WISCONSIN
UNIVERSITY OF WISCONSIN–MADISON

CS272 | CS/LIS 472: Introduction to Web Development

Lecture | Mon, Wed @ 4:00 pm - 5:15 pm | 212 Animal Sciences Building

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This class can be taken as **CS 272** or **CS/LIS 472**. *What's the difference?*

- CS272 is exam-based and open to everyone.
- CS/LIS 472 is project-based and intended for Information Science students.

Both sections meet together and learn the same content. Assessment for CS272 includes a midterm and final exam. Assessment for CS/LIS 472 includes a midterm and final group project. Confused which section to take? **Please consult your instructor and advisor.**

This course is taught by Cole Nelson (ctnelson2@wisc.edu) from Computer Sciences.

Course Description

Introduces methods and tools for creating/maintaining secure and interactive web content. Topics include programming fundamentals to support core web concepts, application development essentials, and content management systems. Web best practices - such as accessibility, design, and critical thinking about relevant ethics and organization. Covers practical skills to design and implement websites using popular scripting languages and frameworks, content management systems (CMSs), and related tools.

Credits: 3 Credits

Course Designations and Attributes: Natural Sciences, L&S Elementary

Instructional Modality: In-person

How credit hours are met by course: This class meets for two, 75-minute class periods each week over the semester and carries the expectation that students will work on course learning activities (reading, writing, problem sets, studying, etc) for about 3 hours out of the classroom for every class period. The syllabus includes more information about meeting times and expectations for student work.

Requisites: None. Students may take CS272 *or* CS/LIS 472. Students *cannot* take both! Consult your instructor and advisor about what offering best fits your needs.

Course Learning Outcomes

By completing this course, students will be able to…

1. Develop understanding and application of popular web scripting languages and development tools and frameworks.
2. Install, configure, and customize open source content management systems.
3. Understand and apply UX and accessibility best practices in building accessible websites.
4. Design solutions to problems using multi-step scripting, logical operations, and functions.
5. Understand ethical issues and concerns related to website development and its related technologies.
6. Analyze the management challenges, and ethical considerations inherent in web development projects.

Course Materials

Please note that the primary and supplemental text are used as additional reading material that support what we learn in lecture. They may introduce concepts not introduced in class. Anything assessable will *always* be discussed in lecture. Use these for further reading!

Required Text

Svekis, L. L., Putten, M. V., & Percival, R. (2021). *Javascript from beginner to professional: Learn javascript quickly by building fun, interactive, and dynamic web apps, games, and pages*. Packt Publishing, Limited.

Note that the textbook is available for free online! I recommend downloading the PDF from ProQuest. Students do *not* need to purchase the required textbook.

Supplemental Textbook

Ross, J., & Freeman, M. (n.d.). Client-side web development. Retrieved July 13, 2023, from https://info340.github.io/

Additional Readings

Other articles will be available online, linked from Canvas. Since our topics include constantly evolving technology, readings for the course may be updated during the semester. The list of readings in Canvas is the authoritative version.

Required Software

No purchases are necessary. Students are expected to download & install the following (free) software: GlobalProtect (for WiscVPN), VSCode, Git, Postman, and NodeJS 22 with NPM 10.

In addition, students are expected to use their UW-Madison-issued TopHat account for daily attendance and bi-weekly quizzes. **You must have access to a device with TopHat in order to receive credit for the attendance and quizzes.**

CS 272 & CS/LIS 472 Common Grading

The assessment items below are what CS 272 and CS/LIS 472 share in common. They total 75 points. The other 25 points come from either exams (CS 272) or projects (CS/LIS 472) based on the section of class they are enrolled in.

Assignment	Pts	Details
Intro Survey	1	A quick survey given at the start of class.
Weekly Discussions	10	12 discussions @ 1 pt each, 2 dropped
Weekly Assignments	34	11 HWs @ 3 pts each + HW0 (1 pt)
Attendance	5	26 classes @ 0.25 pts each, 6 dropped
Quizzes	25	6 quizzes @ 5 pts each, 1 dropped

CS 272 Specific Grading

The midterm and final exam *only* apply to CS272 students.

CS 272 is offered as an exam-based version of Introduction to Web Development. For each exam, students are allowed to have a single, double-sided 8.5x11" note sheet. Please see the exam addendum at the end of the syllabus for more information.

Assignment	Pts	Time	Details
Midterm Exam	10	75 minutes	Double-sided note sheet allowed.
Final Exam	15	90 minutes	Cumulative, double-sided note sheet allowed.

CS/LIS 472 Specific Grading

The group projects *only* apply to CS/LIS 472 students.

CS/LIS 472 is offered as a group project-based version of Introduction to Web Development. There will be both a CMS (WordPress) project and an HTML/CSS/JS project.

Additionally, *graduate students* must submit a 2-page reflection for each project graded on an acceptable/unacceptable basis. Please see the group project addendum at the end of the syllabus for more information.

Assignment	Pts	Details
CMS Project	10	Spans the 1st half of the semester.
HTML/CSS/JS Project	15	Spans the 2nd half of the semester.

Grading Scale

Grades are assigned as follows; **there is no rounding of grades.**

Grade	A	AB	B	BC	C	D	F
Range	[100, 94]	(94, 88]	(88, 82]	(82, 76]	(76, 70]	(70, 60]	(60, 0]

Assignment Details

Below are the details for each of the common-graded categories.

Introduction Survey

The introduction survey is a quick survey to gauge a student's current understanding of web development. It is graded on an acceptable/unacceptable basis at the beginning of the semester for 1 point.

Weekly Assignments

The weekly assignments develop on a student's understanding of that week's material. They are graded for 3 points on a rubric specific to that assignment's implementation, except for HW0 which is graded for 1 point on an acceptable/unacceptable basis.

Weekly Discussions

The weekly discussions are held on an asynchronous, online discussion board. Students will reflect with a 300-word (± 100 words) response to a prompt regarding that week's material. As a part of their response, they will also find and analyze a source of their choosing. Discussions are graded on the rubric described below. **Your 2 lowest discussion scores are dropped.**

	Satisfactory	**Needs Work**	**Unsatisfactory**
Thoughtfulness of Responses *0.5 pt*	*0.5 pt* The student's response provides thoughtful reflection, beyond regurgitating information, and adds valuable insight to the conversation.	*0.25 pts* Only some of the student's response demonstrates thoughtful reflection; information is mostly regurgitated from the primary sources.	*0 pts* The student's response is not thoughtful in nature and primarily serves to fill a word count requirement.
Adherence to Requirements *0.5 pt*	*0.5 pt* An appropriate response and external source have been submitted by the student meeting the required word count.	*0.25 pts* While the student included a response, they did not cite an external source or did not fulfill the word count requirements.	*0 pts* The student lacks any meaningful response.

Quizzes

Quizzes are formative assessments of material that has been learned since the previous quiz. Quizzes are conducted in-class using TopHat on a bi-weekly basis. If you know you will be missing a quiz, you must contact your instructor in advance for an alternate quiz; alternate quizzes are assigned on a case-by-case basis.

For each quiz, students will be given 20 minutes to complete 15 multiple choice questions worth ⅓ of a point each. Your quiz score will be rounded up to the nearest hundredth. For example, correctly answering 13 of the 15 questions on a quiz will result in a 4.34 out of 5 points. **Your lowest quiz score is dropped.**

Attendance

Attendance is taken each class, in-class using TopHat. It is expected that students attend class on a regular basis. To achieve full attendance credit, a student must attend 20 of the 26 in-person classes. A max of 5 points is awarded for attendance.

If a student has scheduling conflicts, medical complications, or other legitimate concerns that prevent them from attending class on a regular basis, they can contact their instructor within the first 2 weeks of class for a waiver of the attendance requirement.

Other Grading Information

Late Assignments

Students have a total of 5 late days that can be used on weekly assignments throughout the semester. When all 5 late days are depleted, each day late will be 10% off that assignment's grade. No assignment can be turned in >7 days late. Days late are rounded up to the nearest whole number – e.g. an assignment turned in at 12:01 am will use a late day.

Discussions may not be submitted late.

Regrade Requests

Students may reasonably request a regrade of a graded item within 1 week of when grades are returned. Regrade requests past 1 week of the grade being released will not be honored.

Generative AI & Academic Integrity

Assignment descriptions should be treated like proprietary company information – they should not be pasted into any generative AI tool. Instead, generative AI should be used as a personal tutor – a good point of reference to understand a function or explore a concept deeper, but not to complete your homework for you.

Additionally, all code generated by or copied from StackOverflow, ChatGPT, GitHub Copilot, or any other online sources *must* be annotated with a comment of its origin. Students may *not* share their code with others or use code from students submitted in previous semesters. **Finally, weekly discussions must *not* be made with the help of generative AI.**

Violations of this policy will be reported to the Office of Student Conduct and result in a zero for the assignment. Subsequent violations will result in a zero for the course and will also be reported to the Office of Student Conduct.

Course Schedule

Weekly assignments and discussions are assigned on the Wednesday of the given week and due the following Tuesday at 11:59 pm.

Quizzes are conducted during the Monday following a major learning segment (see schedule for details). **Quizzes are given during the last 20 minutes in-person, in-class.** Students who cannot make the quiz are expected to (a) have a legitimate reason for missing the quiz and (b) take the quiz through a proctored online setting. Please contact me >1 week ahead of time.

Please see the tentative schedule on the next page for more details.

CS272-S25 Tentative Schedule					
Day	Date	Subject	HW Released	DIS Released	Quiz
Wednesday	1/22/25	Intro	HW0	DIS A	
Monday	1/27/25	CMS 1			
Wednesday	1/29/25	CMS 2	HW1	DIS B	
Monday	2/3/25	HTML/CSS 1			Quiz A
Wednesday	2/5/25	HTML/CSS 2	HW2	DIS C	
Monday	2/10/25	Accessibility			
Wednesday	2/12/25	Pseudocode	HW3	DIS D	
Monday	2/17/25	JS1			Quiz B
Wednesday	2/19/25	JS2	HW4	DIS E	
Monday	2/24/25	JS3			
Wednesday	2/26/25	JS4	HW5	DIS F	
Monday	3/3/25	JS5			Quiz C
Wednesday	3/5/25	JS6	HW6	DIS G	
Monday	3/10/25	JS7			
Wednesday	3/12/25	CMS Integration	HW7	DIS H	
Monday	3/17/25	**CS472 Projects**			Quiz D
Wednesday	3/19/25	**CS472 Projects & CS272 Midterm Exam**			
Monday	3/24/25	Spring Break			
Wednesday	3/26/25	Spring Break			
Monday	3/31/25	JS8			
Wednesday	4/2/25	JS9	HW8	DIS I	
Monday	4/7/25	JS10			
Wednesday	4/9/25	JS11	HW9	DIS J	
Monday	4/14/25	JS12			Quiz E
Wednesday	4/16/25	JS13	HW10	DIS K	
Monday	4/21/25	User Experience			
Wednesday	4/23/25	Usability Testing	HW11	DIS L	
Monday	4/28/25	Security & Privacy			Quiz F
Wednesday	4/30/25	Modern Web Dev			
Thursday	5/8/25	**Final Exam**			

Syllabus Statements

Academic Integrity

By enrolling in this course, each student assumes the responsibilities of an active participant in UW-Madison's community of scholars in which everyone's academic work and behavior are held to the highest academic integrity standards. Academic misconduct compromises the integrity of the university. Cheating, fabrication, plagiarism, unauthorized collaboration, and helping others commit these acts are examples of academic misconduct, which can result in disciplinary action. This includes but is not limited to failure on the assignment/course, disciplinary probation, or suspension. Substantial or repeated cases of misconduct will be forwarded to the Office of Student Conduct & Community Standards for additional review. For more information, refer to https://conduct.students.wisc.edu/academic-integrity/

Diversity & Inclusion

Diversity is a source of strength, creativity, and innovation for UW-Madison. We value the contributions of each person and respect the profound ways their identity, culture, background, experience, status, abilities, and opinion enrich the university community. We commit ourselves to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked goals. The University fulfills its public mission by creating a welcoming and inclusive community for people from every background – people who as students, faculty, and staff serve Wisconsin and the world.

Accommodations for Students with Disabilities

McBurney Disability Resource Center syllabus statement: The University of Wisconsin-Madison supports the right of all enrolled students to a full and equal educational opportunity. The Americans with Disabilities Act (ADA), Wisconsin State Statute (36.12), and UW-Madison policy (Faculty Document 1071) require that students with disabilities be reasonably accommodated in instruction and campus life. Reasonable accommodations for students with disabilities is a shared faculty and student responsibility. Students are expected to inform the instructor of their need for instructional accommodations by the end of the third week of the semester, or as soon as possible after a disability has been incurred or recognized. The instructor will work either directly with the student or in coordination with the McBurney Center to identify and provide reasonable instructional accommodations. Disability information, including instructional accommodations as part of a student's educational record, is confidential and protected under FERPA. In addition to completing an electronic Faculty Notification Letter request through McBurney Connect, it is important for students to contact the course instructor directly by the end of the third week of the semester to set up a meeting to discuss implementation of any necessary accommodations. This early communication helps ensure that accommodations can be implemented in a timely manner. For example, if an alternative exam room is needed, arrangements must be made well in advance of an exam date to ensure room availability and to secure a room booking.

Additional Disability Statement

In addition to completing an electronic Faculty Notification Letter request through McBurney Connect, it is important for students to contact the course instructor directly by the end of the third week of the semester to set up a meeting to discuss implementation of any necessary accommodations. This early communication helps ensure that accommodations can be implemented in a timely manner. For example, if an alternative exam room is needed, arrangements must be made well in advance of an exam date to ensure room availability and to secure a room booking.

Course Evaluations

Students will be provided with an opportunity to evaluate their enrolled courses and their learning experience. Student participation is an integral component of course development, and confidential feedback is important to the institution. UW-Madison strongly encourages student participation.

Mental Health

UHS provides no-cost mental health services including individual, couple/partner, group counseling, outreach programming, and stress management. UHS also offers 24/7 crisis services. Psychiatry services are also available for medication management. If at any time you are feeling unsafe, dial 608-265-5600 option 9 or dial 911.

Laptop Lending Program

The CSL now has Windows laptops available for lending to students who do not have an appropriate computer for a CS class. Loans can be for a short duration (while the student's laptop is being repaired, for example) or for the entire semester. Students who need to borrow a laptop should send an email to lab@cs.wisc.edu to initiate the loan.

Other Syllabus Statements

Institutional academic policies and statements are reviewed and updated annually, as needed. They can be found here.

CS 272 Exams

The exams *only* apply to CS 272 students.

There is an *in-person* midterm and final exam for CS 272. For both exams, students are required to bring a #2 pencil and Wiscard. Additionally, they may bring along a double-sided 8.5”x11” notesheet, either handwritten or digitally-created. There are no restrictions with what can be put on the note sheet, but the note sheet *will* be collected with the exam. You may create your note sheet alone or with others, but you must contribute to it. You may *not* just ask someone for a copy of their notesheet.

The midterm exam will have 30 multiple-choice questions and span 75 minutes. The final exam will have 45 multiple choice questions and span 90 minutes. Each question is worth ⅓ of a point, and your exam score will be rounded up to the nearest hundredth. For example, correctly answering 28 of the 30 questions on the midterm exam will result in a 14.34 out of 15 points.

For Spring of 2025, the exams will be held…

- **Midterm Exam** on Wednesday, March 19th, 2025 at 5:45 pm.
- **Final Exam** on Thursday, May 8th, 2025 at 5:05 pm.

If you have a conflict with either above exam dates, you can request an alternate exam >1 week in advance using the forms below. If you have a conflict with *both* the exam and alternate exam, please contact your instructor directly.

- **Alternate Midterm Exam** on Thursday, March 20th, 2025 at 5:45 pm
- **Alternate Final Exam** on Wednesday, May 7th, 2025 at 5:05 pm

Locations will be announced on Canvas and in-class when they are known.

CS/LIS 472 Group Projects

The group projects *only* apply to CS/LIS 472 students.

Group project milestones are *strict* and *cannot* be completed late. You *must* turn in your work by 11:59 PM of the listed deadline; late submissions will *not* be accepted.

CMS Project

The CMS project will focus on building a website using WordPress.

Milestone	Date	Details / Purpose
Kickoff	2/5/2025	Present project description, form groups.
Proposal	2/12/2025	Feedback provided by the following week.
Draft Website	2/26/2025	Initial website to review with TA the following week.
TA Check-In	3/3 - 3/7/2025	Get feedback on your design & implementation.
Final Website	3/17/2025	Submit the website and report.
Presentation	3/17, 3/19/2025	5 minutes per group demonstrating your work.
Peer Reflections	3/31/2025	Reflect on your peers and other groups.

The CMS project is worth 10 points broken down as follows…

Milestone	Points
Proposal	1
Draft Website	2
Final Website	4
Presentation	2
Peer Reflections	1

HTML/CSS/JS Project

The HTML/CSS/JS project will focus on building a website using HTML/CSS/JS.

Milestone	Date	Details / Purpose
Kickoff	3/31/2025	Present project description, form groups.
Proposal	4/2/2025	Feedback provided by the following week.
Draft Website	4/16/2025	Initial website to review with TA the following week.
TA Check-In	4/21 - 4/25/2025	Get feedback on your design & implementation.
Final Website	5/2/2025	Submit the website and report.
Presentation	5/2/2025	5 minutes per group demonstrating your work. Recording will be done virtually
Peer Reflection	5/8/2025	Reflect on your peers and other groups.

The HTML/CSS/JS project is worth 15 points broken down as follows…

Milestone	Points
Proposal	1
Draft Website	4
Final Website	7
Presentation	2
Peer Reflections	1

Change Log

February 5th, 2025: Minor changes to the group project schedule.