

# HCD 590 Designing Ethical AI | Spring 2021 Syllabus

The D2L system will be used to organize materials,

assignments, and grading (<https://d2l.depaul.edu/>).

## Instructors

Ovetta Sampson | [osampson@depaul.edu](mailto:osampson@depaul.edu)  
Ken Jee | [kjee1@mail.depaul.edu](mailto:kjee1@mail.depaul.edu)

Office hours: ONLINE Tuesdays 5:00 PM - 5:45 PM and by appt.

Office Location: ONLINE

## Course Information

HCD 590 Class times: Tuesdays: 5:45PM - 9:00 PM  
Room: ONLINE

*Last day to drop the course with no penalty: April 9.  
If dropped on or after April 9, a grade of "W," will be assigned.*

## Prerequisites

Completion of HCD core course work

## Learning Objectives

Students will be able to:

1. Build a systemic view of ethical AI design in order to analyze examples of and deconstruct assumptions about the impact of AI design on people and communities.
2. Critically assess goals, approaches, and challenges of designing human-centered AI experiences.
3. Describe their own point of view as an ethical designer to shape a conceptual framework for ethical AI design.
4. Describe a human centered problem statement and identify and execute next steps to research and design against this problem statement.

## Additional Objectives

5. Become familiar with the work of practitioners.
6. Connect personal interests to course topics.
7. Develop confidence as researchers and designers.
8. Consider equity and the role of design in underrepresented communities.

## Recommended Texts

O'Neil, C. *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy*. Broadway Books, 2016.

Eubanks, V. *Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor*. St. Martin's Press, 2018.

Benjamin, Ruha. *Race After Technology: Abolitionist Tools for the New Jim Code*. Polity Press, Medford MA.

## Class Format

Class will be conducted in a seminar format in which the instructor will facilitate reflection and provide guidance to engage disciplinary research and design practices. Students are expected to spend 8 to 10 hours per week on reading, research/design, and writing activities outside of class.

## Computers & Software

## Course Summary

The ubiquity of AI in product design makes it essential for human-centered designers to understand, influence and decide how AI products are developed. This course offers designers the tools needed to confidently integrate human-centered design methods including ethnography, prototyping and testing into artificial intelligence product development for more ethical AI.

With a combination of lecture, readings, case study examples and guest lectures from AI design professionals, students will learn how to integrate data into research planning to identify and reduce bias as well as gain a better understanding of how to augment user research practices to create more ethical and human-centered AI design outcomes.

Students will apply their knowledge by using the design-thinking process to conceptualize a new AI product. Students will also use what they observe and hear to develop their own ethical framework for designing AI products and services as well as pursue a passion project to bring new skills into fruition. These skills include problem framing, articulating project goals, designing and conducting interviews, and thematic analysis.

## Evaluation & Grading

Coursework includes the following components:

Grade Proportion	Course Requirement
25%	Class participation
20%	Presentation Milestones
35%	Weekly writing/activity assignments
20%	Final Project /Presentation/ Design Statement
<b>100 %</b>	<b>TOTAL</b>

## Grading Scale

Letter grades are based on the percent of points earned.

Grade	%	Points	
A	93	93	<i>Excellent</i>
A-	90	90	<i>Very Good</i>
B+	87	87	
B	83	83	<i>Good</i>
B-	80	80	
C+	77	77	
C	73	73	<i>Satisfactory</i>

C-	70	70	
D+	67	67	
D	60	60	

F	<60	<60	
---	-----	-----	--

Class	Topics and Activities	Readings and Viewings Due	Assignments Due	Project Milestones and Due Dates
-------	-----------------------	---------------------------	-----------------	----------------------------------

<b>March 30</b> Class 1  Ovetta & Ken	<b>All People Create Data/ All Data Is Created by People</b>  <b>Class Assignment Due</b> Today: <a href="#">Completed Data Literacy Survey</a>	<b>Readings or Articles:</b>  Be prepared to discuss: <ol style="list-style-type: none"> <li>1. <a href="#">How Much Data Do We Create Everyday FORBES.com</a></li> <li>2. Review this website <a href="https://hellobabyogh.org/">https://hellobabyogh.org/</a></li> <li>3. Review this website: <a href="#">The data science process (A visual Guide)</a></li> </ol>	Be prepared to talk about the results from your Data Literacy Survey  Also bring a "data artifact," something that collects data on you - phone, watch, temperature gauge etc., app we'll discuss in class.	Will assign project teams and 3-2-1 Assignments <a href="#">Completed Pre-Class Survey</a> Will give Project Plan Overview and go over first project assignment - Developing HMW Design Challenge Statement
<b>April 6</b> Class 2 Ovetta & Ken	<b>Design, AI and Ethics</b> Understanding the general concept of ethics and how it applies to design and AI  3-2-1 discussion facilitated by Ovetta and Ken  Introduce Personal Design Ethics Statement Assignment	<ol style="list-style-type: none"> <li>1. <a href="#">Everyday Ethics in Design</a> (video)</li> <li>2. <a href="#">This 5-minute thought exercise will help you define your purpose</a>, Joe Brown</li> <li>3. <a href="#">Ethics of Artificial Intelligence</a></li> <li>4. <a href="#">Developing Research Plan</a></li> </ol>	<b>3-2-1 Assignment</b> (Due Sun at 9pm) 3-2-1 Article: <a href="#">Biased Algorithm Are Determining Whether Poor Parents Get to Keep Their Kids</a>	<b>Team Design Project Check-In:</b> Developing Research Plan for Project Intelligent Personal Assistant Project ( Create Draft in Class)

<b>April 13</b> Class 3 <i>Ovetta &amp; Ken</i>	<b>Lecture:</b> <b>Understanding Data collection, cleaning and storage</b>  <b>Class Assignment Due Today:</b> Team Research Plan  3-2-1 Discussion Facilitated (Group TBA)	<ol style="list-style-type: none"> <li>1. <a href="#">View: Ken's Video</a></li> <li>2. In class: What the Hell is Synthesis?</li> <li>3. Bonus: <a href="#">Is Facebook Spying on You?</a> - Gimlet Podcast</li> <li>4. Review: <a href="#">I love Algorithms d.school</a></li> </ol>	3-2-1 Assignment: (Due Sun at 9 p.m. before class): <a href="#">Facebook Isn't Listening to Your Phone; It Doesn't Have to</a> - <a href="#">Wired Magazine</a> (Facilitated Group Discussion)	<b>Team Project Check-In</b> <b>Final Research Plan due -Graded Asset</b> Finalize Design Ethics Statement Outline
<b>April 20</b> Class 4 <i>Ovetta &amp; Ken</i>	<b>Data + Machine Learning/DL/AI</b>  3-2-1 Discussion Facilitated (Group TBA)	<ol style="list-style-type: none"> <li>1. <a href="#">3 Principles for Creating Safer AI</a>, Tim Russell (video)</li> <li>2. <a href="#">Synthesizing Insight</a>, Matt Cooper Wright, <a href="#">Part 1</a> and <a href="#">Part 2</a></li> <li>3. <a href="#">The Hitchhiker's Guide to AI</a></li> </ol>	<b>3-2-1 Assignment</b> (Due Sun at 9pm) <a href="#">A Model for Types and Levels of Human Interactions in Autonomous Systems</a>	<b>Team Project Check-In</b> <b>- (Research + Synthesis = Product Opportunities)</b>  Draft of Synthesis Themes
<b>April 27</b> Class 5 <i>Ovetta &amp; Ken</i>	<b>Designing the Seams: Intersection of Design, Ethics and AI</b>  Creating Your Own Algorithm (In class)  3-2-1 Discussion Facilitated (Group TBA)	<ol style="list-style-type: none"> <li>1. Reading: <a href="#">Civilian Casualties," Justice in the Age of Big Data</a>, Weapons of Math Destruction pp 77-88</li> <li>2. <a href="#">AI Needs Ethical Compass and This Toolkit Can Help- IDEO</a></li> <li>3. <a href="#">Experience Design in the Machine Learning Era</a> by Fabian Gardin</li> </ol>	<b>3-2-1 Assignment</b> (Due Sun at 9pm) <a href="#">The Stealth Media?</a> 3-2-1 Discussion Lead (Group)	<b>Team Project check-in: Final Synthesis and Theme Identification /Affinity Diagram Due - Graded Asset</b>

<b>May 4</b> <b>Class 6</b> Ken & Ovetta	Mid-class check-in How are you doing?  <b>Exercise:</b> Integration of Design and Data Science Process  Design Critique Round Robin (In Class)  Themes/Insights/Opportunities (In Class)	Be Prepared to Show your project so far! There will be a mid-project critique today!	NO 3-2-1 ASSIGNMENT	<b>Team Project check-int:</b> Research Share and Opportunities (Draft) Show and Tell
<b>May 11</b> Week 7 <i>Ovetta &amp; Ken</i>  <b>Guest Lecturer:</b> Carol Smith, UX	<b>Tools of the Ethical AI Trade in Design Research :</b> Methods and Strategies to add to your design	<b>Video:</b> <a href="#">Toward A More Perfect Union: Combining Design Research and Data Science</a> (Ovetta	<b>3-2-1 Article:</b> <a href="#">Battling the Weaponizing of AI (Ovetta Sampson)</a> (Group Facilitation)	<b>Team Project Check-In</b> <b>Research Share and Insights Presentation</b>

Research for AI - Sr. Researcher at Software Engineering Institute, Carnegie Mellon University	research processes  Redesigning Teachable Machine (In Class)  3-2-1 Discussion Facilitated (Group TBA)	Sampson's Talk Strive 2019 UX Research Collective)		<b>Final due - Graded Asset</b>
<b>May 18</b> Week 8 <i>Ovetta &amp; Ken</i>  <b>Guest Lecture:</b> Kence Anderson from Microsoft (Project Bonsai)	<b>Tools for the Ethical AI Trade: Product Development</b>  Lecture and Class Exercise: Design Ken's Virtual Assistant with Man vs. Machine  3-2-1 Discussion Facilitated (Group TBA)	Podcast: <a href="#">American as Apple Pie How Racism Gets Baked Into Technology</a>  <b>Suggested Reading:</b> Default Discrimination: Is there a Glitch in the System?" Chapt. 2 <a href="#">Race After Technology by Ruha Benjamin</a>	<b>3-2-1 Assignment</b> (Due Sun at 9pm) <a href="#">When Are We Going to Start Designing AI with a Purpose</a> - Josh Lovejoy, Design Manager Ethics and Society, Microsoft 3-2-1 Discussion Lead (Group)	<b>Team Project Check-In:</b> Low-Fidelity Sketch Experience Design Draft
<b>May. 25</b> Week 9 <i>Ovetta &amp; Ken</i>	<b>Data Privacy, Ownership, Bias and Informed Consent</b>  3-2-1 Discussion Facilitated (Group TBA)	<a href="#">GDPR Privacy Law</a>	<b>3-2-1 Assignment</b> (Due Sun at 9pm) <a href="#">Redesigning Data Privacy and Consent</a> 3-2-1 Discussion Lead (Group)	<b>Mid-Fidelity Experience Flow Design for Critique ) - Graded Asset</b>
<b>June 1</b> Week 10  <i>Ovetta &amp; Ken</i>	<b>Project In-Class Working Session</b>		No reading assignment due; work on project	Presentation outline draft due  Presentation workshop in class
<b>June. 8</b> Week 11  <i>Ovetta &amp; Ken</i>	<b>Final Presentation Day</b>		No reading assignment due; work on project	Personal statement final due  <b>Final presentation due - Graded Asset</b>

**Acknowledgements and revisions:** Newly Created by Ovetta Sampson and Ken Jee, with input from input from colleagues in the CDM School of Design and inspiration found in syllabi online by others such as Machine Learning Design class at the d.school at Stanford and others in the field of human centered design.

**Policies & Expectations Attendance** Students are

expected to attend each class and to remain for the duration.

Attendance will be taken and is reflected in the Class

Participation and Attendance portion of the course

grade. Your active participation and engagement in the class is expected and is required to get credit for this portion of the course grade.

#### **Absence**

- Attend every class.

- Three absences for any reason, whether excused or not, may constitute failure for the course.
- **Communicate with us if you must miss class for any reason – a quick email will do.**

- Please notify instructors in advance if there are any special needs.

### Late Policy

- Being present and arriving on time to every class is my expectation for everyone. Communicate with us if you must be late to class for any reason.
- If there is a reason why you cannot consistently arrive on time to class, please let us know.
- Tardiness exceeding 30 minutes is counted as an absence.

### Excused Absence

In order to petition for an excused absence, students who miss class due to illness or significant personal circumstances should complete the Absence Notification process through the Dean of Students office. The form can be accessed at <http://studentaffairs.depaul.edu/dos/academicprocesses.html>. Students must submit supporting documentation alongside the form. The professor reserves the sole right whether to offer an excused absence and/or academic accommodations for an excused absence.

### Late Assignments

Completing assignments on time and having them ready for discussion and critique in class is essential for this class. Thus, to encourage accountability, late assignments will not receive credit **unless acceptable reasons are documented** (illness, family emergency) **and communicated to me within 24 hours of the due date.**

### Email Policy

Mon-Thu, you can expect us to return emails within 36 hours. Expect a delayed response Fri-Sun. In the spirit of practicing professional communication, make an effort to write email messages in a formal, professional tone (e.g., proper greeting, correct spelling, etc.).

### Class Behavior

- Food and drink during class is ok.
- **Internet surfing and checking email, etc. during class when your attention is expected is disrespectful and unprofessional.** We ask for your cooperation and attention during class time.
- Be a respectful participant by keeping phones in silent mode and do not text in class. If you have a need to be available by phone (sick relative, etc.), please let us know.
- Be engaged in class discussions and workshop activities.
  - Participate with enthusiasm
  - Show genuine effort to cooperate with others • Show leadership and take initiative in group efforts
  - Frequently and eagerly offer your thoughts, perspectives, and responses to instructor and classmates
  - Make contributions that reflect excellent preparation (i.e., complete required reading)
- Practice professionalism
  - Communicate (face-to-face, emails, etc.) with the professor and fellow students in a professional and appropriate manner

- Students are individually responsible for material they may have missed due to absence or tardiness.

3

- Use body language (ex., eyes, posture) that shows active listening during instructor/student presentations
- Be respectful towards others

### Attitude

A professional attitude is expected throughout this course. Measurable examples of non-academic or unprofessional attitude include but are not limited to: talking to others when an instructor is speaking, mocking another's opinion, cell phones ringing, emailing, texting or using the internet whether on a phone or computer. If any issues arise a student may be asked to leave the classroom. The professor will work with the Dean of Students Office to navigate such student issues.

### Civil Discourse

DePaul University is a community that thrives on open discourse that challenges students, both intellectually and personally, to be Socially Responsible Leaders. It is the expectation that all dialogue in this course is civil and respectful of the dignity of each student. Any instances of disrespect or hostility can jeopardize a student's ability to be successful in the course. The professor will partner with the Dean of Students Office to assist in managing such issues.

**Coursework Grade Review Requests** Every effort is made to grade in a fair and consistent manner. Should a disagreement arise about a course grade, the student may submit a grade review request in writing to the instructor. The request must be submitted within 48 hours after the assignment grade has been posted. The request must include the student's argument for a different grade evaluation, based on verifiable evidence presented by the student. The instructors handle grade review requests and respond to the student with a review decision as soon as possible.

### Incomplete Grades

An incomplete grade is a special, temporary grade that may be assigned by an instructor when unforeseeable circumstances prevent a student from completing course requirements by the end of the term and when otherwise the student had a record of satisfactory progress in the course. CDM policy requires the student to initiate the request for incomplete grade before the end of the term in which the course is taken. Prior to submitting the incomplete request, the student must discuss the circumstances with the instructor. Students may initiate the incomplete request process in MyCDM.

- All incomplete requests must be approved by the instructor of the course and a CDM Associate Dean. Only exceptions cases will receive such approval.
- If approved, students are required to complete all remaining course requirements independently in consultation with the instructor by the deadline on the incomplete request form.
- By default, an incomplete grade will automatically change to a grade of F after two quarters have elapsed (excluding summer) unless another grade is recorded by the instructor.

4

- An incomplete grade does NOT grant the student permission to attend the same course in a future quarter.

### Withdrawal

Students who withdraw from the course do so by using the Campus Connection system. Withdrawals processed via this system are effective the day on which they are made. Simply ceasing to attend, or notifying the instructor, or nonpayment of tuition, does not constitute an official withdrawal from class and will result in academic as well as financial penalty.

### Retroactive Withdrawal

This policy exists to assist students for whom extenuating circumstances prevented them from meeting the withdrawal deadline. During their college career students may be allowed one medical/personal administrative withdrawal and one college office administrative withdrawal, each for one or more courses in a single term. Repeated requests will not be considered. Submitting an appeal for retroactive withdrawal does not guarantee approval.

College office appeals for CDM students must be submitted online via MyCDM. The deadlines are as follows: • AQ:

Last day of the last final exam of the subsequent winter quarter

- WQ: Last day of the last final exam of the subsequent spring quarter
- SQ: Last day of the last final exam of the subsequent autumn quarter
- Sum: Last day of the last final exam of the subsequent autumn quarter

**Academic Integrity & Plagiarism** This course will be subject to the academic integrity policy passed by faculty. More information can be found at <http://academicintegrity.depaul.edu/>.

### Academic Policies

All students are required to manage their class schedules each term in accordance with the deadlines for enrolling and withdrawing as indicated in the University Academic Calendar. Information can be found at: <http://www.cdm.depaul.edu/Current%20Students/Pages/PoliciesandProcedures.aspx>

### Resources for Students with Disabilities

Students who feel they may need an accommodation based on the impact of a disability should contact the instructor privately to discuss their specific needs. All discussions will remain confidential. To ensure that you receive the most appropriate accommodation based on your needs, contact the instructor as early as possible in the quarter (preferably within the first week of class), and make sure that you have contacted the Center for Students with Disabilities (CSD) at: Lewis Center 1420, 25 East Jackson Blvd.

Phone number: (312) 362-8002

Fax: (312) 362-6544

TTY: (773) 325-7296

Email: [csd@depaul.edu](mailto:csd@depaul.edu)

### Online Course Evaluations

Evaluations are a way for students to provide feedback regarding their instructors and the course. Detailed feedback will enable the instructors to tailor teaching methods and course content to meet the learning goals and the academic needs of the students. They are a requirement of the course

and are key to continue to provide you with the highest quality of teaching. The evaluations are anonymous; the instructor and administration do not track who entered what responses. A program is used to check if the student completed the evaluations, but the evaluation is completely separate from the student's identity. Since 100% participation is our goal, students are sent periodic reminders over three weeks. Students do not receive reminders once they complete the evaluation. Students complete the evaluation online in CampusConnect.

### Visit the Writing Center

Consider visiting the Writing Center to discuss your written assignments for this course. Writing Center Tutors are specially trained undergraduate and graduate students who can help you at any stage of your writing project. They can help you focus and develop your ideas, review your drafts, and polish your writing, as well as answer questions about grammar, mechanics, style, and citation. You may schedule appointments on an as-needed or weekly basis. In addition to Face-to-Face appointments, the Writing Center also provides Written Feedback by Email and Online Appointments. Be sure to schedule your appointment with enough time to think about and incorporate the feedback you'll receive. Bring/upload your assignment handout and/or any other relevant materials to your appointment. To schedule a Face-to-Face, Written Feedback by Email, or Online Appointment, visit [www.depaul.edu/writing](http://www.depaul.edu/writing). You can also call one of our offices: (312) 362-6726 (Loop Office, 1600 Lewis Center) or (773) 325-4272 (LPC Office, 250 McGaw Hall). When possible, the Writing Center accepts walk-in requests, but it's always a good idea to schedule your appointment ahead of time. You may schedule tutorials on an as-needed basis or as weekly standing appointments up to 3 hours per week. All Writing Center services are free to the DePaul community.