

## WD 100 – Innovation for People and Computers (4 credits)

### Section 1 – Spring 2024

**Course description:** Introduction to the field of human-computer interaction (HCI) and the innovative process. Includes current and historical aspects of HCI with an emphasis on psychology and sociology in an increasingly technology-driven society.

### Course information

<b>Class meetings</b>	Mondays and Wednesdays, 11:00 AM – 12:50 PM, SCI D226
<b>Final exam time</b>	Monday, 5/13, 8:00 AM – 10:00 AM, SCI D226
<b>Instructor</b>	Tomi Heimonen, PhD
<b>Office location</b>	B235, Science Building
<b>Email</b>	<a href="mailto:theimone@uwsp.edu">theimone@uwsp.edu</a>
<b>Telephone</b>	(715) 346-4145
<b>Communication</b>	You are encouraged to contact me if you have any questions. When communicating via email, please add “WD 100” on the subject line.
<b>Office hours</b>	In-person: Monday through Wednesday, 10:00-11:00 AM Online: Thursdays, 10:00-11:00 AM Check Canvas for instructions on how to sign up for online office hours.
<b>Class website</b>	Canvas will be used to distribute course materials, assignments, and grades.
<b>Prerequisites</b>	None
<b>Textbooks</b>	The following required textbooks are available at Text Rental: <ul style="list-style-type: none"><li>• Don Norman: <i>The Design of Everyday Things</i>, 2nd edition. ISBN: 978-0-465050659</li><li>• Yvonne Rogers, Helen Sharp &amp; Jennifer Preece: <i>Interaction Design: Beyond Human-Computer Interaction</i>, Wiley, 6th edition. ISBN: 978-1-119901099</li></ul>

This syllabus and course timetable are subject to change. It is your responsibility to check Canvas for corrections and updates. Any changes will be clearly noted in class, in a course announcement and/or through email.

### Course learning outcomes

Upon completing this course, the expectation is that you will have gained and successfully demonstrated the following knowledge and skills:

- Explain the role of the human-centered design process in creating interactive technologies and its key conceptual elements and activities.
- Explain how the diversity of human abilities can be accounted for when designing interactive technologies.
- Critically examine ethical and legal issues related to the design of interactive technologies.
- Discuss characteristics of human cognition, memory and perception that affect interaction design.
- Apply cognitive frameworks to describe how people interact with technology.
- Identify common interaction and interface types in technological products.
- Design and prototype an innovative interactive product or service using a human-centered approach.

### Course requirements

Completing coursework awards a maximum total of 100 points.

**Assignments:** 30 points.

- Assignments will help you familiarize yourself with the concepts and techniques introduced in course content.
- The course has 7 assignments. The lowest scoring assignment will be dropped.

**Course project:** The course project awards a total of 25 points.

- The course project supports you in demonstrating your competence in applying the knowledge and skills gained during class.
- You will develop an innovative idea for a new product and service and define its conceptual model through a variety of deliverables, including sketches and storyboards.

**Exams and quizzes:** Exams and quizzes award a total of 40 points.

- Exams and quizzes covering assigned readings and class content will assess your ability to describe, explain and apply the key topics and concepts introduced in this course.

**Attendance and participation:** Class attendance and active participation awards a total of 5 points.

- Attendance is taken weekly. Joining the class later than 20 minutes after the scheduled start time will constitute an unexcused attendance. Please refer to *Attendance* under *Course policies* for more information.
- Active participation in class activities is expected; activities include but are not limited to working on group exercises, discussions, and projects.

**All coursework is to be completed individually unless otherwise instructed in writing.**

### Submitting coursework

All coursework must be submitted **electronically through Canvas**, unless otherwise instructed. Email submissions are not accepted.

Points you receive for graded activities will be posted to Canvas. Online grades are updated once a grading session has been completed – typically within 4-5 business days following the completion of an activity.

### Software and hardware requirements

Storage media (e.g., flash drive or external hard drive) or cloud-based storage (e.g., OneDrive) will be useful to store and transport the documents, files and/or projects created during this course.

## Grading scale

Final grades will be determined as a percentage of points earned out of 100 points according to the following scale:

Grade	Percentage	Grade	Percentage	Grade	Percentage
A	93.00% or more	B-	82.99% – 80.00%	D+	69.99% – 65.00%
A-	92.99% – 90.00%	C+	79.99% – 77.00%	D	64.99% – 60.00%
B+	89.99% – 87.00%	C	76.99% – 73.00%	F	Less than 60.00%
B	86.99% – 83.00%	C-	72.99% – 70.00%		

The instructor reserves the right to revise the grade cutoffs to be more generous if necessary.

## Course policies

### Late work

Coursework must be submitted by the given deadline, or an extension must be requested from the instructor **before the due date**. If you know ahead of time that you will have a legitimate reason for missing a due date, contact the instructor to discuss an extension.

Coursework that is turned in late will receive a 20% reduction in points awarded. **Submissions that are more than 3 days late will receive 0 points.**

The instructor reserves the right to adjust this policy to account for extraordinary situations, such as documented illness or medical emergencies. You are required to inform the instructor as soon as possible of such situations.

## Attendance

Attending class will likely be the single most important factor in determining your performance and grade in the course, so plan to attend every class. The relationship between attendance and achievement in education has been extensively documented in peer-reviewed research. **I am not able to re-teach the material to you if you are absent, but I will do my best to provide alternative options for you to acquire the content.**

**Excused absences:** If you need to miss a class, notify the instructor via email no later than the morning of the class meeting in question.

- The following is a non-exhaustive list of legitimate reasons to be absent from class: illness, COVID-19 isolation, religious observance, military service obligations, pregnancy, and medical appointments.
- Documentation is **not required** for absences for the above reasons unless you will end up missing more than two consecutive class meetings.

Making up missed in-class work, such as exams and assignments, is **allowed only for excused absences**. Coursework needs to be completed within 7 days of the original due date, unless otherwise agreed upon in writing with the instructor.

- In case of extenuating circumstances, such as personal or medical emergencies, you should contact the instructor as soon as practical to discuss arrangements for making up missed coursework.

If you have any questions or concerns regarding this policy, your first point of contact should be the instructor. If you are unable to reach the instructor, or if you are experiencing a personal or medical crisis/emergency, contact the Office of the Dean of Students at [dos@uwsp.edu](mailto:dos@uwsp.edu) or (715) 346-2611.

## Absences due to military service

You will not be penalized for class absence due to unavoidable or legitimate required military obligations, or medical appointments at a VA facility, not to exceed two (2) weeks unless special permission is granted by the instructor. You are responsible for notifying faculty members of such circumstances as far in advance as possible and for providing documentation to the Office of the Dean of Students to verify the reason for the absence. The faculty member is responsible for providing reasonable accommodations or opportunities to make up exams or other course assignments that have an impact on the course grade. For absences due to being deployed for active duty, please refer to the [Military Call-Up Instructions for Students](#).

## Dropping/withdrawing from the course

It is the student's responsibility to understand when they need to consider un-enrolling from a course. Refer to the [Academic Calendar](#) for dates and deadlines for registration. After this period, a serious and compelling reason is required to drop from the course. Serious and compelling reasons include, but are not limited to, the following: documented and severe physical/mental illness/injury to the student or student's family. Please consult the instructor at the earliest opportunity to discuss the need to drop the course after the mandated deadline.

## Incomplete grades

Under emergency/special circumstances, you may petition for an incomplete grade. An incomplete will only be assigned if inability to complete the coursework was due to a documented illness/injury or other circumstance beyond your control. All incomplete course assignments must be completed by the end of Fall 2024.

## Teamwork

Some of the coursework activities may be completed in teams of 2-3 students. Each member of the group is responsible for completing their portion of the assigned work to the best of their ability. As a part of each coursework activity carried out as a group, the groups are required to submit a statement that describes how the group divided up the work. The statement may be used as the basis for grading and conflict resolution.

## Nondiscrimination

You may be asked to review and provide feedback on the work created by your peers. When doing so, please remember that the objective is to critique the work, not the person.

It is the policy of the University of Wisconsin-Stevens Point to:

Foster an environment of respect for the dignity and worth of all students, employees, and guests of the university; Provide an environment which is conducive to the free and open exchange of ideas; and Strive to eliminate bias, prejudice, discrimination, and harassment in all forms and manifestations.

Discrimination based on an individual's age, race, color, religion, sex, gender identity or expression, national origin, ancestry, marital status, pregnancy, parental status, sexual orientation, disability, political affiliation, arrest or conviction record, membership in the National Guard, state defense force or any other reserve component of the military forces of the United States or this state, or other protected class status is demeaning to all students, employees, and guests; impairs the process of education; and violates individual rights.

## Accommodations

UWSP is committed to providing reasonable and appropriate accommodations for students with disabilities and temporary impairments. If you have a disability or acquire a condition during the semester where you need assistance, please contact the Disability Resource Center (DRC) in CCC 108 as soon as possible. DRC can be reached at (715) 346-3365 or [drc@uwsp.edu](mailto:drc@uwsp.edu).

## Academic integrity and honesty

As a student in this course and at this university, you are expected to maintain a high degree of professionalism, commitment to active learning and participation, and integrity in your behavior in and out of the classroom.

As an academic community, we at UWSP place great emphasis on academic integrity and honesty. Plagiarism, fabrication, cheating, helping others commit these acts, and any form of dishonesty compromise the educational process and devalue the achievements of all students. All work you submit must be original and completed individually unless collaboration is explicitly allowed. Always acknowledge your sources, cite appropriately, and give credit where it's due.

If instances of alleged academic dishonesty are identified, appropriate actions will be taken in accordance with the institution's policies ([UWSP Chapter 14](#)). These actions could include revising the assignment, receiving a lower grade or no credit for the assignment, receiving a lower grade for the entire course, or facing more serious academic consequences. If you are unsure if something might be considered academic misconduct, you are struggling to understand the content or an assignment, or you have fallen behind for whatever reason, please contact your instructor as soon as possible.

By nurturing a community of support, honesty, and respect, we ensure that academic pursuits and your experiences at UW-Stevens Point are both meaningful and genuine.

## Use of third-party content and previous assignments

- Unauthorized use of ChatGPT, or other generative AI writing tools, is not permitted in this course and will be treated as plagiarism.
- You may use other online information and learning materials/sources, such as StackOverflow, YouTube and LinkedIn Learning, to help in completing graded course activities.
- You must properly cite and acknowledge any design elements, code, or other third-party material that you incorporate into your own work. Failure to do so will be considered a form of academic misconduct and is subject to disciplinary action.
- Submitting work previously presented in another course is not allowed, unless approved by the instructor in writing.

If you have any questions or concerns on acceptable practices, consult the instructor in advance.

## Emergency preparedness

In the event of a medical emergency call 9-1-1 or use the nearest campus phone outside SCI D230. Provide assistance, if trained and willing to do so. Guide emergency responders to victim(s).

In the event of a tornado warning, proceed to the basement corridor in the Science building and shelter in place.

In the event of a fire alarm, evacuate the building in a calm manner. Meet in front of the Marshfield Clinic Health System Champions Hall. Notify instructor or emergency response personnel of any missing individuals.

Active Shooter – RUN. HIDE. FIGHT. If trapped, hide, lock doors, turn off lights, spread out and remain quiet. Call 9-1-1 when it is safe to do so. Follow instructions of emergency responders.

See [UW-Stevens Point Emergency Procedures](#) for details on all emergency response at UW-Stevens Point.

## Tentative course schedule

WEEK	TOPICS	COURSEWORK DUE
01	<b>Principles of human-centered design</b> <ul style="list-style-type: none"> <li>What is good design?</li> <li>Interaction design as a discipline</li> <li>People-centered design as starting point for innovation</li> </ul>	
02	<b>Usability, user experience, and accessibility</b> <ul style="list-style-type: none"> <li>Usability and user experience</li> <li>Accessibility and inclusivity</li> <li>Design principles: visibility, feedback, constraints, mappings, affordances, and signifiers</li> </ul>	Assignment 1: Usability and user experience
03	<b>Ethical aspects in technology design</b> <ul style="list-style-type: none"> <li>Ethical and unethical behavior in product design</li> <li>Professional ethical principles</li> </ul>	Quiz 1 (Canvas) Assignment 2: Applying design principles
04	<b>Intellectual property and design</b> <ul style="list-style-type: none"> <li>Overview of intellectual property rights (IPR)</li> <li>Digital Rights Management and related protection measures</li> <li>Copyright licensing and Fair Use</li> </ul>	Assignment 3: Ethical design principles
05	<b>Innovation in design</b> <ul style="list-style-type: none"> <li>Innovative problem-solving: the design thinking process</li> <li>Innovation and how to be innovative in design</li> </ul>	
06	<b>Ideation methods</b> <ul style="list-style-type: none"> <li>Overview and practice of ideation methods</li> <li>From ideas to requirements: revisit usability and UX goals</li> </ul>	Quiz 2 (Canvas)
07	<b>Conceptual models and prototyping</b> <ul style="list-style-type: none"> <li>Conceptual design and the design concept</li> <li>Conceptual models, metaphors, and design conventions</li> <li>Prototyping: demonstrating the design concept</li> </ul>	Course project: Topic ideation
08	<b>Evaluation</b> <ul style="list-style-type: none"> <li>Purpose and types of evaluation in product development</li> <li>Evaluation in practice</li> </ul>	Assignment 4: Prototyping a design concept
09	<b>Interaction types and models</b> <ul style="list-style-type: none"> <li>Interaction types: instructing, conversing, manipulating, exploring, and responding</li> <li>Paradigms, visions, theories and models, and frameworks for interaction</li> </ul>	Midterm exam (in class)
10	<b>Attention, perception, memory, and thinking</b> <ul style="list-style-type: none"> <li>How attention, perception, and memory affect interaction</li> <li>Recognition vs. recall in the design of interactions</li> </ul>	Assignment 5: Evaluating a design concept
11	<b>Cognitive frameworks, models, and theories</b> <ul style="list-style-type: none"> <li>Purpose of cognitive frameworks, models, and theories</li> <li>Gulf of Execution and Evaluation; other relevant models</li> </ul>	Course project: Initial design concept Quiz 3 (Canvas)
12	<b>Emotional interaction</b> <ul style="list-style-type: none"> <li>Emotional processing – how emotions affect experience</li> <li>ABC model of attitudes: affect, behavior, and cognition</li> <li>Persuasive technologies and influencing people’s behaviors</li> </ul>	Assignment 6: Gulf of Execution and Evaluation
13	<b>Interface types</b> <ul style="list-style-type: none"> <li>Review of common product interface types</li> </ul>	Assignment 7: Persuasive technologies
14	<b>Inclusive design</b> <ul style="list-style-type: none"> <li>Principles of inclusive design</li> <li>Inclusive design practice</li> </ul>	Quiz 4 (Canvas)
15	<b>Project presentations</b>	Course project: Final design concept presentation
16	<b>Final exam period</b>	Final exam (in class)

**Important Note:** Refer to Canvas for specific due dates for coursework. If you have any questions, please contact the instructor.