

INFO I210 INFORMATION INFRASTRUCTURE I
 Department of Human-Centered Computing
 Indiana University School of Informatics, Computing, & Engineering at
 IndianapolisSpring 2023

Section No.: 27094

Credit Hours: 4

Time: Tuesday - Thursday: 12 pm – 1:50 pm

Location: LE 105

First Class: Jan 10, 2023

Website: <https://iu.instructure.com/courses/2058425>

Instructor: Prof. Joseph Defazio, MAS/HCC

Office Hours: Tuesday/Thursday 10:00am – 11:30am (or by appointment)

Meetings are also available on Zoom. Email Professor for a day/time and link.

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Website: <https://soic.iupui.edu/people/joseph-defazio/>

Course Description:

The software architecture of information systems. Basic concepts of systems and applications programming.

Extended Course Description:

This course introduces students to software architectures of information systems and the basic concepts and procedures of systems and applications development. Course topics include the syntax of JavaScript programming, the fundamentals of procedural programming, the principles of developing dynamic, database-driven applications for the World Wide Web, and the concepts of NoSQL databases. Students will acquire skills for building online shopping sites, implementing user authentication and authorization, and managing a large volume of content through NoSQL databases. Coverage of HTML and CSS is very limited. Prior knowledge of HTML and CSS is helpful. Extra reading and practice may be necessary for those who lack knowledge and experience with HTML and CSS.

Textbook: INFO-I210 Information Infrastructure 1 - zyBook is required

1. Sign in or create an account at learn.zybooks.com
2. Enter the zyBook code: IUPUIINFO-I210DefazioSpring2023 (this is case-sensitive)
3. Subscribe

A subscription is \$77. Students may begin subscribing on Dec 26, 2022. The cutoff to subscribe is Jan 16, 2023. Subscriptions will last until May 12, 2023.

Video Courses from [Linkedin.com/learning](https://www.linkedin.com/learning) (**LinkedIn Learning.com**):

The following video courses are a good supplement to the materials we will be studying in class. Based on your background and needs, please choose the courses and topics to watch. Please search the links to the courses at <https://www.linkedin.com/learning>. Students have access to LinkedIn Learning tutorials (at no cost). Recommended tutorial courses:

HTML Essential Training

<https://tinyurl.com/y3yojt4k>

CSS Essential Training:

<https://tinyurl.com/yyrtqvzx>

JavaScript Essential Training:

<https://tinyurl.com/y56xcl5j>

Equipment – Software Needed:

- A reliable laptop computer running Windows, Mac OS, or Linux operating system. Please visit <http://informatics.iupui.edu/technology/laptop> for information on the Laptop Initiative for Informatics majors A web cam is not required for this course however, you plan to schedule zoom meetings with Professor, you will need one.

Software used:

- **Visual Studio Code (recommended and supported in INFO i210)**
(students can use any HTML Editor (PHPStorm, WebStorm, etc.) Or any other web page creator, GitHub Desktop, Github)
- **Ivanti** – University VPN - Account (Do not use school account for this)
- **Cyberduck**
- **Photoshop**
- **Zoom**
- **Text editor (Notepad ++)**

Teaching and Learning Methods:

The course structure is composed of the following::

- Lectures / Participation Activities:
 - This activity will be the majority of class time. Use of software packages to implement concepts and designs are key to understanding the principles that are taught in the lecture and practiced in the lab.
- Homework: Challenge Activities and Labs
 - Weekly homework assignments will be assigned, these could be individual or group assignments.
 - Students **MUST** have their work completed weekly for credit in this class.
- Quizzes:
 - Quizzes will be administered to assure you are grasping the concepts needed to complete the course and understand the learning outcomes for the class.
- Final Project:
 - The final project will be an e-Commerce functional error-free Team Project.

- Communication through Canvas is a requirement and peer to peer communication is key for success.

Students must have a working laptop or have access to a working computer.

Learning Outcomes:

Upon completion of this course, the student will:	*RBT	IUPUI+	PLO's	Assessment
1. Demonstrate error-free coding using HTML/CSS/jQuery/JavaScript.	2,3,4,6	P2.1, P3.3	1,4,6	Challenge Activities 1-28 Final Project (Milestone)
2. Implement basic web development practices.	3,4,6	P2.1 P2.3	1, 6, 7	Lab Assignments Final Project (Milestone)
3. Create UI web design visualizations in accordance with UI/UX theories.	2,6	P2.1, P3.2,	1	Mid-Term Lab Assignment Final Project (Milestone)
4. Develop a fully functioning team website assignment and deploy it on a web server	3,4,5,6	P1.3, P2.1, P2.2, P2.3, P3.1, P3.2, P3.3.	1, 3,4, 6,7	Final Project (Milestone)
5. Implement basic jQuery and JavaScript.	3,4,5	P2.1, P3.1, P3.3	1,6, 7	Lab Assignments Final Project (Milestone)
6. Store and understand large amounts of data in NoSQL database.	3,4,5,6	P2.1, P3.1, P3.3.	1,6, 7	Final Lab Assignment Final Project (Milestone)

*RBT: Revised Bloom's Taxonomy: 1. Remembering, 2. Understanding, 3. Applying, 4.

Analyzing, 5. Evaluating, 6. Creating

Media Arts and Science B.S. Program-level Learning Outcomes (PLOs)	†Profiles of Learning for Undergraduate Success (PLUS, IUPUI+)
1. Understand digital media and its effective use as a form of communication.	P1.1 Communicator – Evaluates Information
2. Communicate ideas effectively in written, oral, and visual form to a range of audiences.	P1.4 Communicator – Conveys Ideas Effectively P1.2 Communicator – Listen Actively* P3.2 Innovator – Creates/Designs**
3. Work effectively as a member of a team to achieve a common goal.	P2.2 Problem Solver – Collaborates P1.3 Communicator – Builds Relationships*
4. Analyze a problem, identify and evaluate alternatives, and plan an appropriate solution.	P2.1 Problem Solver – Thinks Critically P3.1 Innovator – Investigates*
5. Evaluate media from multiple perspectives using the theories, concepts, and language of digital media with an appreciation for the history, theory, and traditions of digital media.	P2.3 Problem Solver – Analyzes, Synthesizes, and Evaluates
6. Demonstrate mastery of the concepts, techniques, and tools in one or more digital media specialties.	P2.4 Problem Solver – Perseveres P3.2 Innovator – Creates/Designs*
7. Develop professional quality digital media productions by promptly applying knowledge and skills including best practices and standards.	P3.2 Innovator – Creates/Designs P3.3 Innovator – Confronts Challenges*
8. Explain the impact of digital media on individuals, organizations, and society.	P4.4 Community Contributor – Anticipates Consequences P4.1 Community Contributor – Builds Community*
9. Acknowledge diverse opinions regarding professional, ethical, legal, and social issues with a global perspective.	P4.3 Community Contributor – Behaves Ethically P4.2 Community Contributor – Respectfully Engages Own and Other Cultures*
10. Plan for continuing professional development with an appreciation of the need for lifelong learning.	P3.4 Innovator – Makes Decisions

Date for each class meeting:

- Specific pre-class reading and activities
- Specific subject matter/topics covered
- Goals and objectives of each class period
- The syllabus and weekly schedule are subject to change in this course.

Course Content

1. Attendance	29 Meetings @ 10pts each day	290 points
2. Challenge Activities	24 Activities (various points)	990 points
3. Homework (LAB) assignments	8 Lab Assignments @10pts each	80 points
4. Quizzes	7 Quizzes @ 20 points each	140 points
5. Mid-Term Assignment	1 Project Assignment	100 points
6. Final Team Project Assignment	Team Project	200 points

Total Points Possible**1,800 points**

Letter Grade	Precent	Points	Description
A+	97-100%	1750 - 1800	Extraordinarily high achievement, quality of work
A	93-96%	1685 - 1749	Shows command of the subject matter
A-		1620 – 1684	Excellent and thorough knowledge of the subject matter
B+	87-89%	1575 – 1619	Above average understanding of material and quality of work
B	83-86%	1505 - 1574	Above average understanding of material and quality of work
B-	80-82%	1450 - 1504	Satisfactory quality of work
C+	77-79%	1390 -1449	Modestly acceptable performance and quality of work
C	73-76%	1325 - 1389	Minimally acceptable performance and quality of work
C-	70-72%	1275 - 1324	Minimally acceptable performance and quality of work
D+	67-69%	1210 - 1274	Course credit is not granted for MAS Majors who receive a grade below C-.
D	63-66%	1150 - 1209	Course credit is not granted for MAS Majors who receive a grade below C-.
D-	60-62%	1090 - 1149	Course credit is not granted for MAS Majors who receive a grade below C-.
F	Below 60	0- 1089	Course credit is not granted for MAS Majors who receive a grade below C-.

Modules: All class instructions for the week will be located in the Module portion of Canvas. You can access this through the menu on the left-hand side of the Canvas class site. Modules will consist of everything that is covered during the week. You could see lecture notes, possible challenge activities, quizzes, lab assignments and homework assignments.

Participation Activities: Participation activities are available in your zyBook and make up a substantial part of the lecture material. It is important that you attend each class. These activities will not be collected or graded however they are critical to a student's success in this course.

Challenge Activities: Challenge Activities are located in your zyBook. Challenge Activities provide hands-on practice for each area of web development presented each week.

Mid-Term Project: There will be one midterm project assigned as a replacement for the mid-term exam. It is designed to assess your mastery of important concepts and theories in great depth and breadth. A successful deliverable (web design application) should demonstrate an error-free design having followed the instructions outlined in the mid-term project.

Quizzes: There are several quizzes given during the semester. A quiz usually covers the materials studied in the previous week. It may consist of multiple choices, true/false, and fill-in- blank questions. Quizzes are designed to assess your mastery of important concepts covered in lectures. Quizzes will be given during class time on Thursdays. All quizzes only in Canvas on the day specified in the Weekly Schedule (no make-up or do-overs allowed in this class).

Homework assignments: Most homework assignments are assigned from your textbook; zyBook. However, the Mid-Term assignment and Team project will not be assigned from the zyBook. These assignments will be described in detail in lectures. Documentation is available for access and download through Canvas/Files. These assignments are available in the Canvas/Assignment link..

These assignments must be uploaded to Cyberduck in a folder designated in the instructions. As a last resort, and only if you are having trouble with the Assignments tab, you may send me an assignment through Canvas e-mail. When you need to turn in multiple files, please zip them together and only upload the zip file.

- **Lab exercises:** These exercises are designed to provide students with practical experience. They are built on walkthroughs and include variations to enhance independent learning. Some of the exercises provide detailed instructions; while others provide less detailed instructions and require you to apply the materials presented in class with less guidance.
- **Final project:** This comprehensive team project will demonstrate students' ability to build a dynamic, database-driven Web site similar to those business Web sites on the Internet. The project consists of three components: coding, documentation, and presentation. Detailed instructions will be available later in the semester. This final project substitutes for the final exam.

Expectations, Guidelines, and Policies

Attendance:

A basic requirement of this course is that you attend and participate in all class meetings and conscientiously complete all required course activities and assignments. Class attendance is required for classroom-based courses. Students should be present and attentive for the entire class period.

Attendance will be taken in every class using Top Hat.

If you do not complete the Top Hat sign-in while in class, you shall be marked absent. Signing-in 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. 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, quizzes) by its deadline and submitting it by the specified method. Deadlines are outlined in the syllabus or in supplementary 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, a grade on a deliverable that is submitted late shall be given the grade of a 0. No late submissions are accepted unless you have an excused absence which is outlined in the Attendance section or on a case-by-case basis.

NOTE: The outcomes and artifacts developed for any one class in the SoIC at IUPUI cannot be the same or overly similar between semesters or in the same semester for one student or group of students or one faculty or group of faculty members.

The project must be differentiated, the expectations for the project outlined, and the faculty involved, notified, and in agreement prior to the semester beginning.

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:** 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 activities. Students must 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 (3) consecutive class meetings 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 your IU email account as an official means of communication, and students should check it daily. 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:** Know what to do in an emergency so that you can protect yourself and others. For more information, visit the emergency management website at <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 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.