



LUDDY

SCHOOL OF INFORMATICS, COMPUTING, AND ENGINEERING
Indianapolis

Human-Centered Computing - Media Arts and Science

NEWM-N 220 Introduction to Media Application Development

Instructor Information

Instructor: Ty Streets, MAS, Visiting Lecturer

Office Hours: Tuesday – Thursday, 12:15pm – 2:45pm and by appointment

Office: 440J, Informatics & Communications Technology Complex

535 West Michigan Street, Indianapolis, IN 46202 [\[map\]](#)

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Email: tstreets@iu.edu

Course Information

Section No: 35379

Location: IT 273

Time(s): Wednesday, 3:00pm – 5:40pm

3 credits

Prerequisite(s): INFO-I 101, INFO-I 112, INFO-I 210, INFO-I 223, INFO-C 112, INFO-C 210, NEWM-N 115, CIT 21200, CIT 21500, CSCI-N 241, CSCI-N 200, or CSCI 23000

Description

Introduces concepts and skills related to the design of interactive multimedia applications for the Web, the desktop and mobile devices. Within the context of industry-standard application design tools, students use markup tags and scripting to create applications that emphasize graphics, animation, sounds, and interactivity.

Courses Text(s)

Required Text(s)

None

Recommended Text(s)

None

Course Software & Technology

Technology Required

- A reliable laptop computer running Windows, Mac OS, or Linux operating system. Please visit <https://luddy.indianapolis.iu.edu/student-portal/facilities-technology/laptop.html> for information on the Laptop Initiative for Informatics majors.
- Web cam for Zoom class. (only required for online sections). You can find one on Amazon or other online/retail stores.

Software Used

- IDE (ex. Visual Studio Code)
- Version Control Repository (ex. Github)

Teaching and Learning Methods

The course structure is composed of these parts:

- **Lectures / Labs**
 - 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.
- **In Class Activities / Quizzes**
 - In class activities and quizzes will be administered to assure you are grasping the concepts needed to complete the course and understand the learning outcomes for the class.
- **Projects**
 - 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.
 - Communication through Canvas is a requirement and peer to peer communication is key for success.
 - Student must have a working laptop or have access to a working computer.
- **Discussions**
 - Discussions are used to foster collaborative learning and deepen your understanding of course concepts.
 - Students will engage in dialogue about the materials covered in lectures and labs, share insights, ask questions, and help each other work through challenges.

Grading Information

Category	# Tasks	Points	Percent
Final Project + Outline	2	300	30%
Assignment	8	250	25%
In Class Activity	5+	150	15%
Midterm	1	150	15%
Quiz	4	100	10%
Discussion	3	50	5%

Assignment Submissions

- All assignments **must** be submitted through **Canvas**.
- Submissions should be a **URL** to the corresponding **GitHub repository**.
- Assignments will be graded based on the state of the repository at the time of grading.
 - If changes are made to the repository **after submission** that result in breaking changes, it is the student's responsibility to correct these issues before grading. Failure to do so may result in a reduced grade.
 - Any changes made to the repository **after grading** will **not** be considered, and the grade will not be adjusted.

Late Submissions

- Any assignment turned in **after the designated due date and time** is considered late.
- Late assignments will be penalized as follows:
 - **Before 24 hours** after the due date: **10%** penalty.
 - **1 to 3 days** late: **25%** penalty.
 - **3 days to 1 week** late: **50%** penalty.
 - **More than 1 week** late: The assignment will receive a **zero**.

Group Assignments

- For group assignments, **only one member** of the group needs to submit the assignment.
- Group assignments will be graded based on:
 - A **group effort portion**, assessing the overall contribution of the team.
 - An **individual effort portion**, evaluating each member's contribution to the project.

Grading Scale

Grade	Percentage Range	Description
A+	97–100%	Professional level work, showing highest level of achievement

Grade	Percentage Range	Description
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
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

Weekly Schedule

#	Topic(s)	Tasks Due
1	Syllabus, Setup, & Web Application Overview	--
2	Script, Console, & Data Types	Assignment, Quiz
3	Variables, Operators, & Object Wrappers	Assignment, Discussion
4	DOM Manipulation, Arrays, & Loops	Assignment, Quiz
5	Functions & Events, Array Basic Methods	Assignment
6	JS Objects, Window Interactivity & Control	Assignment, Discussion
7	Practice Midterm	Assignment, Quiz
8	Midterm Assessment	
9	Array Loop Methods, Alternate For Loops	Midterm
10	APIs, Fetch, Async / Await,	Assignment
11	Template Literal & Ternary Operator	Assignment, Discussion
12	Debugger	Quiz

#	Topic(s)	Tasks Due
13	Final Project Overview	--
14	Final Project Outline	Final Outline
15	Advance JS Topic	--
16	Final Assessment	Final Project

Learning Outcomes

Learning Outcome	RBT	IUI+	PLO's Assessment	Weekly/Assignments
1. Use pseudocode constructs to outline algorithms used in programming projects.	4, 5	P1.1, P2.2, P3.2	4, 6	Weekly Assignments
2. Summarize a JavaScript program by interpreting programming statements.	2	P2.3, P1.1	1, 4	Lab Discussions
3. Use a variety of debugging strategies to fix inoperable code.	4, 5	P3.1, P2.1, P3.3	4, 6	Weekly Discussions
4. Create a JavaScript and HTML application using JavaScript best practices.	6, 4	P2.3, P3.2	2, 6, 7	Weekly Assignments, Midterm, Final
5. Analyze programs for intermediate steps in the problem solution.	3, 4	P1.1, P2.1, P3.4	5	Weekly Assignments
6. Communicate solutions and strategies to peers.	5	P1.3, P2.2, P4.2	3	Weekly Labs

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, IUI+)
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*

Media Arts and Science B.S. Program-level Learning Outcomes (PLOs)	Profiles of Learning for Undergraduate Success (PLUS, IUI+)
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

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 5 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.

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. <https://luddy.indianapolis.iu.edu/student-portal/forms-policies/incomplete-policy.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 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. Late work will be penalized as outlined in Grading Information 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 Media Arts and Sciences at IUI 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 faculties. 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 <https://indianapolis.iu.edu/academics/policies/>. All students must also successfully complete the Indiana University Department of Education "How to Recognize Plagiarism" Tutorial and Test. <https://plagiarism.iu.edu/> 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](https://turnitin.com).
<https://app.teaching.iu.edu/tools/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:
 - a. directly quoting another person's actual words, whether oral or written;
 - b. using another person's ideas, opinions, or theories;
 - c. paraphrasing the words, ideas, opinions, or theories of others, whether oral or written;
 - d. borrowing facts, statistics, or illustrative material; or

- e. offering materials assembled or collected by others in the form of projects or collections without acknowledgment.
4. **Double Dipping:** The outcomes and artifacts developed for any one class in Media Arts and Sciences at IUI 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. The project must be differentiated, the expectations for the project outlined, and the faculty involved, notified, and in agreement prior to the semester beginning.
 5. **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.
 6. **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.
 7. **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. IUI 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” (IUI Strategic Initiative 9). IUI 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@iu.edu. For more information visit <https://studentaffairs.indianapolis.iu.edu/health/counseling-psychological>.

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://luddy.indianapolis.iu.edu/intranet/teaching-research/course-evaluations/>.

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 paperwork before receiving accommodations. The AES office is located at UC 100, Taylor Hall (Email: aes@iu.edu, Tel. 317 274-3241). For more information visit <https://diversity.indianapolis.iu.edu/offices/aes>.

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 <https://protect.iu.edu/emergency-continuity/emergency-contacts/iui.html>.

9. IUI course policies

A number of campus policies governing IUI courses may be found at the following link: <https://indianapolis.iu.edu/academics/policies/>.

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. <https://bulletins.iu.edu/iuin/2024-2025/policies/attendance/official-enrollment-class-attendance.shtml>. 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 <https://bulletins.iu.edu/iuin/2024-2025/policies/attendance/accommodations-for-religious-observances.shtml>.

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 saadv@iu.edu. For more information visit <https://studentaffairs.indianapolis.iu.edu/advocacy-resources/index.html>.

IU Indianapolis Student Resources List

1. Accessible Education Services (AES)

- Click here for website or
<https://diversity.indianapolis.iu.edu/offices/aes/index.htm>
- Email: aes@iu.edu
- Phone: 317-274-3241
- This office determines if a student qualifies for accommodations, approves reasonable accommodations, and serves the campus community to ensure the implementation of those accommodations whenever possible. AES strives to ensure that students have equal opportunities to pursue a university education, while also maintaining a high level of academic integrity.

2. Counseling and Psychological Services (CAPS)

- Click here for website or
<https://studentaffairs.indianapolis.iu.edu/health/counselingpsychological/index.html>
- Email: capsindy@iu.edu
- Phone: 317-274-2548
- Counseling and Psychological Services (CAPS) offers a full range of clinical mental health services and support.

3. Behavioral Consultation Team (BCT) and Concerned Personals Referral Form

- Click here for website or <https://form.bct.indianapolis.iu.edu/Report/Send>
- Phone: 317-274-4431
- This referral form is designed to report behavior the referring party sees as concerning, worrisome, or threatening. Please note that referrals are reviewed during normal business hours and are not monitored after-hours, on weekends, or during official University holidays.

4. Interpersonal Violence Prevention and Response (Confidential Advocate)

- Click here for website or <https://studentaffairs.indianapolis.iu.edu/advocacy-resources/interpersonalviolence-prevention-and-response/index.html>
- Email: saadv@iu.edu
- Phone: 317-274-2548
- Support through relationship violence and sexual assault advocacy, regardless of whether you choose to report to law enforcement or the

university. The survivor advocate is a confidential employee, meaning they will not disclose your identity to university officials or law enforcement without your consent.

5. Office of Institutional Equity (OIE)

- Click here for website or <https://oieindy.iu.edu/index.html>
- Email: oieindy@iu.edu
- Phone: 317-274-2306
- Helping the campus eliminate barriers that inhibit individuals and groups from attaining equal access to employment and education.

6. Office of Student Advocacy and Support (OSAS)

- Click here for website or <https://studentaffairs.indianapolis.iu.edu/advocacy-resources/index.html>
- Email: sadv@iu.edu or visit go.iu.edu/refer2osas
- Phone: 317-274-4431
- When life gives you a challenge, we have support. When you're having an academic problem, we can help you navigate university policies and find the appropriate support services.

7. IU Indianapolis Police Department

- Click here for website or <https://protect.iu.edu/emergency-continuity/emergency-contacts/iui.html>
- Emergency Phone: 317-274-7911 or 911
- Click here to report or go to https://indiana-gme-advocate.symplicity.com/public_report/index.php
- Safety Escort: You can call an IU Police officer to escort you anywhere on campus. If you feel unsafe, call 317-274-7233 (SAFE) and a police officer will take you wherever you need to go.

8. IU Indianapolis Health Services

- Click here for website or <https://studentaffairs.indianapolis.iu.edu/health/medical/index.html>
- Email: healthsv@iu.edu
- Phone: 317-274-8214
- IU Indianapolis Campus Health offers a variety of medical services at our on-campus clinic, so you can get the care you need to stay well.

9. IU Indianapolis Office of International Affairs

- Click here for website or <https://international.indianapolis.iu.edu/>
- Email: olia@iu.edu
- Phone: 317-274-7000
- IUI is committed to preparing all students to be citizens of the world through global learning experiences—here on campus, in the Indianapolis community, and abroad. These experiences will help you gain the knowledge, skills, and mindsets needed to navigate the interconnected world in which we learn, work, and live.

10. IU Indianapolis Office for Veteran and Military Personnel

- Click here for website or <https://veterans.indianapolis.iu.edu/index.html>
- Email: gibenefi@iu.edu
- Phone: 317-278-9163
- Serving those who serve.

11. IU Indianapolis Student Housing

- Click here for website or
<https://studentaffairs.indianapolis.iu.edu/housing/index.html>
- Email: reslife@iu.edu
- Phone: 317-274-7200
- Living on campus at IU Indianapolis means you'll benefit from our exciting metropolitan location—and be able to make the most of your college experience. With students from over 144 countries living on campus, we are committed to building safe, respectful, and inclusive communities.