modified Operations Policy

In the event of campus closures, instructional space issues, or modified operations, students should expect some course elements to move online. Follow updates from your instructor on Canvas and refer to the Digital Learning Days Policy for more information.

Student-Faculty Expectations

At Georgia Tech, we value a culture of mutual respect between faculty and students. You can expect me to be prepared, responsive, and committed to your learning. In return, I expect professionalism, curiosity, and engagement from you. For a full list of expectations, visit the [Student-Faculty Expectations policy](#).

