

ID 4813_ Design For Climate Action_Syllabus

Fall semester, 3 Credits

T/TH 2:00 pm - 3:15 pm Classroom 760 Spring St NW, room 235

Instructor Information

Instructor	Email	Office Hours & Location
Professor Roger Ball	roger.ball@coa.gatech.edu 24-hour response usually	Room 156 Architecture T/TH 12-1:00 pm

General Information

Description

Climate change stands as one of the most pressing challenges of our time, threatening the very fabric of our existence. The United Nations Sustainable Development Goals (SDGs) recognize this urgency, with Climate Action (item 13.1) aiming to “strengthen resilience and adaptive capacity to climate-related hazards and natural disasters worldwide”. Tackling climate change requires innovative approaches and fresh perspectives. Designers, with their problem-solving skills and creativity, can play a pivotal role in addressing these complex wicked challenges.

Climate change poses a multifaceted threat to global stability, affecting ecosystems, economies, and societies alike. Despite concerted efforts, traditional solutions have often fallen short in addressing the scale and complexity of this issue. To effectively mitigate and adapt to climate change, new strategies are needed, ones that encompass practicality and innovation.

Your Challenge

"Avoiding climate breakdown will require cathedral thinking. We must lay the foundation while we may not know exactly how to build the ceiling."
Great Thurnberg 2022

Working in teams of two students or individually (your choice) you will research, conceptualize and prototype innovative design solutions for climate action issues.

Pre- &/or Co-Requisites

none

Course Goals and Learning Outcomes

Upon completion of the course students are expected to demonstrate knowledge, skill, and abilities in the following areas:

- Reporting on climate action trends and their effect on culture, technology and business
- Identifying design opportunity areas in the design for climate action landscape
- Designing an exhibit poster for public display
- Prototyping your design solution

Course Requirements & Grading

Description of Graded Components

	Weight
Assignment 1 - Research presentation on climate action trends	20%
Assignment 2 - Design Concepts	20%
Assignment 3 - Prototypes	30%
Assignment 4 (2 parts) - Exhibition LaunchPad Poster & Process book	10%
Class participation and engagement	20%

Extra Credit Opportunities

I encourage extra credit assignments and there are a wide variety of extra credit opportunities for the course. Please contact me immediately if you want an enriched learning opportunity and we can discuss which type of extra credits assignment will benefit you the most.

Grading Scale

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

A	90-100%	(Guide: Independent work style and exceeding expectations)
B	80-89%	(Guide: Meet expectations)
C	70-79%	(Guide: Meets the majority of expectations)
D	60-69%	(Guide: Fails to meet some expectations)
F	0-59%	(Guide: Fails to meet most expectations)

Course Materials

Reading List

1. Radical Adaptation: Transforming Cities for a Climate Changed World, Stone, B.
2. (book) Flow: The Psychology of Optimal Experience. Csikszentmihalyi, M
3. (book) Designing Your Life, Burnett & Evans
4. (book) The Art of Lateral Thinking. DeBono, E
5. (book) The Rise of the Creative Class. Florida, R
6. (book) The Ten Faces of Innovation: IDEO's Strategies for Driving Creativity Throughout Your Organization. Littman, J
7. (book) The Design of Everyday Objects. Norman, D
8. (book) Design for the Real World: Human Ecology and Social Change. Papanek, V
9. (book) The Experience Economy. Pine & Gilmore
10. (book) Creating Breakthrough Products, Vogel & Cagan

Climate Research Websites

<https://science.nasa.gov/climate-change/>

<https://resilience.research.gatech.edu/>

<https://thermal-architecture.org/>

Classroom Management Tools

Digital Tools:

Classwork

• Canvas - course materials including this syllabus are available in the files and folders sections. All assignments are submitted through Canvas

Research & Reference:

o Zotero - software tool for writing and research

Marketing and promotion:

- o LinkedIn - Design networking, article posting, job research and online profile
- o LaunchPad - Your work from this course will be displayed at LaunchPad in December. Follow marketing guidelines for submissions. Launchpad is Dec 15 and there will be in-person and online events. Our Marketing contact for LaunchPad, the ID website and all promotional activities is;

Danielle Fasciano
Academic Program Manager
danielle.fasciano@design.gatech.edu

Please contact her directly for any questions regarding format and content.

Professional Design Research

The go to resource for research is typically for most students is Google. Google is fine for a quick overview but is not robust enough for professional design research. You will use the professional, in-depth research resource and databases of the library. Knowing how to do next level design research is a critical skill in your design toolkit. The library is our key partner in this course and your ability to use and apply the trend research and statistical tools in the library will be critical to your success in this course. <https://libguides.gatech.edu/c.php?g=54146&p=349984>. You can find an in-depth library guide in the files section on Canvas.

It is important for you to get an early start with the library to become expert with the research tools you will need to develop your climate action research. Mr. Mancini is a brilliant librarian as well as an expert in Design research (worked at SCAD).

GT Library contact:

Catherine Mancini
Head, Campus Engagement & Scholarly Outreach
Liaison to the College of Design
Georgia Institute of Technology Library
Atlanta, GA 30332-0900
Phone: 404-385-3249
Email: catherine.mancini@library.gatech.edu

Course Expectations & Guidelines

Use of AI

Image Generation/ Video/ Design Production for GTID project work:

- Identify which AI-powered platform or tool was used to generate the image(s) and/or video(s) in your work, such as Midjourney, DALL-E, or Stable Diffusion (and others).
- Provide the specific input parameters, prompts, or preferences that you provided to the platform or tool to guide the image/video generation process.
- Clearly state that the image(s)/video(s) were generated using AI with the platform referenced.

ChatGPT and LLM's

You may use AI programs e.g. ChatGPT to help generate ideas and brainstorm. However, you should note that the material generated by these programs may be inaccurate, incomplete, or otherwise problematic. Beware that use may also stifle your own independent thinking and creativity.

Academic Integrity

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/>

Any student suspected of cheating or plagiarizing a Design, 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.

Accommodations for Individuals with Disabilities

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services (often referred to as ADAPTS) at (404)89-2563 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 to set up a time to discuss your learning needs.

Assignment Turn-In

All submissions require upload on Google Drive folder with optimized file sizes (< 25 MB). Video submissions must be optimized for smartphone viewing.

Attendance and/or Participation

Attendance: Students are allowed 3 unexcused absences without documentation. After 6 absences you fail because you have not been presented to learn enough material to warrant 4 credit hours. Participation is measured by chat messages during presentations, posting relevant articles to class discussions, asking questions and providing peer feedback. Classes start promptly at 2:05.

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

Late submissions (same day) will result in a 10%-point deduction. Late submissions (48 hrs.) will result in a 15%-point deduction. Late submissions more than 48 hrs. after due date are generally not accepted (subject to an individual assessment of the situation).

Student-Faculty Expectations

At Georgia Tech we believe that it is important to continually 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 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.

Original Work

All images, drawings, CAD files and written work must be the students original work and Intellectual property. You must own all the rights (or have written permission) to anything you publicly display. No internet images are allowed. Using other people's work or images are not allowed. Any research material found on-line must be identified and cited.

Additional Course Policies

DO NOT come to class in person if you feel sick. Active participation is required, however there will be an effort to be flexible if a student is sick. We do not want anyone to feel obligated to come to class in person if they do not feel well.

- All work must be original
- No internet images or stock photography accepted except for non-public classroom discussion purposes.

When GT displays your work in public at LaunchPad or GTID website GT is liable for any copyright infringement. Take your own research photos and photo document your entire design process. If you don't own the copyright or have permission, you can't use the images.

Every time you use someone else's images to explain your design ideas you lose an opportunity to impress with your own work.

- Keep email communications brief and to the point.
- No pets in class

- No phone calls during lectures. If you have an urgent call, please step outside.
- No eating during lectures. Coffee and water encouraged and please keep studio clean.

Teaching Plan - Fall 2025

Wk.	Date	Class Activity
1	Tuesday Aug 18	Add/Drop week - short class Connect on LinkedIn
1	Thursday Aug 20	Add/Drop week - short class Setup Zotero account
2	Tuesday Aug 26	Student Introductions and expectations Syllabus review and class set up
2	Thursday Aug 28	Lecture 1- Climate Action and UN sustainable goals Library workshop meet in library 2:00 pm Library resources: trend research for Climate Action.
3	Tuesday Sept 2	Lecture 2: Design for Climate Action Assignment 1 Research - Research and Choose a trend of personal interest https://thermal-architecture.org/
3	Thursday Sept 4	Guest Speaker Brian Stone
4	Tuesday Sept 9	Assignment 1 - Research Presentation on climate action trends to class - 5 minutes
4	Thursday Sept 11	Assignment 2 - 3 Concepts Table crit _ Research analysis and discussion
5	Tuesday Sept 16	Table crit _ Concepts
5	Thursday Sept 18	Assignment 2 - Concept Presentation of 3 ideas - 5 minutes
6	Tuesday Sept 23	Table crit - Design ReFrame with mind map
6	Thursday Sept 25	Table crit - Design ReFrame with statistics and research question
7	Tuesday Sept 30	Assignment 3 - Prototypes
7	Thursday Oct 2	Table crit - Design review of lo-fi prototype 1
8	Tuesday Oct 7	Lo-fi prototype 1 due
8	Thursday Oct 9	Works like Prototype 2 development
9	Tuesday Oct 14	Works like Prototype 2 development
9	Thursday Oct 16	Works like Prototype 2 development

10	Tuesday Oct 21	Works like Prototype 2 development
10	Thursday Oct 23	Table crit - user testing
11	Tuesday Oct 28	Table crit - Design review prototype 2
11	Thursday Oct 30	Table crit - Design review prototype 2
12	Tuesday Nov 4	Assignment 4_ Exhibition Poster & Process book
12	Thursday Nov 6	Works Like Prototype 2 Due
13	Tuesday Nov 11	Final Presentation
13	Thursday Nov 13	Table crit Project revisions
14	Tuesday Nov 18	Table crit Project revisions
14	Thursday Nov 20	Table crit Process book
15	Tuesday Nov 25	Table crit Poster
15	Thursday Nov 27	Thanksgiving
16	Tuesday Dec 2	Final Class - Class reflection
18	Thursday Dec 9	Assignment Poster due Assignment Process book due

Deliverables:

- Mind map
- Concept drawings*
- Exhibition Poster 24x36
- Research question
- Statistics and analysis*
- User feedback surveys and interviews
- Lo fi Prototype 1
- Works like Prototype 2
- Process book