



IUPUI

SCHOOL OF INFORMATICS AND COMPUTING

DEPARTMENT OF HUMAN-CENTERED COMPUTING
Indiana University–Purdue University
Indianapolis

INFO I305 Introduction to Research in Informatics

Department of Human-Centered Computing
Indiana University School of Informatics and Computing, Indianapolis
Fall 2016

Credit Hours: 3

Time: Mondays 12:00–2:40 pm

Location: IT 355, Informatics & Communications Technology Complex
535 West Michigan Street, Indianapolis, IN 46202 [\[map\]](#)

First Class: August 22, 2016

Instructor: Alyson Young, PhD

Office Hours: Mondays, 3-5pm, or by Appointment

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Website: alysonleighbyoung.com

Prerequisites: Sophomore standing

COURSE DESCRIPTION

This course presents a broad overview of research philosophy, designs and methods. Its focus is on social science research methods, and the content is specifically tailored to reflect the rapidly emerging field of informatics. The course will include major methods that are at the core of contemporary approaches to research in informatics.

Required Text(s):

Title: Introducing Research Methodology: A Beginner's Guide to Doing a Research Project

Author(s): Flick, UWE

Edition: Second Edition

Publisher: SAGE

Book site: [Publisher's site](#)

ISBN: 978-1446294246

Available at [Amazon Link](#)

Additional Readings: (optional)

Creswell, J. (2014). *Research Design: Quantitative, Qualitative, and Mixed-Methods* (4th Edition). SAGE ([Amazon Link](#))

Merriam, S.B. (2009). *Qualitative Research: A Guide to Design and Implementation* ([Amazon Link](#))

Supplementary readings will be provided by the instructor on the course canvas site.

Software used:

Various software for qualitative and quantitative data analysis will be introduced in the class.

Learning Outcomes:

This is a project-based course where students will learn core research competencies by designing, conducting, and writing up the results of their research. At the conclusion of the course, each student will be able to:

- Collaborate in the construction of new knowledge
- Translate a research topic into research questions that reflect different epistemologies
- Articulate the strengths and weaknesses of different research methods in a given context
- Conduct a robust literature review on a given research topic and identify knowledge gaps
- Design a cohesive research study to address a research gap
- Collect and analyze data in a rigorous manner
- Identify the contributions of a research project, specifying its intellectual merit and broader societal impacts
- Discuss research-in-progress via textual, visual, and oral modalities
- Address the ethical considerations that accompany research, particularly within informatics

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 two excused or unexcused absences. Each additional absence, unless excused, results in a 5% reduction in your final course grade. More than six 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, quiz) by its deadline and submitting it by the specified method. Deadlines are outlined in the syllabus or in supplementary documents accessible through OnCourse. 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, a grade on a deliverable shall be reduced 10%, if it is submitted late and a further 10% for each 24-hour period it is submitted after the deadline.

Participation: Participation will be based on either your contribution to in-class discussions and/or contribution to the class discussion board. Discussion board items should complement that week's topic, and can include links to interesting videos, news articles, tutorials, etc.

Reading Quizzes: Prior to the beginning of most class sessions, you will be given a reading assignment. You will be held accountable for your readings through the reading quizzes. This will ensure that you understand the core concepts and are ready to work on applying these concepts. These quizzes must be done independently.

Article Reviews: Each team will prepare and co-lead one discussion of an assigned article on a research method. Teams will be responsible for summarizing the article, focusing specifically on what the method is, why and when it is used, and its strengths and

weaknesses. They will then post this summary to the class discussion board and help the instructor lead the discussion of the topic during class.

IRB Certification: Ethics training is expected of anyone conducting research with human subjects—anyone involved in the design, conduct, or reporting of the research; and anyone having significant interaction with participants. Students must complete the courses applicable to human subjects research from CITI: http://researchadmin.iu.edu/HumanSubjects/cert_req.html.

Project Deliverables: In this course, you will conduct research in informatics. The class will collectively examine a research topic from multiple epistemological and methodological vantage points. Students will work in small teams, tackling one aspect of the broader research topic.

There will be numerous research deliverables due throughout the course. More details about each deliverable will be provided as the course progresses. Note that for each deliverable, each research team must also submit a corresponding team assessment. These team assessments must be signed by each team member and submitted on paper.

Grading Information:

Reading quizzes	20%
Participation	10%
IRB certification	5%
Team article review	5%
Research deliverables	
Team contract	5%
Elevator pitch presentations	5%
Annotated bibliography I	5%
Instrument	5%
Consent forms	5%
Midpoint presentations	5%
Annotated bibliography II	5%
Poster & Presentation	5%
Final paper	20%

Grading Scale:

A+	97–100%	Professional level work, showing highest level of achievement
A	93–96.99%	Extraordinarily high achievement, quality of work; shows command of the subject matter
A–	90–92.99%	Excellent and thorough knowledge of the subject matter
B+	87–89.99%	Above average understanding of material and quality of work
B	83–86.99%	Mastery and fulfillment of all course requirements; good, acceptable work
B–	80–82.99%	Satisfactory quality of work
C+	77–79.99%	Modestly acceptable performance and quality of work

C	73–76.99%	Minimally acceptable performance and quality of work
C–	70–72.99%	Unacceptable work (Core course must be repeated for credit)
D+	67–69.99%	Unacceptable work (Course must be repeated for credit)
D	63–66.99%	Unacceptable work
D–	60–62.99%	Unacceptable work
F	Below 60	Unacceptable work

No credits are granted for a grade below C.

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:

1. **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 withdrawal.

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>
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
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> 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>.

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.

Weekly Schedule (subject to change)

This syllabus will function as a collaboratively constructed contract among all of the stakeholders in this course. It is a living document that will evolve through in-class discussion as the dynamic needs of the students and their research emerge. Students are responsible for being in class, taking ownership of this course and their learning, and noting all changes to the syllabus as it evolves. The instructor is responsible for being attuned and responsive to the needs of the students and to the dynamic and often unpredictable nature of the research process. The draft syllabus you are reading is a starting point for ongoing dialogue.

Date	Topic	Readings	Reading Quiz	Assignments Due
8/22	<ul style="list-style-type: none"> Introduction to the course and research topic for the class 			<ul style="list-style-type: none"> Form project teams
8/29	<ul style="list-style-type: none"> Research idea to research question Reading & reviewing the literature Activity: Brainstorm research topic (in-class) 	Flick Chapters 4 & 5	Reading quiz (due before class)	<ul style="list-style-type: none"> Team contract (5%) Sign-up for article reviews
9/5	Labor Day			
9/12	<ul style="list-style-type: none"> Elevator pitch presentations 			<ul style="list-style-type: none"> Elevator pitch presentations (5%) CITI Training (5%)
9/19	<ul style="list-style-type: none"> Workshop on Qualitative data collection methods 	Flick pp. 80-83; 97-100; 104-106; 140-155	Reading Quiz (due before class)	<ul style="list-style-type: none"> Qualitative article reviews (5%) Annotated Bibliography I (5%)
9/26	<ul style="list-style-type: none"> Workshop on Quantitative data collection methods 	Flick pp. 74-79; 95-97; 101-104; 131-139	Reading Quiz (due before class)	<ul style="list-style-type: none"> Quantitative article reviews (5%)
10/3	<ul style="list-style-type: none"> Quant vs. Qual overview Mixed methods & 	Flick pp. 84-86; Flick Chapter 12; Creswell Chapter 11 (mixed methods procedures)	Reading Quiz (due before class)	<ul style="list-style-type: none"> Data collection instrument(s) (5%)

	other informatics methods			
10/10	<ul style="list-style-type: none"> Ethical issues in social research 	Flick Chapter 3 Other assigned readings	Reading quiz (due before class)	<ul style="list-style-type: none"> Consent forms (5%) (end of the week)
10/17	Fall Break			
10/24	Project work day			<ul style="list-style-type: none"> Annotated Bibliography II (5%)
10/31	Mid-point presentations			<ul style="list-style-type: none"> Mid-point presentations (5%)
11/7	Workshop on qualitative data analysis	Flick pp. 167-170; 178-194	Reading quiz (due before class)	<ul style="list-style-type: none"> Qualitative analysis article reviews (5%)
11/14	Workshop on quantitative data analysis	Flick pp. 164-166; 171-178	Reading quiz (due before class)	<ul style="list-style-type: none"> Quantitative analysis article reviews (5%)
11/21	Team meetings in the field and/or lab			
11/28	How to write a research report/extended abstract	Flick Chapter 14	Reading quiz (due before class)	
12/5	Editing round robin			
12/12	Poster presentations			Poster presentations (5%)
Finals Week	Final papers due December 16			Final report (20%)