ID 3803 Syllabus

4/11/26

Innovation & Entrepreneurship (Make 10), Fall 2026, 3 Credit Hours

2:00pm – 3:15pm, Tuesday & Thursday, Location TBD

Instructor	Email	Office Hours & Location
Stephen Chininis	schininis@gatech.edu	by appointment only - online or Room 254

Course Description :

This class will focus on developing skills to enhance your ability to design and produce innovative products that can lead to a start-up. It is now possible to design and produce goods in a small scale micro factory with digital tools and to sell those products to the world. This course prepares students for the digital manufacturing boom to come, and for the ability to produce innovative products that can disrupt existing industries.

Pre- & or Co-Requisites

There are no pre-requisites, however **I recommend students be 3rd Year level or above.**

Course Objectives :

This course will focus on creating innovative products and developing an entrepreneurial spirit. After the successful completion of this course you will be able to:

~ Identify and research problems worth solving
~ Develop skills to understand where, when, and why to innovate
~ Use design thinking and problem solving to drive innovation
~ Use technology to drive innovation
~ Explore ways to enhance creativity
- Refine a product for high quality digital manufacturing processes
- Understanding that product development requires consideration of part-assembly and labor
- Explore a real world experience of starting a company

Instructional Methods for Teaching the Course:

(1) Lectures

(2) Product design assignments

(3) Reading & in-class group discussions

(4) Desk critiques with instructor / Group critiques / Critiques with guests

Grading Policy and Weighting

Scale

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

A = 90 to 100	B = 80 to 89	C = 70 to 79	D = 60 to 69	F = 0 to 59
Exceptional	Average +	Average	Average -	Average -, Late, Incomplete, or un-submitted

Grading will be based on the Georgia Institute of Technology system. No plus or minus will be applied to the final grade. However, plus and minus may be used for all the submissions during the semester. *Students will have one week after each project grade submissions to discuss any grading matters with the instructor.*

Evaluation Criteria

Each project will be graded on 100-point scale. Rubrics will be provided with each assignment. Projects will be reviewed with the following general requirements. The quality of research variety and creativity of concepts, quality of refinement, aesthetic considerations, and how well the final design lines up with your stated goals.

Description of Graded Component

Assignment	Weight	Duration
Project 1 / Sustainable Cardboard Product	15%	2 weeks
Project 2 / Make 10 Project	50%	8 weeks
Project 3 / Make 10 Manufacturing and Marketing	30%	4 weeks
Attendance and Participation	5%	

Project 1 – Sustainable Cardboard Project: Research and investigate a variety of different product ideas. Conceptualize them to facilitate an intensive review

Project 2 - Make 10 Project: Research and investigate a variety of different product ideas. Conceptualize them to facilitate an intensive review, so that others can help you refine your product idea. The goal is to find a problem worth solving. To do this you will have to SHOW your ideas clearly. After review, we will take a look at your item from a manufacturing point of view, to determine if it can be made for a price that will satisfy your target user. Then you will build a prototype with a system for repeating the process to make more products. Cost of goods, perceived value, and the efficient use of material are often the key to a successful product.

P**roject 3 - Make 10 Manufacturing and Marketing:** Refine the manufacturing process, develop a bill of materials and find ways to cost reduce your product, develop a business plan, and work on distribution and marketing your product.

Description of Graded Components

Each final project will be graded on a 100 point scale consisting of the following graded components. Deductions will also be taken whenever specific assignments are turned in incomplete or late. Each final presentation will be evaluated using this project grade sheet:

Sample Project Grade Sheet

	Expectations Not Met					Meets Expectations					Exceeds Expectations
Research Quality / Was background info adequate?	0	1	2	3	4	5	6	7	8	9	10
Concepts / Was there a good variety of solutions?	0	1	2	3	4	5	6	7	8	9	10
Thorough investigation / Was rigor evident?	0	1	2	3	4	5	6	7	8	9	10
Refinement / Did design details support the solution?	0	1	2	3	4	5	6	7	8	9	10
Final Design / Did the solution solve the problem?	0	1	2	3	4	5	6	7	8	9	10
Innovative Problem Solving / Was solution unique?	0	1	2	3	4	5	6	7	8	9	10
Craftsmanship / Well executed models and drawings?	0	1	2	3	4	5	6	7	8	9	10
Form / Successfully meets criteria?	0	1	2	3	4	5	6	7	8	9	10
Manufacturing Details / Practical solutions shown?	0	1	2	3	4	5	6	7	8	9	10
Presentation Quality / Relaxed, clear and concise?	0	1	2	3	4	5	6	7	8	9	10

TOTAL_____Minus Deductions_____**GRADE**_____

Instructional methods for teaching the course include:

- Lectures and Demonstrations
- Readings and In-class Group Discussions
- In class and homework and drawing Assignments
- Desk and Group Critiques

Required Course Materials

Course Text There is no assigned course text. These books however are all recommended reading:

Design for the Real World / Victor Papanek
Manufacturing Processes for Design Professionals / Rob Thompson
The Design of Everyday Things / Donald A. Norman
Emotional Design / Donald A. Norman
Less and More / Dieter Rams
Additional book list here:
https://www.fastcompany.com/1292961/30-most-important-books-product-designers

Students are also encouraged to visit these other website resources:

Design Info:

Industrial Designers of America	IDSA.org
Core 77	core77.com
Corofolot	coroflot.com
Sketch-a-day	sketch-a-day.com
leManoosh	lemonoosh.com
Converge Diverge	converge-diverge.tumblr.com

Make Info:

Instuctables	instructables.com
Ponoko	ponoko.com
Shapeways	shapeways.com
Make	makezine.com
3D Hubs	3dhubs.com

Additional Materials/Resources

Student must have the following studio materials and supplies ready for use:

Presentation Supplies: 8.5” x 11” and 11” x 17” plain white paper, push pins, etc.
Sketching and Drawing Supplies: Fine line markers of various thicknesses, Sketch book, x-acto knife, tape, etc.
Model Making Supplies: Hot glue gun, clay, foam core board and other model making supplies
Computer Supplies: Laptop, appropriate software, flash drive, etc.

IMPORTANT NOTE: This course requires students to make models of their product ideas. The cost of making the models will vary depending on the size of the models, and on the type of fabrication required. Students can take advantage of many free and low cost fabrication services on campus, but it is not unusual for students to spend $200 on supplies and/or 3D printing costs per project. Every effort will be made to keep costs as low as possible.

Course Website and Other Classroom Management Tools

Canvas Software may be used to help manage this course. All assignments will also be available in printed form when requested. If you have any questions about your grades or assignments feel free to email or meet with your instructor for clarification.

Course Expectations & Guidelines

- This course requires your active participation and collaboration. The instructor will serve as a moderator, encourager, and critic.
- Students will be required to be self-direct and self-motivated.
- Desk Presentations: **Students are expected to continually update their progress** by pinning new work on

their wall at the start of class and to maintain a professional standard of presentation in their studios at their desks, such that any faculty or student could stop by at any time and easily understand or engage in the work-in-progress.

- Questions not asked are questions not answered. So: **ASK!** This course is interactive.
- Studio attendance and involvement are mandatory and key to your success in this course. Working in the studio is essential to receiving feedback from instructor and peers. It also builds a professional community of practice. Make the studio space YOUR space and a nice, clean, organized working environment. **KEEP YOUR STUDIO CLEAN and INSPIRATIONAL!**
- Feedback will be direct and honest, aimed at your process and product – not at anyone personally. Talk in depth with the instructor about clarification or explanation. Don't get attached to the results.
- Students are required to document every project in the course. Documentation guidelines used to submit last semester work needs to be used to submit work this semester. If you have questions please ask the instructor.
- There may be some last-minute updates or revisions to projects. Students need to check email accounts on a daily basis to stay informed. If you have any questions please ask the instructor. It is up to you to stay informed if you have questions.
- Some days, class will end early, others may run late. Review/critique days can be particularly long, depending on the number of presenters. Let your instructor know if you have a prior obligation or conflict.
- Students should be aware that making prototypes of their product concepts often cost money. 3D printing in particular is not always free, and can cost quite a lot depending on the size of the components. There are places on campus that 3D print for minimal costs, but there is often a line due to demand.

Academic Integrity Statement

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. For information on Georgia Tech's Academic Honor Code, please visit http://www.catalog.gatech.edu/policies/honor-code/ or http://www.catalog.gatech.edu/rules/18/and https://policylibrary.gatech.edu/student-life/academic-honor-code

Any student suspected of cheating or plagiarizing on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

PLAGIARISM IN DESIGN: In the process of design, we often deal with many ideas and solutions, and it is possible to accidentally design something that is similar to a prior design. If your design is clearly the result of your own investigation and ideas, that is not considered plagiarism. However, if your design is the result of copying other designers work, using an existing product, or unmodified AI, it is not original work. Please be aware that you may be asked to show your developmental work to support your design ideas. You must be able to show how you arrived at your solutions.

AI Policy

For this class Artificial Intelligence can be used in the design process, if it is used ethically. Since all AI is based on the sampling of previously developed work, it cannot be used to create whole ideas that are put forth as unique ideas by the designer. However, if it is used to assist the designer to complete part of a design task, then its function is not unlike spell check, and it is fine. In other words you cannot ask AI to design a whole product, just like you can't ask AI to write a book for you and then claim it as your own work. You could ask AI to help you correct perspective in a drawing, or to do something like modify a sketch you did to show a version of your idea with softer corners. As long as the AI is used as a tool to help you convey your unique idea, it is fine. It is not ethical (or effective) to use AI to generate whole ideas. It is also very easy to recognize when someone is trying to do that. **Using AI to generate whole works will be seen as plagiarism and will result in a grade**

zero.

Accommodations for Students of all Abilities

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services at (404)894-2563 or http://disabilityservices.gatech.edu/, as soon as possible, to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

Student-Faculty Expectations Agreement

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. See http://www.catalog.gatech.edu/rules/22/ for an articulation of some basic expectation 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.

Campus Resources for Students

There are many great resources around campus that can help you if you are having a difficult time with this or any other course. Please search this page for help. Click here or go to:
http://ctl.gatech.edu/sites/default/files/documents/campus_resources_students.pdf

Attendance and Participation Policy

Attendance - Students are expected to attend and participate during each class session. If you know that you will miss a class due to an excused absence, please advise your instructor at least 24 hours in advance so that you can get all assignments and keep current with the class work.

Warning: Your class grade will be reduced by one letter grade if you have more than 3 unexcused absences. Your class grade will be reduced by an additional letter grade for each additional unexcused absence past 3.

Late Arrival - Students are expected to arrive on time to class. Any student arriving from 5-20 minutes late will be considered tardy. Being tardy 2 times = one absence. Students arriving more than 20 minutes late will be considered absent.

Participation - Students are expected to attend and participate during each class session. Participation means being actively involved in the activity of the class.

Extensions, Late Assignments, & Re-Scheduled/Missed Exams

If any assignment is turned in late it will be reduced by 2 points per day. No assignment will be accepted past three weeks without prior accommodations from the Dean of Students.

Contact info: Dean of Students https://studentlife.gatech.edu/ 404-894-6367 They will help you with medical and personal emergencies. They will email your faculty with approved absences or extensions.

Students are expected to complete any assigned readings and come prepared to each class. Deadlines for all assignments and projects will be specified when they are given. Any in-class assignments will be due by the end of class unless otherwise specified. In-class activities may only be made up if you are absent for a valid reason. The instructors reserve the right to change the dates and modify assignments as necessary, with advanced notification.

Additional Course Policies

Beverages in reusable containers are allowed in class. Please don't bring food unless you are prepared to share with the entire class :)

Student Use of Mobile Devices in the Classroom

The use of mobile phones and computers is allowed for this course but should be kept to a minimum. DO NOT TAKE CALLS while in class. Emergency calls can be taken if you leave the room. You can use devices to take notes, or to record, but make sure that all sound is OFF. Also, please keep in mind that when we have speakers, it is polite to remain attentive. Please take notes, but do not check your social media or work on other projects.

"The College of Design (COD) community of faculty, staff, and students aspires to create and nurture an environment that is supportive of all backgrounds where different views and ideas are respected and encouraged. We encourage intellectual inquiry and a respectful exchange of ideas"

Archive Portfolio Requirement

At the end of the semester students may be required to provide a printed poster or other class material for LaunchPad. Students may also need to make their work available in the future for school displays. Your work should be documented

in a way that makes it easy to use it in your own portfolio. Please get in the habit of saving and documenting your work. Students are encouraged to use their work to enter competitions on and off campus. Your work is your intellectual property and you are free to post your work on your own web site, and on other ID websites like Behance, Core 77, etc. As an undergraduate you own the rights to your work, an it can be used in the future as you wish, including the formation of a Startup through programs on campus like Create-X.

Contacting the Instructor for an Appointment

If you would like to arrange a meeting or appointment, please speak with the instructor after class or contact the instructor via email. Please allow 24 hours for a response.

This syllabus may be subject to change during the course of the semester. If changes are made, the syllabus will be updated online and you will be informed of the changes.