

E S 277, Humanitarian Product Design, UN 14530

University of Texas at Austin

Course Syllabus, Spring 2025

Class Location: face-to-face class, EER 1.504

HPD Field Lab: Brackenridge Field Lab, 2907 Lake Austin Blvd.

Class Times: Monday, Wednesday 4-6 pm

Professor:

Bailey Briscoe Jones

Email: bailey.jones@utexas.edu, bailey@brightpd.com

Office: ETC 3.158

Office Hours: Monday, Wednesday 3-4 pm by appointment. Or you can often find me at the EER Café before class.

Teaching Assistant:

Vijay Laxmi

Email: vijaylx@gmail.com

Course Description

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Humanitarian Product Design is a project-based course. The projects address needs of people in crisis; communities such as refugees, displaced people, and others who have limited resources. Students will work on projects in small teams and deliver research, prototypes, and experimental results throughout the semester. This is a hands-on course and students will learn by doing. We will learn about design tools, project management methods, and other principles of product development and students will apply these principles directly as they develop their projects. Students will present their progress with frequent presentations, including two formal presentations to an advisory board. The students will develop and build working prototypes and complete a comprehensive report documenting their work and the results. Check out our class website <http://sites.utexas.edu/hpd/> to get an idea of past projects.

Note for Spring 2025 Semester:

We will be meeting in person Monday and Wednesday each week. Class will meet in our classroom in the ETC, and also at our HPD Field Lab on Lake Austin Blvd, or other labs on campus. In-person class attendance is mandatory. Class-time will normally begin with a lecture, scheduling and planning, or an in-class project.

Students will work together in small groups throughout the semester. This is a hands-on class so it is important that you be in class, in person, for all class meetings. We do not have recorded lectures or the option for remote attendance. Later in the semester teams will organize their time together and may use various labs or other spaces on campus including the classroom and field lab to get their work done.

What will I learn?

Project management tools and methods

Product development steps

Design tools and methods

Fundraising methods
Human-centered design principles
Prototyping technologies
Engineering principles within the context of product design

How will I learn?

This class meets for two hours, twice a week in-person. Many class periods will have both lecture and lab time. Some class periods will be devoted entirely to lab for you and your team to work together on your projects and to build and test your prototypes. Expect to spend the same amount of time outside of class working on your projects as you do in class.

How to succeed in this course:

Each of you have sought this course out and I am sure that you can be successful.

- You are responsible for attending every class period and showing up on time.
- You are also responsible for making it to our field lab on time when class is scheduled to meet there.
- You are responsible for participating in the in-class assignments and for turning homework in on time.
- Together with your team, you are responsible for driving progress on your projects.

I expect each student to be an active and productive member of their team and for you to be prepared for all milestone due dates such as presentations and prototype reviews. With quality work and a dedication to meet schedule dates I expect that you will learn a lot and earn a good grade.

Course Requirements

Course Materials

Always have a paper notebook and pen or pencil with you. Active note-taking is an important part of product development. You are expected to take notes during discussions with the professor, advisors, and mentors, and you will be responsible for following up on action items. There will be a couple of checks of your notebooks throughout the semester.

Textbooks: Optional. Both are available as an eBook or print book.

Optional recommended reading:

This book covers the concrete steps to engineer and manufacture a product.

[The \\$39 Mustache Comb: The Start-Up Guide to Manufacturing](https://www.amazon.com//dp/B07C8G7FZ8)

<https://www.amazon.com//dp/B07C8G7FZ8>

Bailey Briscoe Jones

ISBN: 978-0999206898

Optional recommended reading:

This book gives techniques and methods for human-centered design.

[Creative Confidence: Unleashing the Creative Potential Within Us All](#)

Tom Kelley and David Kelley

ISBN: 978-0-385-34936-9

Optional Readings

The \$39 Mustache Comb

Ch 1	New Products: What does it take?
Ch 2	Product Development Steps and Timeline
Ch 9	Prototyping and 3D Printing
Appendix I	Sample Project Schedule
Ch 11	Documentation: Drawings and 3D CAD
Ch 3	Design for Manufacturing
Ch 13	Review and Conclusion

Creative Confidence

Ch 1	Flip: Human Centered Design
Ch 2	Dare: Permission to fail
Ch 3, pp 67-89	Spark: Humanitarian design process, Field prototyping
Ch 3, pp 89-107	Spark: Field observations, Interviewing techniques
Ch 4, pp 109-129	Leap: Empathy for a new perspective, Iterations, Constraints for creativity
Ch 4, pp130-147	Leap: Prototypes, Low-cost experiments, Video, Storyboard
Ch 7	Move: Creativity challenges

Class attendance

This class meets in-person. We do not have recorded lectures nor the option for remote attendance. I expect students to attend all classes and to be on time. Absences and tardiness will lower your class participation grade.

There will not be a grade penalty for excused absences due to illness or other legitimate reasons. Please advise me in advance of any absences and be prepared to present a doctor's note or other documentation.

Class participation

Please be in class, participate in class activities, and pull your full weight for your team as you contribute to your project by working on prototypes, presentations, and reports. Be an active member of your team. Maintain your personal HPD notebook. Other individual student assignments are also included in this category.

Assignments

The assignments for this class fall into several categories. *Class participation* is described above. You and your team will complete *Team Assignments* such as submitting Statements of Work and Conference call agendas. You will give a *Status Review Presentation* as a team that includes documentation of your work and progress. You will give two *HEAP Panel Presentations* of your project. You will fabricate a series of *Prototypes* as a team including a working prototype that you will test or evaluate. Your team will submit a *Semester Report* that documents all of your work on the project and includes plans for the next semester. Finally, all students will be responsible for *Fundraising* performance through the HornRaiser platform. The Fundraising grade component applies only in the Fall semester.

Grading for this Course

Class Participation:	10%
Team Assignments:	10%
Status Review:	10%
Milestone 1 Presentation:	15%
Milestone 2 Presentation:	15%
Prototypes:	20%
Semester Report:	20%

Important Dates

February 5	8:30 am conference call with Mr. Carter
February 10	Project Status Review
March 3	Milestone 1 presentation to HEAP Panel
March 12	8:30 am conference call with Mr. Carter
April 14	Milestone 2 presentation to HEAP Panel
April 16	8:30 am conference call with Mr. Carter
April 21	Prototype Review and Demonstration
April 23	draft of Semester Report due
April 28	Semester Report due. Last day of class.

Schedule

This is a tentative schedule and I may adjust it as circumstances require. Please make note of any schedule changes.

Week #	Monday	Wednesday
1	<p style="text-align: center;"><u>Jan 13</u></p> <ul style="list-style-type: none"> Welcome Opening activity Syllabus Review semester-start plan Purchasing Create revised S.O.W. 	<p style="text-align: center;"><u>Jan 15</u></p> <ul style="list-style-type: none"> Review S.O.W. GANNT chart demonstration GANNT chart planning activity Responsibilities document GANNT software introduction
2	<p style="text-align: center;"><u>Jan 20</u></p> <p>MLK Day</p>	<p style="text-align: center;"><u>Jan 22</u></p> <ul style="list-style-type: none"> Big picture planning with Prof. Review GANTT chart and responsibilities document
3	<p style="text-align: center;"><u>Jan 27</u></p> <ul style="list-style-type: none"> Plan for Project Status Review with Prof. Discuss upcoming IFRC call 	<p style="text-align: center;"><u>Jan 29</u></p> <ul style="list-style-type: none"> Lab day
4	<p style="text-align: center;"><u>Feb 3</u></p> <ul style="list-style-type: none"> Lab day IFRC call agenda due 	<p style="text-align: center;"><u>Feb 5</u></p> <ul style="list-style-type: none"> 8:30 am IFRC call Lab day
5	<p style="text-align: center;"><u>Feb 10</u></p> <ul style="list-style-type: none"> Project Status Review 	<p style="text-align: center;"><u>Feb 12</u></p> <ul style="list-style-type: none"> Lab day

Week #	Monday	Wednesday
6	<p style="text-align: center;"><u>Feb 17</u></p> <ul style="list-style-type: none"> • Meet in class • Plan for HEAP 1 • Review Project Planning tools: case studies 	<p style="text-align: center;"><u>Feb 19</u></p> <ul style="list-style-type: none"> • Lab day
7	<p style="text-align: center;"><u>Feb 24</u></p> <ul style="list-style-type: none"> • Lab day 	<p style="text-align: center;"><u>Feb 26</u></p> <ul style="list-style-type: none"> • Lab day
8	<p style="text-align: center;"><u>Mar 3</u></p> <ul style="list-style-type: none"> • HEAP 1 	<p style="text-align: center;"><u>Mar 5</u></p> <ul style="list-style-type: none"> • Meet in class • Review meeting, set priorities
9	<p style="text-align: center;"><u>Mar 10</u></p> <ul style="list-style-type: none"> • Lab day • IFRC call agenda due 	<p style="text-align: center;"><u>Mar 12</u></p> <ul style="list-style-type: none"> • 8:30 am IFRC call • Meet in class • Project Planning with prof.
10	<p style="text-align: center;"><u>Mar 17</u></p> <ul style="list-style-type: none"> • Spring Break 	<p style="text-align: center;"><u>Mar 19</u></p> <ul style="list-style-type: none"> • Spring Break
11	<p style="text-align: center;"><u>Mar 24</u></p> <ul style="list-style-type: none"> • Humanitarian Symposium: Prof. Maria Drakaki, Greece 	<p style="text-align: center;"><u>Mar 26</u></p> <ul style="list-style-type: none"> • Meet in class • Plan for HEAP 2
12	<p style="text-align: center;"><u>Mar 31</u></p> <ul style="list-style-type: none"> • Meet in class • Plan for Semester Report • Plan for Prototype review and Demo 	<p style="text-align: center;"><u>Apr 2</u></p> <ul style="list-style-type: none"> • Lab day
13	<p style="text-align: center;"><u>Apr 7</u></p> <ul style="list-style-type: none"> • Lab day 	<p style="text-align: center;"><u>Apr 9</u></p> <ul style="list-style-type: none"> • Lab day
14	<p style="text-align: center;"><u>Apr 14</u></p> <ul style="list-style-type: none"> • HEAP 2 • IFRC call agenda due 	<p style="text-align: center;"><u>Apr 16</u></p> <ul style="list-style-type: none"> • Lab day • 8:30 am IFRC call
15	<p style="text-align: center;"><u>Apr 21</u></p> <ul style="list-style-type: none"> • Prototype Review and Demonstration 	<p style="text-align: center;"><u>Apr 23</u></p> <ul style="list-style-type: none"> • Draft Semester Report due
16	<p style="text-align: center;"><u>Apr 28</u></p> <ul style="list-style-type: none"> • Semester Report due • Last day of class 	<p style="text-align: center;"><u>Apr 30</u></p>

Policies

Grading Policies

Individual assignments, team assignments, presentations, and prototypes will be graded according to the scale shown below:

Grade	Cutoff
A	94%
A-	90%
B+	87%
B	84%
B-	80%
C+	77%
C	74%
C-	70%
D	65%
F	<65%

Late work

All assignments must be turned in on time. If there are unavoidable circumstances that will prevent you from turning an assignment in on time, you must make arrangements with me before the due date. Any late work that I accept will incur a 10-point penalty per class day that it is late.

Absences

You are expected to attend all class days and to be on time. I will record attendance. If you must miss class, please arrange with me ahead of time. There is a grade penalty for missed classes and tardiness. There will be not be a grade penalty for excused absences due to illness or other legitimate reasons.

Academic Integrity

Each student in the course is expected to abide by the University of Texas Honor Code: *"As a student of The University of Texas at Austin, I shall abide by the core values of the University and uphold academic integrity."* **Plagiarism is taken very seriously at UT.** Therefore, if you use words or ideas that are not your own (or that you have used in previous class), you must cite your sources. Otherwise you will be guilty of plagiarism and subject to academic disciplinary action, including failure of the course. You are responsible for understanding UT's Academic Honesty and the University Honor Code which can be found at the following web address: http://deanofstudents.utexas.edu/sjs/acint_student.php

Q Drop Policy

If you want to drop a class after the 12th class day, you'll need to execute a Q drop before the Q-drop deadline, which typically occurs near the middle of the semester. Under Texas law, you are only allowed six Q drops while you are in college at any public Texas institution. For more information, see: <http://www.utexas.edu/ugs/csacc/academic/adddrop/qdrop>

University Resources for Students

The University of Texas at Austin provides, upon request, appropriate academic accommodations for qualified students with disabilities. For more information, contact the Division of Diversity and Community Engagement, Services for Students with Disabilities, 512-471-6259 (Videophone: 512-410-6644) or <http://diversity.utexas.edu/disability/>.

If you or anyone you know experiences any academic stress, difficult life events, or feelings of anxiety or depression, we strongly encourage you to seek support. <http://www.cmhc.utexas.edu/individualcounseling.html>

The Sanger Learning Center

Did you know that more than one-third of UT undergraduate students use the Sanger Learning Center each year to improve their academic performance? All students are welcome to take advantage of Sanger Center's classes and workshops, private learning specialist appointments, peer academic coaching, and tutoring for more than 70 courses in 15 different subject areas. For more information, please visit <http://www.utexas.edu/ugs/slc> or call 512-471-3614 (JES A332).

Undergraduate Writing Center: <http://uwc.utexas.edu/>

Libraries: <http://www.lib.utexas.edu/>

ITS: <http://www.utexas.edu/its/>

Student Emergency Services: <http://deanofstudents.utexas.edu/emergency/>

Title IX Reporting

Title IX is a federal law that protects against sex and gender-based discrimination, sexual harassment, sexual assault, sexual misconduct, dating/domestic violence and stalking at federally funded educational institutions. UT Austin is committed to fostering a learning and working environment free from discrimination in all its forms. When sexual misconduct occurs in our community, the university can:

1. Intervene to prevent harmful behavior from continuing or escalating.
2. Provide support and remedies to students and employees who have experienced harm or have become involved in a Title IX investigation.
3. Investigate and discipline violations of the university's [relevant policies](#).

Faculty members and certain staff members are considered "Responsible Employees" or "Mandatory Reporters," which means that they are required to report violations of Title IX to the Title IX Coordinator. **I am a Responsible Employee and must report any Title IX related incidents** that are disclosed in writing, discussion, or one-on-one. Before talking with me, or with any faculty or staff member about a Title IX related incident, be sure to ask whether they are a responsible employee. If you want to speak with someone for support or remedies without making an official report to the university, email advocate@austin.utexas.edu For more information about reporting options and resources, visit titleix.utexas.edu or contact the Title IX Office at titleix@austin.utexas.edu.

The following recommendations regarding emergency evacuation from the Office of Campus Safety and Security, 512-471-5767, <http://www.utexas.edu/safety/>

Occupants of buildings on The University of Texas at Austin campus are required to evacuate buildings when a fire alarm is activated. Alarm activation or announcement requires exiting and assembling outside.

- Familiarize yourself with all exit doors of each classroom and building you may occupy. Remember that the nearest exit door may not be the one you used when entering the building.
- Students requiring assistance in evacuation shall inform their instructor in writing during the first week of class.
- In the event of an evacuation, follow the instruction of faculty or class instructors. Do not re-enter a building unless given instructions by the following: Austin Fire Department, The University of Texas at Austin Police Department, or Fire Prevention Services office.
- Link to information regarding emergency evacuation routes and emergency procedures can be found at: www.utexas.edu/emergency