NEWM N-503 Digital Media Applications and Design Processes
Department of Human-Centered Computing
Indiana University School of Informatics and Computing, Indianapolis
Fall 2019

Section No. 24397  Credit Hours: 3
Wednesday: 6:00 – 8:40pm
Location: IT 256, Informatics & Communications Technology Complex 535
West Michigan Street, Indianapolis, IN 46202 [map]
First Class: August 28, 2019
Website: https://canvas.iu.edu/
Instructor: Prof. Joseph Defazio, Ph.D.
Office Hours: Wednesday, 3:00pm-5:00pm, or by Appointment
Office: IT 465 SOIC Building
535 W. Michigan Street, Indianapolis, IN 46202 [map]
Phone: (317) 278-4148
Email: jdefazio@iupui.edu
Website: https://soic.iupui.edu/people/joseph-defazio/

Prerequisites: None

COURSE DESCRIPTION
This course presents the principles and fundamentals of design techniques using authoring tools on Windows, Macintosh and emerging computer platforms. Included are storyboarding, planning and organization of scripts, use of current technology, computers, video and digital arts equipment; computer-assisted design and project planner software tools and management of design team concepts.

EXTENDED COURSE DESCRIPTION
This course focuses on the design process using digital applications as the ‘vehicle’ for application design for Web, Desktop, Smartphone, virtual reality, augmented reality, and the Internet of Things (IoT). The Internet of things (IoT) is a network of connected physical objects – also referred to as “connected devices” and “smart devices” – designed to collect and exchange data to improve the performance, functionality, and efficiency of a larger digital ecosystem. This course examines the following subjects: media & sensor technology; information retrieval; semantic web technology; mobile systems; gaming and simulations; security and privacy; innovation and design thinking.
Required Text(s):
Title: Measuring the User Experience
Author(s): Tom Tullis and Bill Albert
Edition: 2nd Edition
Publisher: Morgan Kaufmann
Book site: http://measuringuserexperience.com/
ISBN: 978-0124157811
or
Available through Library (Login Required): http://iucat.iu.edu/catalog/14696686

Recommended:
Title: Prototyping for Designers : Developing the Best Digital and Physical Products
Author: McElroy, Kathryn
Publisher: O'Reilly Media, Inc.
ISBN: 9781491954072

Required Reading(s):
  Chapter 1: Designing for Interaction

Course Objectives:
o Demonstrate effective academic writing skills
o Demonstrate a working knowledge of the design process
o Demonstrate reflective thinking skills in the design process using digital applications
o Engage in discussion on integral hard/soft technologies in MAS and HCI
o Analyze and present evaluative feedback on current digital media technology issues

Core Competencies:
The core competencies of this course include the following:
o Research - analyze and present an effective design process using digital applications
o Using Digital Applications and the design process – demonstrate effective project
management and digital design and development skills

- Demonstrate effective team-based communication and collaboration

**Principles of Graduate and Professional Learning (PGPL)**

Learning outcomes are assessed in the following areas:

1. Knowledge and skills mastery (K&S)
2. Critical thinking and good judgment (CT)
3. Effective communication (EC)
4. Ethical behavior (EB)

**Teaching and Learning Methods**

During this class, students will:

- Conduct in-depth examination of the design process using digital media applications.
- Participate in class discussions, including a substantive critical dialog.
- Actively participate in class-project design critiques.
- Complete assignments meeting the criteria set by instructor, including technical viability and end-user desirability.
- Present the completed project assignments using persuasive visual and oral communication techniques within the allotted time.

**Learning Outcomes:**

<table>
<thead>
<tr>
<th>Upon completion of this course, the student will</th>
<th>RBT*</th>
<th>PGPL</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Conduct in-depth examination of the design process using digital media applications.</td>
<td>Evaluation</td>
<td>K&amp;S, CT and EC</td>
<td>Writing, Presentation, and Explanation</td>
</tr>
<tr>
<td>2. Demonstrate a working knowledge of the design process.</td>
<td>Synthesis</td>
<td>K&amp;S and CT</td>
<td>Digital Application Project(s)</td>
</tr>
<tr>
<td>3. Demonstrate reflective thinking skills in the design process using digital applications.</td>
<td>Creating, Evaluating, Analyzing</td>
<td>K&amp;S, CT, and EC</td>
<td>Creating Digital Media Productions</td>
</tr>
<tr>
<td>4. Using Digital Applications and the design process – demonstrate effective project management and digital design and development skills.</td>
<td>Creating, Evaluating, Analyzing</td>
<td>K&amp;S, CT, and EC</td>
<td>List, Outline Plan, Report, Summary</td>
</tr>
<tr>
<td>5. Demonstrate effective academic writing skills.</td>
<td>Creating, Evaluating, Analyzing</td>
<td>K&amp;S, CT, and EC</td>
<td>Report/Paper</td>
</tr>
</tbody>
</table>

*RBT: Revised Bloom’s Taxonomy*
Grading Scale

<table>
<thead>
<tr>
<th>Letter</th>
<th>Grade</th>
<th>Points</th>
<th>%</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>440 - 475</td>
<td>93%</td>
<td></td>
<td>Excellent Achievement</td>
</tr>
<tr>
<td>B</td>
<td>420 - 439</td>
<td>88%</td>
<td></td>
<td>Good performance and quality of work</td>
</tr>
<tr>
<td>B-</td>
<td>380 - 419</td>
<td>83%</td>
<td></td>
<td>Average performance and quality of work</td>
</tr>
<tr>
<td>C</td>
<td>0 - 379</td>
<td>70%</td>
<td></td>
<td>Unacceptable work (Course must be repeated for credit)</td>
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</tbody>
</table>

No credit toward major, minor, or certificate requirements are granted for a grade below B-

<table>
<thead>
<tr>
<th>Assignments/Deliverables/Presentations</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance 14 sessions at 10 points each</td>
<td>140</td>
</tr>
<tr>
<td>Class Participation</td>
<td>60</td>
</tr>
<tr>
<td>Team Project Proposal (Written)</td>
<td>5</td>
</tr>
<tr>
<td>Team Project Proposal (Presentation)</td>
<td>5</td>
</tr>
<tr>
<td>Team Assignment – Cognitive Walkthrough</td>
<td>10</td>
</tr>
<tr>
<td>Team Assignment – Contextual Inquiry and Interviews</td>
<td>10</td>
</tr>
<tr>
<td>Team Assignment – Heuristic Evaluation</td>
<td>10</td>
</tr>
<tr>
<td>MidTerm Paper (Individual)</td>
<td>25</td>
</tr>
<tr>
<td>MidTerm Presentation (Team)</td>
<td>5</td>
</tr>
<tr>
<td>MidTerm Presentation (Individual)</td>
<td>5</td>
</tr>
<tr>
<td>Final Solo Project Proposal</td>
<td>10</td>
</tr>
<tr>
<td>Final Presentation (Individual)</td>
<td>40</td>
</tr>
<tr>
<td>Final Solo Project Proposal Formal Paper</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total Points Possible:</strong></td>
<td>475</td>
</tr>
</tbody>
</table>

*The Weekly Schedule is a separate PDF document and is available in the Files Section in Canvas.*

**Class Participation** - Each week students are expected to be prepared to discuss readings assignments. Proactive and engaged participation in class discussions and the quality of questions and issues raised are graded.

**Team Project Proposal (written)** – The team project proposal grade is based on the following:
- Identifying a client to work with throughout the semester
- Submission of proposal document

**Team Project Proposal (Presentation)** – The team project proposal presentation grade is based on:
- Organization/structure of the presentation, timing, richness and saliency, clarity, cohesiveness and delivery.
- Each team member will be evaluated on their individual contribution.
Assignments - There are team and individual assignments in this course. Each deliverable (including reading assignments) are listed in the Weekly Schedule (PDF) in Canvas. Instruction and a rubric for each will be provided.

Projects:
Students must complete (2) Interaction Design Projects (1 Team and 1 Individual). The projects include a formal presentation and a formal paper. Instruction and a rubric for each will be provided.

Importance of professional oral, written, and visual communication skill: in this graduate class, it is important that students demonstrate effective communication skills, presenting their deliverables with a high degree of clarity, brevity and persuasion.

EXPECTATIONS, GUIDELINES, AND POLICIES

Attendance:
A basic requirement of this course is that you will participate in all class meetings, whether online or face-to-face, and conscientiously complete all required course activities and assignments. Class attendance is required for classroom-based courses. It entails being present and attentive for the entire class period. Attendance shall be taken in every class. If you do not sign the attendance sheet while in class, you shall be marked absent. Signing the attendance sheet for another student is prohibited. The instructor is required to submit to the Registrar a record of student attendance, and action shall be taken if the record conveys a trend of absenteeism.

Only the following are acceptable excuses for absences: death in the immediate family (e.g. mother, father, spouse, child, or sibling), hospitalization or serious illness; jury duty; court ordered summons; religious holiday; university/school coordinated athletic or scholastic activities; an unanticipated event that would cause attendance to result in substantial hardship to one’s self or immediate family. Absences must be explained with the submission of appropriate documentation to the satisfaction of the instructor, who will decide whether missed work may be made up. Absences that do not satisfy the above criteria are considered unexcused. To protect your privacy, doctor’s excuses should exclude the nature of the condition and focus instead on how the condition impacts your attendance and academic performance.

Missing class reduces your grade through the following grade reduction policy: You are allowed one excused or unexcused absence. More than three absences result in an F in the course. Missing class may also reduce your grade by eliminating opportunities for class participation. For all absences, the student is responsible for all covered materials and assignments.

Incomplete:
The instructor may assign an Incomplete (I) grade only if at least 75% of the required coursework has been completed at passing quality and holding you to previously established time limits would result in unjust hardship to you. All unfinished work must be completed by the date set by the instructor. Left unchanged, an Incomplete automatically becomes an F after one year. http://registrar.iupui.edu/incomp.html.

Deliverables:
You are responsible for completing each deliverable (e.g., assignment, paper, project) by its deadline and submitting it by the specified method. Deadlines are outlined in the
syllabus and assignment documents accessible through Canvas. Should you miss a class, you are still responsible for completing the deliverable and for finding out what was covered in class, including any new or modified deliverable. In fairness to the instructor and students who completed their work on time, the grade on a late deliverable shall be reduced 50%. Any assignment delivered after the 50% reduction date will not be graded.

IUPUI STUDENT MANUAL

CODE OF CONDUCT

All students should aspire to the highest standards of academic integrity. Using another student’s work on an assignment, cheating on a test, not quoting or citing references correctly, or any other form of dishonesty or plagiarism shall result in a grade of zero on the item and possibly an F in the course. Incidences of academic misconduct shall be referred to the Department Chair and repeated violations shall result in dismissal from the program.

All students are responsible for reading, understanding, and applying the Code of Student Rights, Responsibilities and Conduct and in particular the section on academic misconduct. Refer to The Code > Responsibilities > Academic Misconduct at http://www.indiana.edu/~code/. All students must also successfully complete the Indiana University Department of Education “How to Recognize Plagiarism” Tutorial and Test. https://www.indiana.edu/~istd You must document the difference between your writing and that of others. Use quotation marks in addition to a citation, page number, and reference whenever writing someone else’s words (e.g., following the Publication Manual of the American Psychological Association). To detect plagiarism instructors apply a range of methods, including Turnitin.com. http://www.ulib.iupui.edu/libinfo/turnitin

Academic misconduct:

Cheating: Cheating is considered to be an attempt to use or provide unauthorized assistance, materials, information, or study aids in any form and in any academic exercise or environment.

a. A student must not use external assistance on any “in-class” or “take-home” examination, unless the instructor specifically has authorized external assistance. This prohibition includes, but is not limited to, the use of tutors, books, notes, calculators, computers, and wireless communication devices.

b. A student must not use another person as a substitute in the taking of an examination or quiz, nor allow other persons to conduct research or to prepare work, without advanced authorization from the instructor to whom the work is being submitted.

c. A student must not use materials from a commercial term paper company, files of papers prepared by other persons, or submit documents found on the Internet.

d. A student must not collaborate with other persons on a particular project and submit a copy of a written report that is represented explicitly or implicitly as the student’s individual work.

e. A student must not use any unauthorized assistance in a laboratory, at a computer terminal, or on fieldwork.

f. A student must not steal examinations or other course materials, including but not limited to, physical copies and photographic or electronic images.
g. A student must not submit substantial portions of the same academic work for credit or honors more than once without permission of the instructor or program to whom the work is being submitted.

h. A student must not, without authorization, alter a grade or score in any way, nor alter answers on a returned exam or assignment for credit.

2. Fabrication: A student must not falsify or invent any information or data in an academic exercise including, but not limited to, records or reports, laboratory results, and citation to the sources of information.

3. Plagiarism: Plagiarism is defined as presenting someone else’s work, including the work of other students, as one’s own. Any ideas or materials taken from another source for either written or oral use must be fully acknowledged, unless the information is common knowledge. What is considered “common knowledge” may differ from course to course.
   a. A student must not adopt or reproduce ideas, opinions, theories, formulas, graphics, or pictures of another person without acknowledgment.
   b. A student must give credit to the originality of others and acknowledge indebtedness whenever:
      1. directly quoting another person’s actual words, whether oral or written;
      2. using another person’s ideas, opinions, or theories;
      3. paraphrasing the words, ideas, opinions, or theories of others, whether oral or written;
      4. borrowing facts, statistics, or illustrative material; or
      5. offering materials assembled or collected by others in the form of projects or collections without acknowledgment

4. Interference: A student must not steal, change, destroy, or impede another student’s work, nor should the student unjustly attempt, through a bribe, a promise of favors or threats, to affect any student’s grade or the evaluation of academic performance. Impeding another student’s work includes, but is not limited to, the theft, defacement, or mutilation of resources so as to deprive others of the information they contain.

5. Violation of course rules: A student must not violate course rules established by a department, the course syllabus, verbal or written instructions, or the course materials that are rationally related to the content of the course or to the enhancement of the learning process in the course.

6. Facilitating academic dishonesty: A student must not intentionally or knowingly help or attempt to help another student to commit an act of academic misconduct, nor allow another student to use his or her work or resources to commit an act of misconduct.

OTHER POLICIES

1. Administrative withdrawal: A basic requirement of this course is that students participate in all class discussions and conscientiously complete all required course activities and/or assignments. If a student is unable to attend, participate in, or complete an assignment on time, it is the student’s responsibility to inform the instructor. If a student misses more than half of the required activities within the first 25% of the course without contacting the instructor, the student may be administratively withdrawn from this course. Administrative withdrawal may have academic, financial, and financial aid implications. Administrative withdrawal will take place after the full refund period, and a student who has been administratively withdrawn from a course is ineligible for a tuition refund. Contact the instructor with questions concerning administrative
2. **Civility:** To maintain an effective and inclusive learning environment, it is important to be an attentive and respectful participant in lectures, discussions, group work, and other classroom exercises. Thus, unnecessary disruptions should be avoided, such as ringing cell phones, engagement in private conversations, and other unrelated activities. Cell phones, media players, or any noisy devices should be turned off during a class. Texting, surfing the Internet, and posting to Facebook or Twitter during class are generally not permitted. Laptop use may be permitted if it is used for taking notes or conducting class activities. Students should check with the instructor about permissible devices in class. IUPUI nurtures and promotes “a campus climate that seeks, values, and cultivates diversity in all of its forms and that provides conditions necessary for all campus community members to feel welcomed, supported, included, and valued” (IUPUI Strategic Initiative 9). IUPUI prohibits “discrimination against anyone for reasons of race, color, religion, national origin, sex, sexual orientation, marital status, age, disability, or veteran status” (Office of Equal Opportunity). Profanity or derogatory comments about the instructor, fellow students, invited speakers or other classroom visitors, or any members of the campus community shall not be tolerated. A violation of this rule shall result in a warning and, if the offense continues, possible disciplinary action.

3. **Communication:** For classroom-based courses, the instructor or teaching assistant should respond to emails by the end of the next class or, for online courses, within two Indiana University working days, which excludes weekends and holidays. The instructor should provide weekly office hours or accept appointments for face-to-face, telephone, or teleconferenced meetings, and announce periods of extended absence in advance.

4. **Counseling and Psychological Services (CAPS):** Students seeking counseling or other psychological services should contact the CAPS office by phone at 274-2548 or email at capsindy@iupui.edu. For more information visit http://life.iupui.edu/caps/.

5. **Course evaluations:** Course evaluations provide vital information for improving the quality of courses and programs. Students are urged to complete one course and instructor evaluation for each section in which they are enrolled at the School of Informatics and Computing with the following three exceptions: (a) The student has withdrawn from the course; (b) fewer than five students are enrolled in the section (in which case maintaining anonymity is difficult); and (c) the section is a laboratory that must be taken with a course having a different section number. Course evaluations are completed at https://soic.iupui.edu/app/course-eval/. Course evaluations are typically open from the eleventh week. Course evaluations are anonymous, which means that no one can view the name of the student completing the evaluation. In addition, no one can view the evaluation itself until after the instructor has submitted the final grades for the course. In small sections, demographic information should be left blank, if it could be used to identify the student.

6. **Disabilities policy:** In compliance with the Americans with Disabilities Act (ADA), all qualified students enrolled in this course are entitled to reasonable accommodations. Please notify the instructor during the first week of class of accommodations needed for the course. Students requiring accommodations because of a disability must register with Adaptive Educational Services (AES) and complete the appropriate AES-issued before receiving accommodations. The AES office is located at UC 100, Taylor Hall (Email: aes@iupui.edu, Tel. 317 274-3241). Visit http://aes.iupui.edu for more information.
7. **Email:** Indiana University uses your IU email account as an official means of communication, and students should check it daily for pertinent information. Although you may have your IU email forwarded to an outside email account, please email faculty and staff from your IU email account.

8. **Emergency preparedness:** Safety on campus is everyone’s responsibility. Know what to do in an emergency so that you can protect yourself and others. For specific information, visit the emergency management website. [http://protect.iu.edu/emergency](http://protect.iu.edu/emergency)

9. **IUPUI course policies:** A number of campus policies governing IUPUI courses may be found at the following link: [http://registrar.iupui.edu/course_policies.html](http://registrar.iupui.edu/course_policies.html)

10. **No class attendance without official enrollment.** Only those who are officially enrolled in this course may attend class unless they are enrolled as an auditor or making up an Incomplete by prior arrangement with the instructor. This policy does not apply to those assisting a student with a documented disability, serving in an instructional role, or administrative personnel. [http://registrar.iupui.edu/official-enrollment-class-attendance.html](http://registrar.iupui.edu/official-enrollment-class-attendance.html) Children may *not* attend class with their parents, guardians, or childcare providers.

11. **Right to revise:** The instructor reserves the right to make changes to this syllabus as necessary and, in such an event, will notify students of the changes immediately.

12. **Student advocate:** The Student Advocate provides assistance to students with personal, financial, and academic issues. The Student Advocate Office is located in the Campus Center, Suite 350. The Student Advocate may also be contacted by phone at 317 274-4431 or by email at studvoc@iupui.edu. For more information visit [http://studentaffairs.iupui.edu/advocate](http://studentaffairs.iupui.edu/advocate).

**MISSION STATEMENT**

The Mission of IUPUI is to provide for its constituents’ excellence in

- Teaching and Learning;
- Research, Scholarship, and Creative Activity; and
- Civic Engagement.

With each of these core activities characterized by

- Collaboration within and across disciplines and with the community;
- A commitment to ensuring diversity; and
- Pursuit of best practices.

IUPUI’s mission is derived from and aligned with the principal components—Communities of Learning, Responsibilities of Excellence, Accountability and Best Practices—of Indiana University’s Strategic Directions Charter.

**STATEMENT OF VALUES**

IUPUI values the commitment of students to learning; of faculty to the highest standards of teaching, scholarship, and service; and of staff to the highest standards of service. IUPUI recognizes students as partners in learning. IUPUI values the opportunities afforded by its location in Indiana’s capital city and is committed to serving the needs of its community. Thus, IUPUI students, faculty, and staff are involved in the community, both to provide educational programs and patient care and to apply learning to community needs through
service. As a leader in fostering collaborative relationships, IUPUI values collegiality, cooperation, creativity, innovation, and entrepreneurship as well as honesty, integrity, and support for open inquiry and dissemination of findings. IUPUI is committed to the personal and professional development of its students, faculty, and staff and to continuous improvement of its programs and services.

IUPUI Policy on Disability Accommodations

Students needing accommodations because of disability will need to register with Adaptive Educational Services and complete the appropriate forms issued by AES before accommodations will be given. The AES office is located in Taylor Hall, UC 100. You can also reach the office by calling 274-3241.

IUPUI Policy on Religious Holidays

IUPUI respects the right of all students to observe their religious holidays and will make reasonable accommodation, upon request, for such observances. Students seeking accommodation for religious observances must submit a request in writing to the course instructor by the end of the second week of the semester and should use the Request for Course Accommodation Due to Religious Observance Form. More information on the IUPUI Policy on Religious Holidays is available here: http://registrar.iupui.edu/religious.html.

IUPUI Policy on Academic Integrity

The IU Code of Student Rights, Responsibilities, and Conduct states that students must uphold and maintain academic and professional honesty and integrity; the code defines academic misconduct as any activity that tends to undermine the academic integrity of the institution. Students engaging in academic misconduct may therefore receive penalties from their course instructor and disciplinary action from the university. Policies against academic misconduct apply to all course-, department-, school-, and university-related activities. Academic misconduct may involve human, hard-copy, or electronic resources and includes but is not limited to the following: cheating, fabrication, plagiarism, interference, violation of course rules, and facilitating academic dishonesty. For definitions of these activities, visit http://studentcode.iu.edu/responsibilities/academicmisconduct.html. For information on how faculty and students are expected to handle cases involving academic misconduct, visit http://registrar.iupui.edu/misconduct.html. Additional information about the rights and responsibilities of IU students is available at http://studentcode.iu.edu/.

IUPUI Policy on Sexual Misconduct

As your instructor, one of my responsibilities is to help create a safe learning environment on our campus. Title IX and our own Sexual Misconduct policy prohibit sexual misconduct. If you have experienced sexual misconduct, or know someone who has, the University can help.

If you are seeking help and would like to speak to someone confidentially, please visit http://stopsexualviolence.iu.edu/help/index.html (Links to an external site.) for contact information.

It is also important that you know that federal regulations and University policy require me to promptly convey any information about potential sexual misconduct known to me to our campus’ Deputy Title IX Coordinator or IU’s Title IX Coordinator. In that event, they will
work with a small number of others on campus to ensure that appropriate measures are taken and resources are made available to the student who may have been harmed.

Protecting a student’s privacy is of utmost concern, and all involved will only share information with those that need to know to ensure the University can respond and assist.

The IUPUI syllabus supplement was created by the IUPUI Office of Academic Affairs and the Center for Teaching and Learning. 8.04.2016

I encourage you to visit stopsexualviolence.iu.edu (Links to an external site.) to learn more about available resources on campus and in the community.

Education and Title VI Title VI of the Civil Rights Act of 1964 protects people from discrimination based on race, color or national origin in programs or activities that receive Federal financial assistance.

Programs and activities that receive ED funds must operate in a non-discriminatory manner. These may include, but are not limited to: admissions, recruitment, financial aid, academic programs, student treatment and services, counseling and guidance, discipline, classroom assignment, grading, vocational education, recreation, physical education, athletics, housing and employment, if it affects those who are intended to benefit from the Federal funds.

http://www2.ed.gov/about/offices/list/ocr/docs/hq43e4.html