i300: HCI/Interaction Design • spring 2015

instructor

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office hours: In Angles Café in IU Art Museum Atrium (2nd level)
Tuesday and Thursday: 11:00 – 11:45 am,
and by appointment

class meeting

Tuesday and Thursday: 9:30 – 10:45 am in Woodburn Hall 101

student mentors

1st half/2nd half of term
1. Edward Tufte Group: Tori Rice • tjrice@indiana.edu/Shankar Balasubramaniam • shrabala@indiana.edu
2. Dieter Rams Group: Shankar Balasubramaniam • shrabala@indiana.edu/Jeffrey Gadzala • jagadza@indiana.edu
3. Jony Ive Group: Jeffrey Gadzala • jagadzal@indiana.edu/Tori Rice • tjrice@indiana.edu
4. Don Norman Group: Karthik Rao • karrao@indiana.edu/Danny Rudzinski • drudzins@indiana.edu
5. Brian Eno Group: Danny Rudzinski • drudzins@indiana.edu/Karthik Rao • karrao@indiana.edu/
6. Steve Krug Group: Omar Sosa-Tzec • omarsosa@indiana.edu/Shannon Grimme • seschenc@indiana.edu/
7. IDEO Group: Shannon Grimme • seschenc@indiana.edu/Omar Sosa-Tzec • omarsosa@indiana.edu

course materials

All course materials – and any necessary updates or clarifications -- can be found on, or linked to, the course blog:

http://i300spring2015.blogspot.com/
course introduction + overview

This course introduces students to the foundations of Human-Computer Interaction Design (HCI/D). The field of Human-Computer Interaction (HCI) has origins primarily in computer science and cognitive psychology. As HCI expands its scope beyond workplace efficiency and productivity, it is increasingly seeking a “designerly” sensibility that is rooted in traditions of the arts, architecture, fashion, interior design, product design, graphic design, and service design, among others.

It’s important to know that the practice of design is not a scientific endeavor (Cross, 2007). It certainly uses science, and it may be studied scientifically, but as a practice, it is something entirely different. Design researcher Nigel Cross conducted studies of the design processes of several master designers. Rather than seeing a data-driven process, Cross discovered all of the designers creatively navigated among natural laws and basic principles (e.g., “form follows function”), their own experiences and particular perspectives as individual designers, their own goals for the project, and the particular needs/constraints of the particular client.

In this course, we will take a design-oriented perspective on HCI. The primary objective is to provide students with the necessary skills to conduct design research and develop conceptual designs as well as to cultivate their capacity to offer that “particular perspective” in solving design problems so as to meet users’ needs. Students will also be able to develop a substantive design portfolio as a result of the course for internships and industry positions.

course elements + deadlines

“Reflection” Papers
There will be three Reflection Papers assigned throughout the term to encourage students to consider the relevance of the course material to their own interests and aspirations. They are:
1. Initial (week 1): Thursday, 15 January
2. Mid-term (week 8): Thursday, 5 March
3. Final (week 16): Thursday, 30 April

The specific topics to address in each are set out in the Course Schedule. The grades for these papers will count as part of one’s Participation and Professionalism grade.

In-class Writing Assignments
Students should come prepared to write, and submit at the end of class, responses to questions posed related to the topics introduced in class, and previously in the readings. These assignments will be evaluated as part of your Participation and Professionalism grade.

Reading Response Questions
Throughout the course there will be assigned reading, from the textbook and also those posted on Oncourse, which students are to read critically and answer assigned reading response questions. There will be assigned reading responses due each Tuesday beginning the second week of term. The questions themselves are set out in the Course Schedule. The most successful responses will cite the answer to the assigned question, provide an interpretation of it, and cite an example drawn from the student’s own experience. Students are also encouraged to give well-reasoned disagreements with what they find in the reading. These responses are to be submitted via the Assignments portion of Oncourse by 12:01 am on assigned due date.

Mini-Projects
There will be two individual mini-projects:
1. Logotype Design exercise: Tuesday, 27 January
2. Emotional Design analysis: Tuesday, 17 February

The specific details of these projects will be set out in Mini-Project briefs linked to the course blog. The Mini-Projects are to be submitted as PDFs via the Assignments portion of Oncourse by midnight of the night before the assigned due date.

Projects
There will be four projects, assigned to groups of three students, to explore the key course themes. They are:

1. Affordance + Constraint analysis: Tuesday, 10 February
2. Mapping study: Tuesday, 3 March
3. Usability Testing
   3.1 Pilot usability test of website: Tuesday, 10 March
   3.2 Pilot usability test of app: Tuesday, 24 March
   3.3 Final project: Tuesday, 31 March
4. User-Centered Design
   4.1 Problem identification: Tuesday, 7 April
   4.2 Project research: Tuesday, 14 April
   4.3 Preliminary prototype design and testing: Tuesday, 21 April
   4.4 Final project: Tuesday, 28 April

Exams
Mid-term: Thursday, 12 March
Final: Tuesday, 5 May, 10:15 am – 12:15 pm
Midterm
Key terms/concepts/people/firms
2. **Information Architecture, Aesthetics, Hierarchy, Icon, Symbol,** Typography, Fonts (Serif and Sans Serif), Logotypes, Four principles of page layout, Massimo Vignelli
3. **Ergonomics, Affordances, Constraints, Don Norman, Smart Design**
4. **Visceral, The Three “Levels” of Emotional Design**
5. **Behavioral, Flow, Ambient Music and Video, Soft Design, Brian Eno**
6. **Metaphor, Goal, Mapping, Metaphors, Fallibility**
7. **Task Modeling, Expectations, Trust**

Final topics
9. **Usability, Responsive Design, Ethnography, Wireframes,** Fun design, Feedback
10. **User-Centered Design (UCD), User Journeys, Narrative**
11. **User-Research, Stanford dSchool, dMindsets, the Five Modes of a User-Centered Design Process,** IDEO, David Kelley, Bill Moggeridge
12. **Empathy,** Define, Interview with Empathy
13. **Personas, Scenarios, Responsive Design**
14. **Rapid Prototyping, Semantic Design**
15. Design thinking, Sustainability, Tim Brown

Participation and Professionalism

Extra Credit
Design Journal

Design Journals and Notetaking
Students are strongly encouraged to get a designerly journal and appropriate pens and markers, to take “sketchnotes”. Though this is not a requirement, students can submit their notebooks at the end of the semester for evaluation for up to five extra credit points on one’s final grade. The thoroughness of your notetaking in your journal will be assessed to determine the value of the extra-credit points.

There is no specific requirement, since such choices are highly individual, but one approach might be:

1. A high quality sketchbook (without lines or gridded) for all of your notes and design sketches. Look for sketchbooks by Canson or Strathmore; Rhodia and Moleskine are fine too. You might find that a spiral bound sketchbook (so that it opens flat) measuring 5.5 x 8.5 inches, 100 pages, and perforated.
2. Two quality black artist pens; Pigma Micron Pens 05 and 08 (or equivalent).
3. Two Faber Castell (or equivalent) graphite pencils, 3B and 8B.
4. A small pencil sharpener.
5. An artist eraser, Factis (extra soft).
6. Tombow Duel Brush marker, color N89 (or equivalent).
7. A small carrying case for your supplies and a set of “design markers” (optional).

You can purchase these things at any good art store. In Bloomington, go to Pygmalion’s Art Supplies at 108 N. Grant Street. They’ve bundled these supplies in one package. Tell them you’re a student in I-300.

In any case, careful and complete notetaking is an essential part of success in this course.

Participation + Professionalism
Participation will consist of grades for Reflection Papers, In-class Writing assignments, and a qualitative assessment. Elements of professionalism include:

Timeliness is critical in professional settings. Managers and clients don’t like to pay for work that’s turned in late, and they aren’t interested in hearing about why something is late. Start early and manage your projects so that you have plenty of time at the end to deal with unexpected surprises, failed disks, blackouts, cord-eating cats, misfiring romances, persistent coughs, appointments for a facial, PlayStation injuries, unstable roommates, flat tires, religious conversions, and jury duty. Please don’t be the source of the next excuse (pedestrian or bizarre) to add to the above list.

The keys to success in this course, and in your work life, are to ensure that your work is on time, neat, and follows the project instructions. Use the project brief too as a “checklist” to ensure that you’ve addressed all of the project requirements while completing your work and before submission.

In this class, projects will generally be done in groups of two, though you may also do them individually if you prefer. In the work world, it is important to build on the work of others. When you present or submit your work, you need to be prepared to give an account of what part of a design concept or research is your own work and which part was inspired or informed by the work of others. You must properly attribute the work of others.

If you work with others and share ideas and properly attribute the contributions of others and are clear and truthful about the way you have added value and conducted your own synthesis, you will tend to be rewarded with better grade evaluations.
On the other hand, if you use the work of others without attribution and acknowledgement, you will be subject to academic sanctions concerning plagiarism with all deliberate intent. Acts of plagiarism—using the work of others without attribution or reusing your own work without attributing prior use—will be subject to a zero-tolerance policy in this class. If you believe that someone else in the class has used your work without attributing you, please talk to the instructor or one of the AIs.

helpful resources

Digital Photography, Video, Printing, Scanning & Other Tools
IU has worked out a special licensing arrangement with Adobe and students can now download the latest Adobe software suites from http://iuware.iu.edu using your student IU login for your own educational use.

You can also access http://lynda.com from http://iuware.iu.edu, which provides instruction for how to use Adobe tools. There are a lot of Adobe software tools worth mastering.

You are expected to learn these tools on your own using the instructions that come with the software or any of the myriad of self-tutor books on the topics, but this class is an opportunity to learn-by-doing in practicing your use of these tools.

You will also want to have a digital camera, since use of imagery to express your design ideas or conduct observational design research is particularly germane to this course. In general, any digital camera will do for our purposes.

Academic Misconduct
The class is morally and procedurally bound by IU’s policies on academic misconduct, the details of which you can read about at the following website: http://www.indiana.edu/~code/

Religious Observance
In accordance with the Office of the Dean of Faculties, any student who wishes to receive an excused absence from class must submit a request form available from the Dean of Faculties for each day to be absent. This form must be presented to the course professor by the end of the second week of the semester. A separate form must be submitted for each day. The form must be signed by the instructor, with a copy retained by instructor, and the original returned to the student. Information about the policy on religious observance can be found here:

http://teaching.iub.edu/policies_religious.php?nav=policies
**English**

If English is not your native language or you are otherwise shy about speaking in class, please do not worry. You will not be penalized in any way for making contributions to the class in less than perfect English or for taking time to compose your answers. The instructor will frequently emphasize to the class the need for all of us to be supportive of each other when it comes to contributing to the discussions. There is no need to feel rushed when responding to questions in class—an important part of the class is the construction of a feeling of community with the faculty, the AIs, and your peers. You are encouraged to utilize the free Writing Tutorial Service provided by the university. You can learn more about it at [http://www.indiana.edu/~wts/](http://www.indiana.edu/~wts/)

**grading**

The relative importance of the components listed below in determining students’ final grades is as follows:

Reading responses (14) 1 point each

Individual Mini-Projects (2) 5 points each

Group Projects:
- Affordances + Constraints Analysis 7.5 points
- Mapping Study 7.5 points
- Usability Testing:
  - Pilot usability test of website 2.5 points
  - Pilot usability test of corresponding app 2.5 points
  - Final project 7.5 points
- User-Centered Design:
  - Problem identification 2.5 points
  - Project research 2.5 points
  - Preliminary prototype design and testing 2.5 points
  - Final project 8.5 points

Exams:
- Midterm 7.5 points
- Final 10 points

Participation and Professionalism 5 points

Attendance 10 points possible

Extra Credit: Students can earn up to 5 points extra credit for submitting a design journal at the end of the semester. The grade will be based on the completeness and designerliness of the journal submission.
The grading scale used is:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
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<tbody>
<tr>
<td>A+</td>
<td>97-100</td>
</tr>
<tr>
<td>A</td>
<td>93-96</td>
</tr>
<tr>
<td>A-</td>
<td>90-92</td>
</tr>
<tr>
<td>B+</td>
<td>87-89</td>
</tr>
<tr>
<td>B</td>
<td>83-86</td>
</tr>
<tr>
<td>B-</td>
<td>80-82</td>
</tr>
<tr>
<td>C+</td>
<td>77-79</td>
</tr>
<tr>
<td>C</td>
<td>73-76</td>
</tr>
<tr>
<td>C-</td>
<td>70-72</td>
</tr>
<tr>
<td>D+</td>
<td>67-69</td>
</tr>
<tr>
<td>D</td>
<td>63-66</td>
</tr>
<tr>
<td>D-</td>
<td>60-64</td>
</tr>
<tr>
<td>F</td>
<td>0-59</td>
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</tbody>
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required reading


*An Introduction to Design Thinking: Process Guide* from the Stanford dSchool

*Bootcamp Bootleg* from the Stanford dSchool
http://www.indiana.edu/~iucdp/dSchoolBootcampBootleg.pdf

And others, as assigned and linked to the course blog
rules and regulations

Attendance

Attendance is critical to this type of course structure. Accordingly, attendance is MANDATORY to all classes; attendance will be taken. Attendance means being present, which entails actively listening, participating in class discussions, and not indulging in distractions during class. You are allowed exactly two absences without penalty; otherwise you will lose points as reflected in the following table for each absence unexcused by University policies.

<table>
<thead>
<tr>
<th>Number of Absences</th>
<th>Points</th>
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<tbody>
<tr>
<td>0 - 2</td>
<td>10</td>
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<tr>
<td>3</td>
<td>9</td>
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<td>7</td>
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<td>6</td>
<td>5</td>
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<tr>
<td>7</td>
<td>2.5</td>
</tr>
<tr>
<td>More than 7</td>
<td>0</td>
</tr>
</tbody>
</table>

Completion of Assigned Projects

The primary requirement in this course will be the competent completion of assigned projects. Each of these projects will have interim outcomes intended to teach you specific skills and methods. Completion of each interim activity will be considered in determining your grade for each project. These interim activities will compose part of your final project grade. Preparedness and participation in all class activities is essential.

Faculty Email Response Policy

While faculty will make every effort to reply to student emails in a timely way, please expect it to take 24 hours to receive a response. Further, faculty are not obliged to reply over the weekend so expect to hear late Monday or early Tuesday if you email late Friday or over the weekend. Since design is such a visual field it is often difficult to give email feedback in any case. Class time and office hours are the best times to receive faculty input.
Electronic Devices

Cell phones, pagers, laser pointers, MP3 players, laptop computers, and other electronic devices should be placed in "airplane mode" or turned off and put away during class or academic-related events, unless otherwise indicated by the instructor. It is the student’s responsibility to maintain and upgrade course-related electronic devices, not the instructor, proctor, or Indiana University. The following are electronic devices and issues commonly addressed in the classroom and studio, however, this is not an inclusive sampling and instructors may expand and modify these extensions of the Electronic Devices policy according to individual courses and educational environments.

Disabilities

Students with special needs related to a disability that may affect performance in this course must notify the instructor after class, during office hours, or by individual appointment. This must be followed by the student’s declaration in writing to the professor. Students must establish eligibility for disability support services through the Office of Disability Services for Students in Wells Library room W302, 855-7578 before meeting with the professor. Professors will consult with the Office of Disability Services for Students after receiving written declaration from the student. This written student declaration will be compared with the Office of Disability Services documentation and followed by the Office of Disability Services approval. It is our expectation as a department that this process should be executed in the first several weeks of class. A failure to document eligibility in the first several weeks would hinder technical support from the department.

*While every effort is made to provide accurate and complete information in this syllabus, changes may be required to accommodate unforeseen circumstances, as well as the progress and interests of class members. Any changes to this syllabus will be announced in class.*