Northeastern
College of Engineering

UX Masterclass for Engineers

FALL 2025

Course Information
Course Title: Building Successful Products: UX Masterclass for Engineers
Course Number: INFO 7374
Term and Year: Fall 2025
Credit Hour: 4
CRN: 17722
Course Format: Online every Tuesday from 6:00 to 9:30 PM (EST)

Instructor Information
Full Name: Daan Lindhout
Email Address: d.lindhout@northeastern.edu
Office Hours: Fridays 4:00 to 5:00 PM EST / 1:00 to 2:00 PM PST

Instructor Biography
Daan Lindhout is a multi-disciplinary UX leader with a track record of delivering successful software and hardware products and building diverse and high performing teams at companies like Qualtrics, Axon, Workday and Microsoft. For the past 25 Daan has been delivering successful consumer and enterprise web, mobile, and desktop apps, brands, and hardware devices. He has 17 years experience starting, growing and leading diverse, multi-disciplinary UX teams and defining and executing on corporate product vision and strategy, and has served on executive teams for 5 years. He holds an MSc in Industrial Design Engineering from the University of Technology in Delft, The Netherlands.

Teaching Assistant Information
Full Name: TBD
Email Address: TBD
Office Hours: TBD

Course Prerequisites
CSYE 7280 User Experience Design and Testing

Course Description
This 14-week course equips Engineering students with advanced UX skills and methods to prepare them for real-world product development working with cross-functional partners. Students will learn advanced UX techniques like defining User Types and JTBD, conducting a UX competitive analysis, defining a Minimum Viable Experience (MVE), measuring the user experience, defining user experience and business

metrics, presenting to and collaborating with key stakeholders, designing with ML/AI in mind, and assessing unintended product usage keeping ethics in mind. These techniques will be taught and practiced through a hands-on project solving a meaningful technology or societal problem.

Course Learning Outcomes

1. Equip Engineering students with advanced UX design skills to create intuitive, user-centered applications.
2. Enhance the understanding of the intersection between Design and Engineering.
3. Develop more advanced hands-on experience with user-centered product definition and development methods: User Types, Jobs to be Done (JTBD), and User Stories.
4. Understand how to conduct a UX competitive analysis.
5. Understand how to measure and define success using user and business metrics.
6. Understand various levels of prototyping and when to use which one.
7. Understand responsible ML/AI product usage and user experiences.
8. Understand how to effectively present to key stakeholders and gather their feedback.
9. Learn to anticipate unintended use of a product or technology keeping ethics in mind.
10. Learn how to best collaborate with UX Designers, Researchers and Product Managers.
11. Create a strong portfolio case study of solving a meaningful problem.
12. Learn about the hiring process and how to apply for and land internships and jobs.

Required Tools and Reading

Tools: Figma is required for wireframing and prototyping. Microsoft Word and PowerPoint will be used in combination with Canvas for various deliverables throughout the course.

Reading: There are no required reading materials, but some suggestions (if not already read previously):

- *The Design of Everyday Things* by Don Norman (Chapters 1-2)
- *The 5 Stages in the Design Thinking Process*. Interaction Design Foundation - IxDF. https://www.interaction-design.org/literature/article/5-stages-in-the-design-thinking-process Dam, R. F. (2024, March 1).
- *Monitoring User Experience Through Product Usage Metrics* by Jerrod Larson and Daan Lindhout https://boxesandarrows.com/monitoring-user-experience-through-product-usage-metrics/
- *System Usability Scale Practical Guide by John Bellio* https://blog.uxtweak.com/system-usability-scale/
- *Usability Metric for User Experience (UMUX) by Elena Mitsiou* https://blog.uxtweak.com/umux/

Course Schedule/Topics Covered

Week	Date	In Class Topics	Assignment Due
1	09/09	• Introduction & course outline • Refresher of UX and Design Thinking • Engineers' role in the UX process • Defining meaningful problems to solve	Due by Friday EOD: • List of at least 10 meaningful potential

			problems to solve, with a top 3 identified.
2	**09/16**	• Understanding the competitive landscape from a user perspective. • User and customer outcomes versus product capabilities. • Selecting a meaningful problem to solve • Conducting a competitive UX analysis	Due by Friday EOD: • Problem, user and customer outcomes defined. Due by next class: • Competitive analysis of 2 competitive experiences.
3	**09/23**	• Personas & User Types • Jobs to be Done (JTBD) methodology • Writing User Stories	Due by Friday EOD: • User Types, Jobs to be Done (JTBD) and User Stories defined.
4	**09/30**	• System Thinking in UX • Design Systems • Wireframing	Due by next class: • Main task flows defined and wireframed (in Figma) • Read monitoring user experience article.
5	**10/07**	• Defining user success metrics: common metrics, common mistakes, first experience metrics and measuring failure. • Defining business success metrics: common metrics, common mistakes. • Conflicts between user and business metrics and how to handle them.	Due by next class: • Definition of the metrics that matter for the designed task flows: user metrics and business metrics.
6	**10/14**	• Agile product design and development: MVP & MVE (Minimum Viable Experience). • Methods for prioritization • Thinking about product delivery over multiple releases. • Ideation techniques: levers for radically different solutions. • "Just enough" prototyping • Prototypes at different fidelity levels. • Prototyping tools • Using component and pattern libraries to speed things up. • Creating a draft usability study plan	Due by next class: • 3 radically different low fidelity prototypes of one of your key workflows. • Draft usability study testing plan. • Read UMUX, SUS articles
7	**10/21**	• Presenting prototypes to stakeholders and users.	Due by next class: • Usability study plan

		• Research types: Generative, Evaluative, Qualitative, Quantitative • Generative user research methods: User Interview, Contextual Inquiries, diary studies & creating generative research plans. • Evaluative user research methods: User Testing, A/B Testing, Heuristic Evaluations, Usability Evaluations & creating evaluable research plans. • User Experience Quality Assurance (UX QA) • Capturing user data: opportunities and challenges. • User data privacy and security considerations. • Creating a final usability study plan	• Medium fidelity prototypes of 3 different concepts of a key workflow • Recruit 4-5 participants for usability study.
8	**10/28**	• Convincing with data • Common challenges to your data and how to address them. • Presenting to key stakeholders • How to handle an executive swoop and poop. • Gathering and acting on feedback from key stakeholders • Interviewing for internships and jobs.	Due by next class: • Usability study and recommendations complete. • Presentation and report of work so far including problem definition, design ideation and usability study results and recommendations.
9	**11/04**	• Presentation of work so far including problem definition, design ideation and usability study results and recommendations.	Due by next class: Integrate feedback from presentation and homework.
10	**11/11**	• Veterans Day, no classes	
11	**11/18**	• Collaboration with UX Researchers • Integrating user data into your designs. • Pattern and component check. • Giving great constructive feedback. • Prioritization pass (MVP and MVE). • Iterating on your prototype.	Due by next class: • High fidelity final prototype 50% complete (including at least 2 key workflows). • MVP and MVE User Story prioritization.
12	**11/25**	• Collaboration with stakeholders: UX Designers and Product Managers. • How to create successful UX CV/Resumes and Portfolio sites.	Due by next class: • High fidelity final prototype 75% complete (including at least 2 key workflows).

			• Final presentation outline complete.
13	**12/02**	• Current state and future of application of ML/AI in products, services, and R&D • ML/AI based product user experience best practices. • How products or technologies might be abused and how to put up guardrails. • Integrate potential unintended product usages and guardrail considerations into your final presentation.	Due by next class: • Final prototype complete. • Final presentation deck complete.
14	**12/09**	Final presentation & Q&A	

Assignment Grading

- Definition of problem to solve, user and customer outcomes, competitive UX analysis, User Types & JTBD, User Stories, wireframing, User and Business metrics: 15%
- Mid-term report and presentation: 25%
- Final prototype: 25%
- Final presentation deck and presentation: 35%

Grading Scale

95-100% A	87-89.9% B+	77-79.9% C+	69.9% or below F
	84-86.9% B	74-76.9% C	
90-94.9% A-	80-83.9%B-	70-73.9% C-	

Incomplete Grades

An incomplete grade may be reported by the instructor when a student has failed to complete a major component of a required course, such as homework, a quiz or final examination, a term paper, or a laboratory project. Students may make up an incomplete grade by satisfying the requirements of the instructor. Be aware that instructors' policies on the granting of incomplete grades may vary and that the final decision on an incomplete grade is up to the instructor. **Instructors may deny requests for an incomplete grade.** If the missing assignment(s) have not been submitted to the instructor within 30 days from the end of the term in which the course was offered, or the agreed upon due date, the grade entered will reflect the student's grade in the course for the work completed and the missing assignments receiving no credit toward the final grade.

Attendance/Late Work Policy

Attendance Policy

In each term, students enrolled in on-ground sections are expected to be on campus and attending class beginning with the first day of classes. Students in online sections are expected to log in and participate in class beginning with the first day of classes.

Students who join a class after the first day of class during the university add period, or who are approved for late registration by the instructor and the Graduate School of Engineering, are responsible for all coursework missed prior to enrolling. In the interest of students' success, the college does not support the arrival of students to class after the university add deadline. **Enrolled students who do not attend class during the first week of a semester risk being dropped from the course.**

In cases where an enrolled student cannot arrive to campus by the first day of class due to circumstances beyond their control, it is the student's responsibility to contact the instructor for approval and notify the Graduate School of Engineering.

Students registered in MGEN courses (INFO, CSYE, and DAMG) are allowed **a maximum of 2 absences per course,** with 3 or more absences resulting in an 'F' for that course. Course instructors are not expected to make accommodations and students are expected to inform their instructors of any absences in advance of the class. Should a student anticipate being unable to attend 3 or more classes, they should discuss their situation with their Academic Advisor to explore other types of leave and accommodations in accordance with the University's academic and global entry expectations. Students may be asked to share communications about class absences with their Academic Advisor. If a student is sick long-term or experiences a medical issue that prevents class attendance, it is strongly encouraged that they speak with their Academic Advisor (coe-gradadvising@northeastern.edu) to learn more about the Medical Leave of Absence. International students should review the Office of Global Services webpage to understand their visa compliance requirements.

Teaching Assistants (TAs) or Instructional Assistants (IAs) will be present at each class to collect student attendance.

Late Work Policy

Students must submit assignments by the deadline in the time zone noted in the syllabus. Students must communicate with the faculty prior to the deadline if they anticipate work will be submitted late. Work submitted late without prior communication with faculty will not be graded.

Course Evaluations
Student feedback on their learning experience is valuable and helps improve future courses. We encourage all students to complete the course evaluation surveys when they become available.

Surveys are distributed at both the midterm mark and the end of the term via email and are completely anonymous and confidential. Any questions about the surveys can be directed to mgen-programs@coe.northeastern.edu

MGEN Student Feedback
Students who would like to provide the MGEN unit with anonymous feedback on this particular course, Teaching Assistants, Instructional Assistants, professors, or to provide general feedback regarding their program, may do so using this survey: https://neu.co1.qualtrics.com/jfe/form/SV_cTIAbH7ZRaaw0Ki

Academic Integrity
A commitment to the principles of academic integrity is essential to the mission of Northeastern University. The promotion of independent and original scholarship ensures that students derive the most from their educational experience and their pursuit of knowledge. Academic dishonesty violates the most fundamental values of an intellectual community and undermines the achievements of the entire University.

As members of the academic community, students must become familiar with their rights and responsibilities. In each course, they are responsible for knowing the requirements and restrictions regarding research and writing, examinations of whatever kind, collaborative work, the use of study aids, the appropriateness of assistance, and other issues. Students are responsible for learning the conventions of documentation and acknowledgment of sources in their fields. Northeastern University expects students to complete all examinations, tests, papers, creative projects, and assignments of any kind according to the highest ethical standards, as set forth either explicitly or implicitly in this Code or by the direction of instructors.

The following is a broad overview, but not an all-encompassing definition, of what constitutes a violation of academic integrity:

Cheating: The University defines cheating as using or attempting to use unauthorized materials, information, or study aids in any academic exercise. When completing any academic assignment, a student shall rely on their own mastery of the subject.

Fabrication: The University defines fabrication as falsification, misrepresentation, or invention of any information, data, or citation in an academic exercise.

Plagiarism: The University defines plagiarism as using as one's own the words, ideas, data, code, or other original academic material of another without providing proper citation or attribution. Plagiarism can apply to any assignment, either final or drafted copies, and it can occur either accidentally or deliberately. Claiming that one has "forgotten" to document ideas or material taken from another source does not exempt one from plagiarizing.

Unauthorized Collaboration: The University defines unauthorized collaboration as instances when students submit individual academic works that are substantially similar to one another. While several students may have the same source material, any analysis, interpretation, or reporting of data required by an assignment must be each individual's independent work unless the instructor has explicitly granted permission for group work.

Participation in Academically Dishonest Activities: The University defines participation in academically dishonest activities as any action taken by a student with the intention of gaining an unfair advantage over other students.

Facilitating Academic Dishonesty: The University defines facilitating academic dishonesty as intentionally or knowingly helping or contributing to the violation of any provision of this policy.

Please visit https://osccr.sites.northeastern.edu/academic-integrity-policy/ to access the full academic integrity policy.

University Health and Counseling Services
As a student enrolled in this course, you are fully responsible for assignments, work, and course materials as outlined in this syllabus and in the classroom. Over the course of the semester if you experience any health issues, please contact UHCS.

For more information, visit https://www.northeastern.edu/uhcs.

Student Accommodations/Disability Access Services (DAS)
Northeastern University and the Disability Access Services (DAS) are committed to providing disability services that enable students who qualify under Section 504 of the Rehabilitation Act and the Americans with Disabilities Act Amendments Act (ADAAA) to participate fully in the activities of the university. To receive accommodations, students must provide appropriate documentation as provided by the DAS office.

If the course is conducted in an on-ground (in-person) format, students are expected to attend class physically as scheduled. Professors are **not required to provide virtual attendance links** unless a student has documented accommodation approved by the **Disability Access Services (DAS) office** and their **Academic Advisor**. If a student requires accommodation for remote participation, they must submit a formal request through the **Disability Office** and coordinate with their **Academic Advisor** prior to the course start date.

For more information, visit https://disabilityaccessservices.sites.northeastern.edu/

Office of Global Services
As an F-1, J-1, or Study Permit student, you must meet certain obligations in order to maintain lawful nonimmigrant status. Maintaining status is necessary in order to retain eligibility for the benefits of F-1 or J-1 status, such as employment authorization and program extension, and can be crucial to a successful application for a change or adjustment of nonimmigrant status in the future. Failure to maintain your nonimmigrant status can result in serious problems with immigration and *could lead to deportation from the U.S. or Canada.*

Students must maintain on-ground presence throughout the academic term. At Northeastern, there are four different defined instructional methods: Traditional, Hybrid, Live Cast, and Online. Traditional, Hybrid, and Live Cast courses meet the Visas' on-ground presence requirements. **Online courses do not meet the Visas' on-ground presence requirements.**

Students enrolled in Summer courses should adhere to OGS guidelines on maintaining status during the Summer term.

For more information please visit, https://international.northeastern.edu/ogs/current-students/understanding-visa-requirements/guidelines-on-maintaining-status/

Library Services
The Northeastern University Library is at the hub of campus intellectual life. Resources include over 900,000 print volumes, 206,500 e-books, and 70,225 electronic journals.

For more information and for education specific resources, visit https://library.northeastern.edu
Network Campus Library Services: Northeastern University Library Global Campus Portals

24/7 Canvas Technical Help
For immediate technical support for Canvas, call 617-373-4357 or email help@northeastern.edu

Canvas Student Resources: https://canvas.northeastern.edu/student-resources/

For assistance with my Northeastern e-mail, and basic technical support:
Visit ITS at https://its.northeastern.edu
Email: help@northeastern.edu
ITS Customer Service Desk: 617-373-4357

Outreach, Engagement, Belonging

Northeastern University is committed to fostering a community of belonging, which is essential to the advancement of Northeastern University's mission of teaching and research. Our university is stronger as a result of the varied backgrounds, experiences, and perspectives that all members of our global community bring to the pursuit of knowledge. Embracing this pluralism is not the work of one office, department, or academic unit. It is a shared responsibility that spans disciplines and boundaries. By harnessing the power of our differences, we will continue to light the path to bold new ideas and life-changing discoveries.

It is my intention that students from all backgrounds and perspectives will be well served by this course, and that the diverse experiences that students bring to this class will be viewed as an asset. I welcome individuals of all ages, backgrounds, beliefs, ethnicities, genders, gender identities, gender expressions, national origins, religious affiliations, sexual orientations, socioeconomic background, family education level, ability – and other visible and nonvisible differences. All members of this class are expected to contribute to a respectful, welcoming and belonging environment for every other member of the class. Your suggestions are encouraged and appreciated.

Please visit Belonging at Northeastern – Northeastern Provost for complete information.

Title IX
Title IX of the Education Amendments of 1972 protects individuals from sex or gender-based discrimination, including discrimination based on gender-identity, in educational programs and activities that receive federal financial assistance. Northeastern's Title IX Policy prohibits Prohibited Offenses, which are defined as sexual harassment, sexual assault, relationship or domestic violence, and stalking. The Title IX Policy applies to the entire community, including male, female, transgender students, faculty and staff. In case of an emergency, please call 911.

The Office for University Equity and Compliance (OUEC) leads Northeastern University's efforts in maintaining compliance with all federal, state, and provincial civil rights laws and prohibits discrimination within any of its programs, activities, and services. Please visit https://ouec.northeastern.edu/ for more information and for the link to file a report.