IU

IUPUI

SCHOOL OF INFORMATICS
AND COMPUTING

DEPARTMENT OF HUMAN-CENTERED COMPUTING

Indiana University–Purdue University
Indianapolis

INFO-H 695
Thesis/Project in Applied Data Science

Spring 2019

Section No.:   *Credit Hours:* 1–6[*]
Time: Arranged
Location: Arranged
First Class: Arranged
Instructor: Graduate Faculty

Prerequisite: INFO-I 575 Informatics Research Design, LIS-S 506 Introduction to Research, or another approved graduate-level course on research design and methods

COURSE DESCRIPTION

The student prepares and presents a thesis or project in applied data science. The thesis is a substantial multi-chapter paper or carefully designed and evaluated application, based on well-planned research or a scholarly project. Details are worked out between the student and an advising faculty member.

REFERENCE MATERIALS

American Psychological Association. (2009). *Publication manual* (6th ed.). Washington, DC. ISBN-13: 978-1433805615. https://www.amazon.com/dp/1433805618/

Babbie, E. (2015). *The practice of social science research* (14th ed.). Cengage. ISBN-13: 978-1305104945. https://www.amazon.com/dp/1305104943/

Creswell, J. W. & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed method approaches* (5th ed.). Thousand Oaks, CA: Sage. ISBN-13: 978-1506386706 https://www.amazon.com/dp/1506386709

Field, A., Miles, J., & Field, Z. (2012). *Discovering statistics using R*. London: Sage. ISBN 978-1-4462-0046-9 http://www.sagepub.com/books/Book236067

Grus, J. (2015). *Data science from scratch: First principles with Python.* Sebastopol, California: O'Reilly.

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[*] A thesis requires 6 credit hours across two semesters or a semester and both summer sessions. A project requires 3–6 credit hours.

Igual, L. & Seguí, S. (2017). *Introduction to data science: A Python approach to concepts, techniques and applications.* Cham, Switzerland: Springer.

James, G., Witten, D., Hastie, T., & Tibshirani, R. (2013). *An introduction to statistical learning with applications in R*. New York: Springer. ISBN 978-1-4614-7137-0 (Available for download at no cost from http://www-bcf.usc.edu/~gareth/ISL/.)

Martin, W. E. & Bridgmon, K. D. (2012). *Quantitative and statistical research methods: From hypothesis to results* (1st ed.). San Francisco, USA: Jossey-Bass. ISBN-13: 978-0470631829. https://www.amazon.com/dp/0470631821/

Matloff, N. (2011). *The art of R programming* (1st ed.). San Francisco, CA: No Starch Press. ISBN 978-1-59327-384-2 (Available for download at no cost from Books24x7 http://ulib.iupui.edu/resources/books.)

Mitchell, R. (2015). *Web scraping with Python: Collecting data from the modern web*. Sebastopol, California: O'Reilly Media.

Venables, W. N., & Smith, D. N. (2009). *An introduction to R* (2nd ed). Godalming, UK: Network Theory. ISBN 978-0954612085 (Available for download at no cost from http://cran.r-project.org/doc/manuals/R-intro.pdf.)

Learning Outcomes:

Upon completion of this course, students will	RBT*	PGPL	PLO	Assessment
1. Evaluate the research literature critically, interpreting data science contributions, deficiencies, and theories with respect to the thesis/project research problem, aims, questions or hypotheses, and methods.	5	1, 2	G1	Annotated bibliography Proposal Thesis/Project (Literature Review)
2. Assess the research designs of published research articles in data science.	5	2	G2	Discussion
3. Formulate specific research aims, questions, or hypotheses within a topic area of data science.	6	2	G3	Proposal Thesis/Project (Introduction)
4. Determine appropriate research methods to answer particular research questions, to test hypotheses, or to evaluate algorithms or systems.	4	1	G4	Proposal Thesis/Project (Method)
5. Analyze data using appropriate quantitative methods.	4	1	G5	Proposal Thesis/Project (Results)
6. Critique peers' research designs and provide generative feedback.	5	2, 3	G6	Discussion
7. Design, develop, and write a research thesis or project proposal and defend it before a research committee.	6	2, 3	G7	Proposal Proposal defense
8. Execute the research proposal, developing a system and/or collecting data, based on the research plan, and abiding by ethical standards for conducting research.	6	2, 4	G8	System development Data collection
9. Write a thesis/project report and defend it before a research committee.	6	2, 3	G9	Thesis/Project Thesis/Project defense

* RBT: Revised Bloom's taxonomy: 1. Remembering; 2. Understanding; 3. Applying; 4. Analyzing; 5. Evaluating; 6. Creating.

PLO: Program-Level Outcomes (bottom of MS in Applied Data Science program page)

Principles of Graduate and Professional Learning (PGPL)

Learning outcomes are assessed in the following areas:
1. Knowledge and skills mastery   *Minor emphasis*
2. Critical thinking and good judgment   *Major emphasis*
3. Effective communication   *Some emphasis*
4. Ethical behavior   *Some emphasis*

Software used:

Varies

REQUIRED COURSE TEXTS

Varies

COURSE GRADE BREAKDOWN

1. Annotated bibliography   10%
2. Thesis/project proposal   20%
3. System development/data collection   20%
4. Thesis/project   40%
5. Discussion/collaboration   10%

Grading Scale:

A+	97 – 100	Outstanding achievement, given at the instructor's discretion
A	93 – 100	Excellent achievement
A–	90 – 92.99	Very good work
B+	87 – 89.99	Good work
B	83 – 86.99	Marginal work
B–	80 – 82.99	Very marginal work
C+	77 – 79.99	Unacceptable work (Elective or core course must be repeated)
C	73 – 76.99	Unacceptable work (Elective or core course must be repeated)
C–	70 – 72.99	Unacceptable work (Elective or core course must be repeated)
D+	67 – 69.99	Unacceptable work (Elective or core course must be repeated)
D	63 – 66.99	Unacceptable work (Elective or core course must be repeated)
D–	60 – 62.99	Unacceptable work (Elective or core course must be repeated)
F	Below 60	Unacceptable work (Elective or core course must be repeated)

No credit shall be given for a grade below B–.

One of the above letter grades is required for each credit of thesis/project. A deferred grade of R or a satisfactory or unsatisfactory grade of S or U may not be used.

Thesis or Project

A thesis normally constitutes an original contribution to the field of data science and/or to a related field through the application of data science, such as the discovery of new knowledge. An abridgement of the thesis should be submitted for publication to a journal or conference. The thesis requires a total of 6 credit hours, which must span at least two semesters or a semester and both summer sessions.

A project normally constitutes the development of an innovation in the field of data science or in a related field through the application of data science. A project has a minimum of 3 credit hours and a maximum of 6 credit hours. For either a thesis or a project, the student must work out a plan for the distribution of work and credit hours across semesters and/or summer sessions in advance with the advisor.

Thesis

1. Submit prospectus for approval to three-member Committee.
2. Design and conduct experimental, quantitative, or other data science research.
3. Create and complete effort independently, including algorithm design or system building, data collection, analysis, and synthesis.
4. Produce written paper that includes a review of the literature, methods and/or system or algorithm design, data or mathematical analysis, subjects and setting, and discussion. Demonstrates critical and/or creative thinking and some contribution to knowledge or technical innovation. A thesis is typically submitted in abridged form to a conference or journal, focusing on major findings, in collaboration with at least one committee member.

Project

1. Submit prospectus for approval to two-member Committee.
2. Execute the proposed activity.
3. Creative process with faculty critique.
4. Recital, performance, exhibition portfolio, or other project; written or electronically recorded documentation. Demonstrates critical and/or creative thinking. A project typically exhibits some innovation and results in a product that, such as an application, data repository, technology, algorithm, or business logic.

If the student's goal is to earn a Ph.D. and enter academia, completing a master's thesis offers the best preparation for doctoral research and dissertation, especially in terms of research design; qualitative and or quantitative methods; and understanding the related academic literature in data science.

However, a student who plans to enter industry may be better served by completing a master's project in collaboration with an industry partner. The student will be able to apply the project work directly in practice, and it will improve the student's skills in achieving outcomes that are valuable to career advancement.

What to expect

By the end of the first year, the student will select a master's project/thesis Committee chair who is a member of the graduate faculty and has an appointment in the School of Informatics and Computing (SoIC). This individual will assume responsibility for advising the student about course selection, graduation requirements, and master's project procedures. Faculty with research interests in data science are listed on the school's website.

Project/thesis possibilities include, but are not limited to

1. Developing a project that fits into a larger framework
2. Systematic review of the literature
3. Part of an ongoing research project

If a master's project or thesis is related in any way to the student's professional work, the student must describe to the advisor how that topic is distinct from the student's job and goes above and beyond it.

General guidelines to follow

1. Students must have a brief thesis or project plan before meeting with an advisor.
2. Students can start working on their thesis or project after completing the research design and methods prerequisite.
3. Fill out the Pre-Assessment Form, and get the form signed and approved by the master's project/thesis Committee chair before registering for INFO-H 695.
4. Enroll for either the INFO-H 695 Thesis/Project in Applied Data Science under the committee chair to proceed with the work.

Note: Approval from the IUPUI Institutional Review Board (IRB) is required if the student plan to conduct a study involving human subjects or clinical data. Research with human subjects that is not approved by the IRB constitutes scientific misconduct and is subject to disciplinary action. The student is responsible for obtaining IRB approval. This process should be started as soon as possible during the first step of master's work. Direction on how to get approval or exemption by the IRB can be found at Kuali Coeus (KC) at One.IU.

Thesis/Project Rubric

Project process

1. Meet the Primary Project Advisor and discuss the topic of interest for Project.
2. Selection of the Project committee consisting of Project committee chair and one additional faculty mentor.
3. Discuss the topic of interest with the Project committee. Develop the scope, duration and the resource requirement of the project.
4. Submit the approved Project pre-assessment form.
5. Follow the guidelines for project below.
6. Project presentation to the project committee, other faculty members and peers.
7. Incorporate changes required as suggested by the Project Committee members and other faculty members.
8. Submit the final version and wait for comments and grades from the Project Committee.

Guidelines for the master's project

1. The student will work during the second step with master's project Committee. It is important that the student meet with master's committee on a regular basis, such as once every week or two (not less than once a month).
2. During this period, the student must prepare the final write-up. While there is no strict restriction on length, the report is typically 30–50 pages double spaced, and must be complete and formatted in APA style. (A sample is provided on SOIC website.)
3. Once the project has been completed and written up, it will be submitted to the Committee for approval, at least two weeks before the end of the semester. If the final project is not completed and submitted by this time, the student will automatically receive an "F" and will have to retake the course.
4. The student must present the project before a faculty and peer group on the last Friday of the semester (date and time will be decided by week 4 of the semester). The student will have 15 minutes to present and 5 minutes for questions and answers.
5. The student will make any corrections requested by the master's project Committee during the presentation. Follow project guidelines for document formatting requirements.
6. The final submissions of the Project include
   a. Revised technical report (box link)
   b. Presentation (can be in the form of a PPT or other types of media)

Thesis process

1. Meet the Primary Thesis Advisor and discuss the topic of interest for Thesis.
2. Select the Thesis committee consisting of the Thesis committee chair and two additional faculty mentors.
3. Discuss the topic of interest with the thesis committee. Develop the research question, research design, and the intended outcomes of the thesis.
4. Submit the approved Thesis preassessment form.
5. Follow the guidelines for thesis below.
6. Defend the thesis to the Committee, other faculty members, and peers.
7. Incorporate changes required as suggested by the Committee and other faculty members.
8. Submit the final thesis write-up and wait for comments and grades from the Thesis committee.
9. The Graduate School requires a plan of study, reviews course transfers and revalidations, reviews the Master's Application for Advanced Degree (MAAD), and reads and approves the thesis, which is uploaded in ScholarWorks.

Guidelines for the master's thesis

1. The student will work on the main Thesis after submitting the pre-assessment form to the Academic Advisor.
2. The student will meet with the Thesis committee chair and members to update and to evaluate the progress of the work. This will help in understanding the roadblocks of the work in progress and prepares the student for the planning a way around or redoing work if required. "Prevention is better than cure!"

3. While working on the thesis, the student willll develop the formal thesis write-up and review it with the Thesis committee. The final write-up is typically 50–100 pages (with multiple chapters).
4. The student will submit the final write-up along with the thesis defense before the semester ends. Changes to the write-up will be included before the submission as per the Thesis committee suggestions.
5. The final submissions of the Master's Thesis include
   a. Revised Thesis (box link)
   b. Presentation (can be in the form of a PPT or other types of media)

Sample Quantitative/Experimental Research Proposal Outline

Definitions
Abstract
1. Introduction
1.1 Problem statement
1.2 Studies that have addressed the problem
1.3 Deficiencies in past literature
1.4 The significance of the study for an audience
1.5 Purpose of the study
2. Review of the literature
2.1 Theoretical perspective
2.2 Hypotheses (or research questions)
2.3 Scope and limitations
3. Methods
3.1 Type of research design
3.2 Recruitment and sampling
3.3 Data collection instruments and/or materials
3.4 Independent variables
3.5 Dependent variables
3.6 Data collection procedures
3.7 Data analysis procedures
4. Anticipated ethical issues
5. Timeline
6. Budget
References
Appendices with instruments/protocols

Sample Quantitative/Experimental Thesis

Same as above except 4–6 are replaced with
4. Results
5. Discussion
6. Conclusions

General thesis/project outline

Outline of a well written Thesis/Project includes
1. Abstract: A summary of the objectives and accomplishments. Typically, 1 page.
2. Objectives: Describe the problem and the solutions achieved
3. Introduction: Describe the main concept of the thesis/project. Establish the context. Discuss why this problem is important. Briefly describe the problem and development process.
4. Background and Literature Review: Provide a survey and a critical review of related prior work.
5. Analysis and Requirements: Describe the problem, enhanced with theoretical model to support the research /project design. Describe the research questions (quantitative) and or the phenomena of interest (qualitative).

6. Design: Describe the research design, including the sample size the research context. If applicable, describe software reuse, design patterns, special coding techniques, etc. Describe the rationale for the design decisions with supporting data collected from prior studies. Describe the specific tools and techniques used in subchapters if applicable.
7. Results: Describe the results from the research/Project. Describe unexpected finding, outliers, if any. Validation of results: Describe the validation approach. Describe sample test plans and test results.
8. Discussion: Describe how the research/project solved, addressed or explained some the issues defined in the background and literature review
9. Conclusions
10. Appendices

The individual sections of the project and thesis differ accordingly and samples of can be accessed via the following links:

- [Sample Project Report](#)
- [Sample Master's Thesis](#)
- [Sample Master's Thesis](#)

EXPECTATIONS, GUIDELINES, AND POLICIES

Participation, Online Section:
The forum section of Canvas will be used to allow the student to interact with fellow students and the instructor. The student is expected to contribute to the discussion on a weekly basis.

Participation, Classroom Section:

Each student should bring to each class on a sheet of paper with the student's name one question on the readings.

Attendance

A basic requirement of this course is that the student will participate in all meetings, whether online or face-to-face, and conscientiously complete all required activities and assignments.

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 the student's privacy, doctor's excuses should exclude the nature of the condition and focus instead on how the condition impacts the attendance and academic performance.

Missing class reduces the student's grade through the following grade reduction policy: The student are allowed two excused or unexcused absences. Each additional absence, unless excused, results in a 5% reduction in the final course grade. More than six absences result in an F in the course. Missing class may also reduce the 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 the student to previously established time limits would result in unjust hardship to the student. 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:

The student is 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 Canvas. Should the student miss a class, the student is 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.

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 The student must document the difference between the student's 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 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 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:** Students must 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, the student must 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 occurs after the full refund period, and a student who has been administratively withdrawn is ineligible for a tuition refund.

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,

web surfing, and posting to social media 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 at 274-2548 or 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 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. In small sections, demographic information should be left blank, if it could be used to identify the student.

6. **Disabilities policy:** All qualified students enrolled in this course are entitled to reasonable accommodations for a disability. Notify the instructor during the first week of class of accommodations needed. Students requiring accommodations 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). For more information visit http://aes.iupui.edu.

7. **Email:** Indiana University uses the student's IU email account as an official means of communication, and students should check it daily. Although the student may have IU email forwarded to an outside email account, the student should email faculty and staff from the student's IU email account.

8. **Emergency preparedness:** Know what to do in an emergency to be protected and to

protect others. For more information, visit the emergency management website at http://protect.iu.edu/emergency.

9. **IUPUI course policies:** Several campus policies governing IUPUI courses may be found at the following link: http://registrar.iupui.edu/course_policies.html

10. **No class attendance without enrollment.** Only those who are officially enrolled in this course may attend class unless 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. **Religious holidays:** Students seeking accommodation for religious observances must submit a request form to the course instructor by the end of the second week of the semester. For information visit http://registrar.iupui.edu/religious.html.

12. **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.

13. **Sexual misconduct:** IU does not tolerate sexual harassment or violence. For more information and resources, visit http://stopsexualviolence.iu.edu/.

14. **Student advocate:** The Student Advocate assists students with personal, financial, and academic issues. The Student Advocate is in the Campus Center, Suite 350, and may also be contacted at 317 274-4431 or 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.