Usability & User Experience (TCC 6120) [CRN: 70015]

Northeastern University — College of Professional Studies (CPS)
Fall Quarter 2017 (Full Term)

Instructor: Christopher S. LaRoche
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Class Dates: 9/18/17 – 12/16/17
Cell/Mobile Phone: 413.340.1796
Web Site: https://nuonline.neu.edu/

Course Prerequisites
There are no prerequisites; however, an interest in technology, computers, and human behavior is helpful.

Required Textbooks
  Note: Please note you need the book *The Design of Everyday Things* at the start of class as we read it the first week!

Note: Many of the readings in this course include relevant academic articles – particularly recent research in the field. These readings are located within Blackboard > Course Material > Week [X] > Readings.

Please note that some articles are direct links to the article within a database accessible through Northeastern University's Library system, some are PDF and some are HTML. Your myNEU login information will be required for accessing the library information. You can obtain information at http://library.northeastern.edu/. Additional information is available at http://library.northeastern.edu/gateways/graduate-students.

Course Description
Introduces and examines theories and practical application of research, evaluation, and design of information products, systems, user interfaces, and the wider user experience. Incorporating the User-Centered Design (UCD) process as the primary methodology is central to this course’s pedagogy. The course reviews numerous usability methods in depth, including usability testing, heuristic and expert evaluation, prototyping, user research (including surveys, user interviews, and the role of ethnography in this field), and the emerging methods in the field. Students spend significant amounts of time working outside of class. The course ends with a look into the possible futures of usability and user experience.

Course Outcomes and Methodology
Upon the completion of this course, you will have an understanding of the basics of usability and user experience and how they relate to product development and particularly technical communication. Additionally, this course will give you an overview on the basics tenants of Human Factors.

This course combines discussion, posted lectures, homework, several projects, and a capstone of a final project. There are no “tests or quizzes” per se, rather the final project will be a culmination your work through the term.

Each week you will be expected to do the following:

1. Review the week’s learning objectives
2. Complete all assigned readings
3. Complete lecture materials for the week
4. Participate in the Discussion Board
5. Complete and submit all assignments by their due dates

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Participation/Discussion Board

Participation is a portion of your overall grade and lively questions and discussion are expected throughout each week of the course. **Note that I post two questions per week in the Discussion Board.**

Each week I expect, at a minimum, each student to do the following:

- Post one primary response to each question that I post in the Discussion Board. The response must be a thoughtful and thorough response to my primary question. I also require each student to reply to another student as a follow up to (each) primary question posted.
- Each week I require a total of four responses/postings by each student in the Discussion Board: two responses to the two primary questions and two responses to another student’s postings.
- Reply to each question within 48 hours (preferably 24 hours). You will only be able to post responses for the week in the Discussion board for the current week.
- I expect email replies to each other to be respectful, thoughtful, and polite. Email does not come across with the tone you get from traditional classroom discussion. **Think carefully before you respond.**
- Refer to the Discussion Board Rubric Overview document (within the Discussion Board sections) for a complete understanding of the requirements and expectations of class participation for this course.
- Since class participation is 25% of your final grade, get involved in discussions early and often. For this class, you can obtain 2 points per week (each question and responses are worth 1 point) in the discussion board as part of your class participation grade -- so use this option to maximize your grade and discuss the question with other students. The only exception to this is week 12, when you are only graded on question 1 – as question 2 is optional.

Please note I will be reviewing posts daily but short of a direct question or someone acting inappropriate in the Discussion Board, I do not generally impede the flow of student conversation. I prefer to let students discuss the specific topic without professorial interruption. At the end of each question period, I will write and post a ‘wrap up’ reflection post and then answer any outstanding questions.

Office Hours

There will be times throughout the term where I will be available for “Office Hours” in the Blackboard IM Chat to discuss course and/or assignment-related issues. This time can be used to talk about assignments, readings, or anything else regarding the class or topic. This time will be formalized in class, but I am generally available Tuesday evenings (Boston time).

Submission of Work

Submit homework assignments through Blackboard instead of sending them to me via email. Once your assignment is graded, you will be able to view the grade through Blackboard. Generally, I will send you a separate email with homework comments for each assignment.

Homework is due the Monday morning 8 am [Boston time] after the week completes, except the following:

- Homework 2 is due Tuesday October 10, 2017 at 8 am [Boston time]
- The final project is due Friday December 15, 2017 at 6 pm [Boston time]

When I mention page requirements or limits, page expectation includes a double-spaced page of no more than a 12-size font – with an expectation of an 11-point font such as Tahoma. Papers should have standard one-inch margins on each side. Please include a cover page with your name, date, class number, and homework assignment number – and this page is not included in the page count.

For easier homework identification, always submit your homework with your last name underscored with the homework number: for example: *smith_hw1.pdf.*

Submit all homework in PDF format unless stated otherwise; otherwise I will not accept the homework.
Grading
The following is the grading scheme for this class:

25% -- Class Participation (Discussion Board)

10% -- Homework Assignment 1
(Due at start of week 3 – 10/2/17 at 8 am [Boston time])

10% -- Homework Assignment 2
(Due at start of week 4 – [Tuesday] 10/10/17 at 8 am [Boston time])

5% -- Homework Assignment 3
(Due at start of week 5 – 10/16/17 at 8 am [Boston time])

5% -- Homework Assignment 4
(Due at start of week 6 – 10/23/17 at 8 am [Boston time])

10% -- Homework Assignment 5
(Due at start of week 8 – 11/6/17 at 8 am [Boston time])

10% -- Homework Assignment 6
(Due at start of week 10 – 11/27/17 at 8 am [Boston time])

25% -- Final Project
(Due at the end of week 12 – [Friday] 12/15/17 at 6 pm [Boston time])

Each week builds upon the previous week and failure to participate in discussion and complete homework assignments is strongly discouraged. Anyone neglecting to participate in discussions and complete homework on time will receive an unsatisfactory Class Participation grade, hindering your ability to pass the class.

Please note that we have struck a balance within this homework between giving you details on what we expect and sometimes leaving open requirements to be ambiguous/open to interpretation in certain instances. This is done since I want to encourage you to foster cognitive thinking skills and attempting to emulate a work-related environment where you will rarely ever receive all the information needed before proceeding with project work. I always encourage questions but remember sometimes we are setting up assignments to encourage everyone to think and interpret what they have learned and apply that to the specific assignment.

Homework is due at 8 am Monday morning (Boston time) unless otherwise noted. Late homework will not be accepted!

Final course grading ranges are listed below.

<table>
<thead>
<tr>
<th>Alphabetical Equivalent</th>
<th>Numerical Equivalent</th>
<th>Final Grade Equivalent</th>
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<tbody>
<tr>
<td>A</td>
<td>95-100</td>
<td>4.000</td>
</tr>
<tr>
<td>A-</td>
<td>90-94</td>
<td>3.667</td>
</tr>
<tr>
<td>B+</td>
<td>87-89</td>
<td>3.333</td>
</tr>
<tr>
<td>B</td>
<td>83-86</td>
<td>3.000</td>
</tr>
<tr>
<td>B-</td>
<td>80-82</td>
<td>2.667</td>
</tr>
<tr>
<td>C+</td>
<td>77-79</td>
<td>2.333</td>
</tr>
<tr>
<td>C</td>
<td>73-76</td>
<td>2.000</td>
</tr>
<tr>
<td>C-</td>
<td>70-72</td>
<td>1.667</td>
</tr>
<tr>
<td>F</td>
<td>Below 70</td>
<td>0</td>
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</tbody>
</table>
Assignments

Homework Assignment 1 — Usability Product Review
From what you have learned in the Norman book, various class lectures, and other handouts, you will write up a 3-4-page usability product review. Focus on the usability of the product, discussing both the strong and weak usability aspects of the product. Please use examples and citations from the Norman book within this assignment, particularly focusing upon Norman’s design principles discussed in the book. Do not use or apply heuristic evaluations or other methods beyond Norman here—we will do those other assignments. Examples of product to review include a DVD/VCR, a cell phone, an ATM/Debit machine, or a home appliance.

Homework Assignment 2 — Usability Evaluation Method Discussion
Building upon the week 2 discussion of usability evaluation methods, write a short reaction paper (3-page maximum) on heuristic evaluation—is it a good and reliable evaluation methods to use when reviewing a user interface? Why or why not? Discuss the context of when it is most and least appropriate. Please feel free to reference and cite the articles used in this week’s reading for evidence or examples. Please note that there is no right or wrong answer here: I am interested in your viewpoint and reasoning about this evaluation method.

Homework Assignment 3 — Create a Small Survey
This homework entails creating a survey consisting of a set of clear and solid questions and then posting the survey online using an online survey tool. Your survey can be about a specific product or topic, related to your work, or it can focus on your final class project (a survey is a good way to collect preliminary data before running a usability test).

- Part one entails creating a solid list of questions. You must create at least eight but no more than ten questions. Are the questions clear, devoid of leading or bias wording, and follow a clear pattern related to the subject of the survey? Grading will primarily be based on how the questions are worded.
- Part two entails the mechanics of the survey. For example, how well is the survey set up, and does the question sequence make sense to the user? Note that you should review and take the survey before submitting. Use a free tool (such as Survey Monkey http://www.surveymonkey.com) to post the survey. You can use any survey tool you choose however, if I can access the survey via the Internet.

Please submit this homework as a PDF that includes the questions and a URL for the survey (within the PDF).

Homework Assignment 4 – Create a Rich Picture
To familiarize yourself with the wide diversity of prototypes available, this homework assignment will be to create your own ‘rich picture’ of a project. This can be for your final project or a project, a work-related project, or for a project you want to outline for fun. The main goal here is to provide a visual display of all the interested (and sometimes conflicting) parties involved in a project. The goal of this method is using the Rich Picture to obtain a quick, high-level overview of the primary issues and actors involved, including conflicts.

Homework Assignment 5 — Paper Prototypes
Choose a boarding pass of an airline of your choice, particularly one you believe needs revamping. Create four (4) different paper prototypes for a potential new boarding pass. While thinking about the prototypes, keep in mind the boss who asked for this deliverable also forwarded everyone on your team this Web site article, as she was impressed with this article about boarding passes: http://petesmart.co.uk/rethink-the-airline-boarding-pass/. Feel free to use (or not!) the information in this Web article while creating prototypes.

Do this exercise, use only pencil and paper, scan the prototypes, and then submit as a PDF. I only want the minimal requirements detailed in this prototype— not excessive detail or a fully designed potential interface.

After the homework is submitted, you will then post the homework in the Discussion Board. The class will then perform group critiques of the prototypes.
Homework Assignment 6 — Medium-Fidelity Prototype Creation

Continuing upon the last homework assignment and including any feedback you have received, take the feedback and create three (3) updated prototypes. You will create these prototypes using the prototyping tool Balsamiq (http://www.balsamiq.com/). One prototype must be a prototype of a mobile option. You will use parts of your earlier prototypes completed and create a new prototype based on feedback from other students and myself.

This is primarily an exercise in learning about the tool and using existing content to create a mock up that you would present to a project team trying to choose between various options.

Final Project — Presentation: Usability Test Results, Issues Uncovered, & Recommendations

Your final project will be a compilation of all the learning completed over the course. You will plan, create, and run a usability test of 3 users based on a product or service of your choice and approved by me. You may use the template in Week 10 Course material (Lecture section) as the basis for planning your usability test. Once you complete the usability test, the final project will require a presentation that reports out the results.

The final project must include the following components and be submitted on the Final Project due date:

- **Final Presentation** — usability evaluation report you could present to the client. You can also use this in your video.
- **Appendix (Raw data, any notes, etc.)** — This should be included within the final report as an appendix (if possible) and consent forms, any notes from the test, any audio/video recordings of your test session, and any relevant information, etc. If needed, you can send this to me separately (via Dropbox or email) if needed.

The final Presentation should include the following:

- Executive Summary
- Goals of the test (and include problem statements if applicable)
- Business or organizational rationale of why these updates are needed
- List of the issues uncovered in testing
- Severity and ranking of the issues uncovered in testing
- Recommendations for improvement
- Conclusion & next steps

I have several other requirements for your final project:

- Send me an email by on the start of week 9 regarding your proposed Web site, software product, or service you plan to use for your final project for my approval.
- By the start of week 11, please post in the Discussion Board (Final Project section) the answers to the questions asked there about your final project.
- Create a video of 3-5 minutes in length and include a link in the final report to this video (posting on You Tube or Vimeo is the easiest, but you can post it anywhere you choose). **Do not upload your video to Blackboard as part of your final project** (too big). I expect this short video to be a quick, concise overview of what you tested, issues uncovered, severity issues, and recommendations for improvement – all based on the results of the usability test. Think of this portion of the assignment as when you are given a few minutes with the company CEO and should tell him/her the issues you encountered while testing the Web site, so it needs to be both high level and concise.

Please note these requirements will not be graded individually but will be considered as part of your overall final project grade.

Please remember another primary goal of this project is that it is a culmination of all your work and information that you learned this term; so, I expect this assignment be worthy of a work sample portfolio piece.

Note: Please compress all final project files and submit through Blackboard as ONE compressed/zip file if possible.
## Weekly Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Topic</th>
<th>Assignments</th>
</tr>
</thead>
</table>
| 1    | 9/18 – 9/24 | Overview of Class, Introductions, and Usability, User Experience, and User-Centered Design (UCD) Overview | **READING**  
Norman: Chapters 1-7 (whole book)  
Wilson: Chapter 1  
Read posted articles within Week 1 Course Materials. |
| 2    | 9/25 – 10/1 | Heuristic Evaluations/Reviews                                         | **READING**  
Wilson: Chapter 12  
Read posted articles within Week 2 Course Materials. |
| 3    | 10/2 – 10/8 | Other Evaluation Methods Design Reviews, Expert Reviews, and Cognitive Walkthroughs | **READING**  
Read posted articles within Week 3 Course Materials.  
**HOMEWORK**  
Homework 1 due 10/2/17 @ 8 am [Boston time] |
| 4    | 10/10 – 10/15 | User Research  
Introduction, surveys, user interviews, focus groups, and competitive analysis | **READING**  
Wilson: Chapter 2  
Read posted articles within Week 4 Course Materials.  
**HOMEWORK**  
Homework 2 due 10/10/17 @ 8 am [Boston time] |
| 5    | 10/16 – 10/22 | User Research  
Card sorting, ethnography, other methods, & service design introduction | **READING**  
Wilson: Chapter 3  
Read posted articles within Week 5 Course Materials.  
**HOMEWORK**  
Homework 3 due 10/16/17 @ 8 am [Boston time] |
| 6    | 10/23 – 10/29 | Transforming User Research data into prototypes & prototyping introduction (Sketching, Paper Prototyping, etc.) | **READING**  
Wilson: Chapter(s) 4 & 5  
Read posted articles within Week 6 Course Materials.  
**HOMEWORK**  
Homework 4 due 10/23/17 @ 8 am [Boston time] |
| 7    | 10/30 – 11/5 | Prototyping  
User Profiles and Personas | **READING**  
Wilson: Chapter 6 |
<table>
<thead>
<tr>
<th>Week</th>
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<tbody>
<tr>
<td>8</td>
<td>11/6 – 11/12</td>
<td>Prototyping Advanced and non-traditional prototyping methods.</td>
<td><strong>READING</strong> Wilson: Chapter 7</td>
<td>Read posted articles within Week 8 Course Materials.</td>
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<td><strong>HOMEWORK</strong> Homework 5 due 11/6/17 @ 8 am [Boston time]</td>
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<tr>
<td>9</td>
<td>11/13 – 11/19</td>
<td>Design introduction, including design workshop and creating a design framework</td>
<td><strong>READING</strong> Wilson: Chapter 8</td>
<td>Read posted articles within Week 9 Course Materials.</td>
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<td><strong>HOMEWORK</strong> Send me an email stating the Web site or product you plan to usability test for the final project.</td>
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<tr>
<td></td>
<td>11/20 – 11/26</td>
<td>Thanksgiving Week Break</td>
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<tr>
<td>10</td>
<td>11/27 – 12/3</td>
<td>Usability Testing – Introduction (includes the think aloud method), and planning a usability test</td>
<td><strong>READING</strong> Wilson: Chapter 9 &amp; 10</td>
<td><strong>HOMEWORK</strong> Homework 6 due 11/27/17 @ 8 am [Boston time]</td>
</tr>
<tr>
<td>11</td>
<td>12/4 – 12/10</td>
<td>Usability Testing – performing the test, then analyzing, interpreting, and disseminating results</td>
<td><strong>READING</strong> Wilson: Chapter 11</td>
<td>Read posted articles within Week 11 Course Materials.</td>
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<td></td>
<td><strong>HOMEWORK</strong> Post responses in Discussion Board (Final Project section) regarding answers about the final project.</td>
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<tr>
<td>12</td>
<td>12/11 – 12/15</td>
<td>Future of Usability &amp; User Experience – Next Generation (including job opportunities)</td>
<td><strong>READING</strong> Read posted articles within Week 12 Course Materials.</td>
<td><strong>FINAL PROJECT</strong> Final Project due Friday 12/15/17 @ 6 pm [Boston time]</td>
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</tbody>
</table>

**Academic Honesty and Integrity**

The University views academic dishonesty as one of the most serious offenses that a student can commit while in college and imposes appropriate punitive sanctions on violators. Here are some examples of academic dishonesty. While this is not an all-inclusive list, we hope this will help you to understand some of the things instructors look for. The following is
excerpted from the University's policy on academic integrity; the complete policy is available on the Office of Student Conduct and Conflict Resolution web page.

**Cheating** – intentionally using or attempting to use unauthorized materials, information or study aids in an academic exercise

**Fabrication** – intentional and unauthorized falsification, misrepresentation, or invention of any data, or citation in an academic exercise

**Plagiarism** – intentionally representing the words, ideas, or data of another as one’s own in any academic exercise without providing proper citation

**Unauthorized collaboration** – instances when students submit individual academic works that are substantially similar to one another; while several students may have the same source material, the analysis, interpretation, and reporting of the data must be each individual’s independent work.

**Participation in academically dishonest activities** – any action taken by a student with the intent of gaining an unfair advantage

**Facilitating academic dishonesty** – intentionally or knowingly helping or attempting to violate any provision of this policy

For more information on Academic Integrity, including examples, please refer to the Office of Student Conduct and Conflict Resolution web page.

Finally, if in doubt, cite it, cite it, cite it!

**Student Accommodations**
The College of Professional Studies is committed to providing equitable access to learning opportunities to students with documented disabilities (e.g. mental health, attentional, learning, chronic health, sensory, or physical). To ensure access to this class, and program, please contact The Disability Resource Center (http://www.northeastern.edu/drc/) to engage in a confidential conversation about the process for requesting reasonable accommodations in the classroom and clinical or lab settings. Accommodations are not provided retroactively so students are encouraged to register with the Disability Resource Center (DRC) as soon as they begin their program. The College of Professional Studies encourages students to access all resources available through the DRC for consistent support.

**End of Course Evaluation Surveys**
Your feedback regarding your educational experience in this class is very important to the College of Professional Studies. Your comments will make a difference in the future planning and presentation of our curriculum.

At the end of this class, please take the time to complete the evaluation survey at the NEU EvaluationKit website. Your survey responses are completely confidential. Surveys will be open for the last two weeks of the class. An email will be sent to your HuskyMail account notifying you when surveys are available.

**College of Professional Studies (CPS) Policies and Procedures**
For comprehensive information, please see the Registrar University Catalogs page as well as the Student Resources page of the Northeastern University College of Professional Studies website.

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