RYERSON UNIVERSITY | Supercourse CRI825/FCD825

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ABOUT THE COURSE

This course is an exciting and unique opportunity to build a Hyper-innovative and Disruptive digital and data-driven project with a full interdisciplinary team. Students from multiple disciplines (New Media, Computer Science, Media Production, Fashion and several graduate programs) will form teams to develop functional and disruptive digital prototypes. Projects will be grounded in cutting-edge Mixed Reality work including Wearable Technology, Data-Driven Services, Internet of Things and Sensors, Location- and Context-Aware Computing Environments, SociallyConnected Applications, and novel computer-interaction paradigms that augment peoples' daily life. Supercourse teams will work closely with professors, mentors and advisors to learn new development and production-skills in digital creativity, collaborative work, programming, demo videos, documentation and presentation-skills. By the end of this course, students will:

- Have a fully functional prototype that its innovation impact is comparable with some of the best and recognized digital applications in the world
- Gain the ability to Analyze, Explain and Experiment with developing technologies and social practices in the field of mobile, mixed-reality and Big Data.
- Design, Create, and Revise an original mobile/mixed-reality prototype in a collaborative group context, following best practices in productive, professional, equitable, and inclusive group dynamics
- Critically Appraise and Constructively Criticize peer work using social, technical, artistic, and design criteria in small groups

The course is designed to allow students to practice and showcase their utmost innovation capabilities through peer-to-peer and experiential learning in an agile, high-pressure and responsive environment. The goal of this course is to give opportunity to students to create a novel product during their studies and use it as a tangible and measurable outcome upon graduation. It is also intended that students emphasize on learning from their peers especially in complementary disciplines.

Who should take this course:

If you have entrepreneurial ambitions and like to take initiatives and prove your ideas, interested in learning product design lifecycles, if you are interested in the convergence of media, arts and technology, this course will give you a very strong foundation.

Who should not take this course:

If you like to follow a classical, very well structured course syllabus and are not comfortable with dynamic and ad-hoc requirements, this course is not for you. This year the course is not

following the calendar description, so if you have taken this course based on your interest in its calendar description, we strongly suggest you talk to the professors and make sure that the course is useful for you.

ASSESSMENT

Phase One: Ideation [13%]
        Lit Review/Topic Discussion (Individual) 7%
        Problem/Pain Point Summary (Group) 3%
        Ideation (Group) 3%
        Grad Students Only: Design Fiction (see below)

Phase Two: Prototyping [30%]
        Paper Prototype (Group) 15%
        Functional Prototype (Group) 15%

Phase Three: Production [30%]
        Final Project + Validation Report (Group) 15%
        Revised Final Project (Group) 15%

Phase Four: Documentation and Evaluation [27%]
        Video + Poster Documentation (Group) 15%
        Discussions, Online postings, Self & Peer Evaluations,
        and Professionalism (Individual) 12%

Grad Students only have an additional assignment: Design Fiction. The grade-breakdown for Grad Students Only is: Lit Review 5%, Problem Summary 1.5%, Ideation 1.5%, Design Fiction 10%, Paper Prototype 14%, Functional Prototype 14%, Final Project 14%, Revised Final Project 14%, Video 14%, Discussions 12%

Note that students will receive **individual assessments** for this course, based on peer-reporting and professor-evaluation of responsibilities for group deliverables (as well as the group-project work). Students may not necessarily receive the same grade for group deliverables.

Final Projects will be evaluated in terms of the quality and novelty of the **Concept**, quality of the **Content**, **Professionalism** of the group dynamics during production, and overall **Polish**/production-values.

Participation

A participation mark will be assessed by your professors. It will be based on participation in group discussions, but will also be based on **attendance**, contribution to peer critiques, effort, ability to follow instructions and meet deadlines, and attitude towards the course material, fellow students, and instructors. **You are expected to attend all classes and be there on time.** Missing classes will result in a lower participation mark. Similarly, being late for class will also diminish your participation mark significantly. Students should discuss their absences or lateness with their professor.

GROUP DYNAMICS

This class is centered on collaborative innovation and team-development, with a dynamic known as *gracious professionalism*. Our goal is to allow you to develop a well-rounded project using the skills of various members and disciplines. Learning how to work professionally in a group is a major part of this class: *building a functioning project is not and will not be enough*. We require that team-members be civil, professional, listen to one another, and put effort into learning how to cooperate and respect one another.   This is **hard**; it requires **work**.   Teams should have their own conversations about respect, sharing the workload, listening to one another, civility in offline/online communications, attending meetings, responding to emails in a timely fashion, and any other aspects of group work. Teams should strive to resolve problems within the team, but please reach out to the instructors for advice if needed. Abusive behavior will not be tolerated. Be good professionals, help one another (and other teams) whenever you can…this is the spirit of *gracious professionalism.*

Plagiarism & Copyright
Plagiarism is defined by the University as "misrepresenting the work of others as one's own" (Student Code of Academic and Non Academic Conduct, page 1, Ryerson University, 1999). Usually one associates plagiarism with written works but it can include any work such as photographs, Internet materials, video and audio. Please note that the University penalties for plagiarism can be severe, ranging from getting zero on the assignment up to, in cases of prior academic dishonesty, suspension or expulsion.

Designers often use the work of others as inspiration. This is okay! But **it's not okay to take the work of others and use it directly in your own work**. This is considered plagiarism, because if you include someone else's work as part of your own work without getting permission, giving credit, AND possibly paying a royalty fee to the original artist, you are passing it off as something you did yourself.

It is a copyright infringement to do this unless the owner of the original work gives specific permission to do so. The same goes for any other content found online: writing, music, sounds, maps, logos, etc. In most cases, if you would like to use someone else's work, you must seek permission from the person who owns the copyright on the work (usually the creator of the work). Check out Creative Commons-licensed music, imagery, etc, in order to find content that you **are** allowed to use (and make sure to give credit and cite where you got the material from in when you hand in your projects). The instructor will need to know exactly what you created, remixed, or otherwise altered, and when you are simply incorporating the work of others. If in doubt, **ask your instructor**.

Semester at a Glance:

Wk	DATE	TOPIC	READINGS	ASSIGNMENTS and MILESTONES DUE
1	Jan 15	Intro to Course; Overview of Mixed Realities. Initial group formation. Intro to researching problem areas		Initial Team Discussion
2	Jan 22	• Design Thinking and Lean Startup Methodologies. • Internet of Things and future of the Internet. • Group Formation		**Teams Formed** **Lit Review/Topic Discussion Due**
3	Jan 29	• Health Care and Digital Technology. • Wearable and Ubiquitous Computing • Ideation, Brainstorming, and Rapid Prototyping.	Marceau, Stéphane. "Brave New Wearable World" Venture Beat April 16, 2014 http://venturebeat.com/2014/04/16/brave-new-wearable-world-crowdsourcing-health-and-the-coming-battle-of-bio-signals/	Post 1 question and 1 response (to another student question) in your assigned sub-group **by Wed Jan 29** **Problem Identification Due**

4	Feb 5	Lifelogging and the Quantified Self How to turn your product into a startup? Is it a right thing to do.	Wolf, Gary. "The Data Driven Life" New York Times. Aril 28, 2010 http://www.nytimes.com/2010/05/02/magazine/02self-measurement-t.html	Post 1 question and 1 response (to another student question) in your assigned sub-group **before Wed Feb 5;** **Brainstorming/Ideation Due** **Grad Students Only:** Design Fiction Due
5	Feb 12	In-class Team Pitches/Feedback		**Paper Prototype Due**
		STUDY WEEK		
6	Feb 26	Augmented Reality Online to Offline (O2O) ecosystems and the role of Context Sensing	Craig, A. "Understanding Augmented Reality" Morgan Kaufman. Waltham, MA 2013 pp 15-32	Post 1 question and 1 response (to another student question) in your assigned sub-group **before Wed Feb 26**

7	Mar 4	Privacy vs. Security Limits, Ethics and Overlaps. Case Study 1	Rosen, Christine. "The Machine and the Ghost". New Republic July 12, 2012 http://www.newrepublic.com/article /books-and-arts/magazine/104874/rosen-verbeek-technology-morality-intelligence	Post 1 question and 1 response (to another student question) in your assigned sub-group **before Wed March 4** **Functional Prototype Due**
8	Mar 11	Sensors, Active Environments and Digital Instrumentation. Case Study 2		
9	Mar 18	Big Data vs. Dark Data; Opportunities and Risks Case Study 3. Breakdown of a Video Demo		
10	Mar 25	**Project Presentation 1**		**Project Due (Revision 1)**
11	April 1	Project Validation, Revisions, Iterations		**Validation Cycle**
12	April 8	Prep for Demo Day		**Final Prototypes due; Video documentation due Poster documentation due**

ASSIGNMENTS

Deadlines

Late assignments will receive a 2% deduction per day late, except in extenuating circumstances such as medical or family emergencies. Extensions without penalty are granted at the sole discretion of your professor, and will require negotiation **before** the original deadline, and/or a medical note or other appropriate documentation.

Backup your Work: In the event that a computer eats your homework, ensure you have it backed up somewhere. Trust us on this one. It *will* happen; computers crash all the time, and you can't use it as an excuse for an extension. Plan for the failure of the system and make redundant and incremental backups often. Buy a USB drive and make multiple redundant copies.

A note about copyright & plagiarism: You must use entirely original imagery, content and sound for your projects, or that you have the rights to! This means all of your assignments must contain images that you have created yourself – or, if you are using Creative Commons or other content legally, you must fully disclose the source (so I know what you have created yourself). If you include copyrighted images in your own projects, it would imply that you are passing off those images as your own work. That is considered plagiarism, which is a serious academic offence. Please include a list of any sources/rights-free material in your Project Statement.

Lit Review/Topic Discussion (Indiv)   Due: Jan 22

You will research your chosen topic, finding a preliminary literature review, inspirational projects related to your identified area, and discuss possible issues/problems or targets in advance of your brainstorming. "Literature Review" means you will provide a list (at least six items) of a few relevant projects, articles, or papers about your chosen field, with a sentence or two as a summary for each. You will then write 1 to 2 pages about your chosen field. You should demonstrate that you've started researching the topic, and know something about what the key opportunities, problems, or previous projects are.

Deliverables:
        Single Document (Word or PDF):
                Name of chosen field
                Annotated list of at least six projects/papers, with summaries
                1-2 pages discussion about issues and opportunities

Problem/Pain-point Summary (Group)   Due: Jan 29

Solve a Problem. Based on the collective results of your group-member Lit Reviews, your group will agree on a single "pain-point" – a problem you want to address in your chosen topic-area. This is **not** a proposal or a product-idea…at least not yet. Instead, you want to clearly identify the issue you want to address through the rest of your work in your class. This pain-point discussion will make it clear who the users are for what you will make. For example, it could be "Seniors struggling with complex medicine-regimes, living on their own", or "Pre-teens with Type 1 Diabetes". You will define your audience, identify the problem your audience faces, and explain some details about why it is a problem.

This document shouldn't be more than a few paragraphs. It is an agreement within your team what problem your group is going to tackle moving forward. You can of course modify, change, pivot, and retarget as you continue to work, but we want you to all agree to the starting point before proceeding. One representative for your group should email the document to both professors.

Deliverables:
        Single Document (Word or PDF) containing:
                Number of Group and Group Members
                Title for Problem/Pain-Point area

2-4 Paragraph Discussion

Ideation/Brainstorming (Group)   Due Feb 5

Think Big. At least 10 possible ideas arising from your Problem/Pain-point summary. Your team should have one or more formal brainstorming sessions. You can do additional research on your chosen audience, our reach out to in-person interview or study your audience-members, or experts in the topic, is part of this process. For each idea you should have a one-paragraph description of what might be possible to make. Don't worry about **how**, at this stage, you could create your idea. Instead, focus on developing interesting, disruptive, compelling, or creative ideas that might address one or more aspects of your problem. Ideas don't need to solve everything in your problem-statement – they may just be spurred by a single idea or issue. Following this process, you should begin to converge on a single idea. It can contain elements of several of your ideation-level ideas, or just be an extention of one of them. You will hand in the multi-idea list as documentation of your process, and a few paragraphs about your chosen concept. Keep in mind we are absolutely ok with your idea changing, developing, or being revised as you continue to build – in fact, it absolutely should. However, it's important to agree on a solid starting point and some common reference-ideas to keep your team focused. One representative from your group should email this document to both professors.

Deliverables:
    Document (PDF or Word) containing:
        Group number and Group Members
        At least 10 ideas, 1-2 paragraph description for each idea. Give each idea a name, so you can use it as shorthand when referring to them in the future.
        Single chosen or amalgamated concept, with 2-4 paragraph discussion

Grad Students Only: Design Fiction   Due: Feb 5

This assignment allows you to prototype a concept, commentary, or reaction to an idea through media. You will design and create some artifact exploring or inspired by a concept from your brainstorming. Your artifact should exist at some point 5 to 10 years from today. Create some evidence of that artifact – a rich-media news-article, a short video, or some other way of showing what your artifact is, and how it integrates with the society of its' day. Your job is to think of an opportunity, need, or outcome inspired by our chosen topic; imagine some artifact, service, or practice that arises form that concept; and develop a creative way of showing us your idea. You are free to use this project to make a criticism of a technology or social practice (eg: what is life like when everyone is wearing a camera? What is a product made possible in a world where you never forget anything?) Or, – or, you may choose to use the Design Fiction to explore an interface concept or a possible product. Your Design Fiction should be or should include a graphical representation (in other words, it can't be a short-story or a text-only newspaper article) – think about making your concept evocative, such that it can spur our questions and ideas through rich media.

Essentially, this assignments allow you to prototype an idea using media (Photoshop, After Effects) rather than code/electronics, and imagine how it integrates with real life. Your production-values should be high: you want to convey your concept as if it really existed in our future, and the better/more realistic your Design Fiction, the more evocative and high-impact your project will be.

You must also write a critical two-to-three-page discussion of what your inspiration was, how you think our current social practice or technology would evolve into what you depict, and the ramifications.

You will post your Design Fictions to the class Tumblr, and email a link, your critical write-up, and the media (ie: a PDF, a JPG, link to video etc). Don't forget to include your name and student-ID.

Examples:
Wired's Artifacts from the Future http://www.wired.com/magazine/found/

http://news.noahraford.com/?p=1349

http://postscapes.com/best-design-fiction-2011

Deliverables:
Design Fiction media (could be video, image, website)
One page critical writeup
Post Design Fiction to Tumblr

Paper Prototype (Group)   Due: Feb 12

Your team will create a fast and easy demonstration of one or more of the key elements of your idea. It doesn't literally have to be using paper – it can use simple tech, prototyping software, or pen-and-paper; the idea is to develop something cheaply, quickly, and easily, that will let you test out your concept. You want to be able to see if your idea is compelling, useful, and meets your goals. It should be something you can demonstrate to others (including representatives from your target audience) to get feedback, alter your idea, pivot to a new concept, refine your designs, or support your decisions.

Deliverables:
Documentation of your prototype, demonstrations with users, and/or the prototype itself. A video, or photos-with-a-writeup, and/or a live demo of the paper-prototype for your instructors is required. Your documentation should discuss what you are testing, and what your results are.

Functional Prototype (Group)   Due: Mar 4

This form of prototype focuses on implementing, with code and design, the key elements of your approach. It doesn't need fancy graphics – the focus for this is a proof-of-concept that your technological approach will in fact work.

Deliverables:
Running demo of your functional prototype, and/or video or photos-and-writeup documentation. Documentation and demo should include an analysis of what you've learned, and what your roadmap for future development is (ie: key difficult elements still to come, schedule of how to proceed, etc).

Project (Revision 1) + Validation Report (Group)   Due: Mar 25/April 1

You will notice that this project is not aimed at a single final day in which you present a complete project. We want you to learn the better way of building: iteratively. You will have a fully functional project that is capable of being demonstrated, and that does everything you intend it to do in order to solve your problem-statement (or a revised statement based on pivots during the project). You will be graded on this deliverable. You will then take the project, Revision 1, and test it with real representatives of your target audience. You will film reactions, taken notes, and engage in real discussion with these users. You will create a report based on these trials, as well as instructor feedback, and have time to produce a Revised version of your project. You will be graded on both versions, as well as on how well you have incorporated feedback, ideas, tweaks, and suggestions.

Deliverable:
Functioning and complete project. This is a complete project – there can be no "we will add this later" features. Your project will be demo'd for your instructors and selected classmates. Due March 24th.
Documentation of User testing and validation of approach to solving your problem statement: this can be video, photos-and-writeup, etc. Due March 31st

Project (Revision 2) + Demo Day (Group)   Due: TBD

The demo cannot be a PowerPoint. Your revised projects will be demonstrated at a public Demo Day event during the evening (date TBD). We will invite industry and university-community-members to the event. Your team should have a polished functional demo, and be prepared to give your "elevator pitch", including live demo and/or reference to your Poster. You will have a single table for your demo, a poster-stand, and we will provide electrical power to your table. You should bring anything else you need (hardware, external display for your video)

Deliverable:
Functioning revised project Demo

Participation as a booth at the Demo-da

Video Documentation (Group)   Due: day before demo

The video (1 to 2 minutes in length) should serve as a complete, stand-alone demo of your project. It should have high production-values, including whatever elements you think important. Some students use dramatization, on-screen graphics, on-screen presenters, music, text, or any other elements you think useful to make a compelling demo. Your documentation must include initial screen giving the course name, your instructors names, a Ryerson credit, your team/project name, and your team members. You will deliver a web-link to a Vimeo upload of your video to your instructors in advance of the final Demo Day.

Deliverable
Vimeo link to one-to-two minute project demo, with team/course screen at the top\

Poster (Group)   Due: Demo Day

You will create a poster (36"X48") completely summarizing your project. The poster must include your Project name, your team number, your team member names, and a well-designed description of your project. Avoid too much text, but make sure you clearly outline what problem you are addressing, your target users, and what your solution does. Your poster should be ready and displayed during the final Demo day. You will hand in a PDF of your poster to your instructors as well.

Self/Peer Eval + Readings (Indiv).   Due: Day after Demo Day

Readings
For several of the weeks there is an assigned reading. You must do the reading before class, and must post at least one question or substantive idea related to the reading, as well as one substantive response to another student's question, by the date indicated. These are due the day before class (to give your instructors time to review, and bring up any points during the discussions in class).   These responses will be graded 0 (for not acceptable), 1 (acceptable), or 1.5 (excellent) for each response.

Self/Peer Eval
Each student will also fill out a peer/student evaluation form at the end of the class. This is your chance to tell us what you were responsible for in the project, as well as what your peers did. This should not be a litany of complaints; however, neither should it gloss over what actually happened. We expect your team to be able to recognize and act on issues early on, and resolve them. However, this document will serve as your self-reflection on the process: on what you worked on, what you learned, and how your team worked. It will be used by the instructors in assessing you and your team.

APPENDIX – General Info for all RTA Courses

All students are required to adhere to all relevant University policies, such as the Student Code of Conduct, set out in the Ryerson calendar and the student handbook.

The RTA Student Handbook site: The RTA Student Handbook site at http://www.ryerson.ca/rta/handbook/ is full of useful information, including course outlines for most courses in RTA, advice on which courses to take, downloadable forms (including release forms, TV plans & paperwork, etc), information about scholarships, advice on doing great assignments, and more.

Blackboard Course Website: Blackboard is an online course tool which may include an online discussion board, course documents such as the syllabus and lecture notes, announcements, an area where your grades are posted, etc. If your professor has set up a Blackboard site for this course, you'll find it at http://my.ryerson.ca.

Your Ryerson Email Account: The School of Radio and Television Arts will often send you important information by email (e.g. scholarship information, reminders of important dates, notification of meetings and/or events, internship opportunities and job postings, etc.). Correspondence from RTA and from your professors will be sent ONLY to your Ryerson email account. It is your obligation to ensure that you activate your account and check it regularly, or have it forwarded to an account you check regularly. Please use your Ryerson account for sending emails to your professors, as there is less chance your email will get filtered into a Junk Mail folder that way. For information on how to activate and use your Ryerson account:

- go to www.ryerson.ca/ccs
- enter the Student site
- click "Email" on the services menu.

Notice to Students with Disabilities:
Students with any disability (e.g. learning, medical, physical, sensory), illness, or condition that requires academic adaptations should discuss the situation with the professor and/or contact the Access Centre, JOR-300 (3rd floor of Jorgenson Hall), 416-979-5290 (TDD/TTY: 416-979-5274). Or visit their website at http://www.ryerson.ca/accesscentre.

Ryerson's Learning Success Centre:
The Learning Success Centre (http://www.ryerson.ca/learningsuccess) helps students make the transition to university learning, develop sound learning strategies, and achieve their academic potential by providing professional services in both traditional and virtual learning environments. In addition to offering online resources and support for speakers of English as a second language, the Learning Success Centre offers free workshops for students such as:
- Time Management
- Learning from Lectures
- Preparing for Tests
- Writing Exams
- Dealing with Performance & Test Anxiety
- Writing a University Essay
- Delivering Effective Presentations

Take advantage of the resources at the Learning Success Centre early on to help you in any/all of your courses at Ryerson.

Accommodation of Student Religious Observance:
At the start of the term, students who have religious observance obligations which will lead to absences from campus or academic activities during the semester should download the "Student Declaration of Religious Observance" form from
 http://www.ryerson.ca/acadcouncil/Other.html/relobservforminstr.pdf.

Complete the form, outlining those instances where a religious observation issue applies, and present a copy of the form to the professor **within the first two weeks of classes**. The professor and student will then consult to reach an agreement on a reasonable means to address the situation.

Plagiarism: Plagiarism is defined by the University as "claiming the words, ideas, artistry, drawings, images or data of another person as if they were your own." (Student Code of Academic Conduct, Ryerson University, 2006, p. 2). According to the Code, plagiarism includes:

i. copying another person's work (including information found on the Internet and unpublished materials) without appropriate referencing;

ii. presenting someone else's work, opinions or theories as if they are your own;

iii. presenting another's substantial compositional changes to an assignment as your own;

iv. working collaboratively without permission of the instructor on an assignment, and then submitting it as if it was created solely by you; or

v. submitting the same work, for credit, in two or more courses without the prior written permission of the instructor(s). (Student Code of Academic Conduct, Ryerson University, 2006, p. 2.)

Usually one associates plagiarism with written works but it can include any work such as photographs/artwork, Internet materials, video, audio, and digital media. **The University penalties for plagiarism can be severe, ranging from getting zero on the assignment up to, in cases of prior academic dishonesty, suspension or expulsion.** Please note that you may be required to submit some or all of your written assignments to www.turnitin.com. Students who do not want their work submitted to this plagiarism detection service must, by the end of the second week of class, consult with the instructor to make alternate arrangements.

Useful links to help you understand and avoid plagiarism:
Ryerson's Academic Integrity web site: http://www.ryerson.ca/academicintegrity/
Student Code of Academic Conduct policy: http://www.ryerson.ca/acadcouncil/current/pol60.pdf

Cheating: Cheating is defined by Ryerson University as:
i. using materials or aids not expressly allowed by the instructor in an examination or test;
ii. copying another person's answer(s) to an examination or test question; copying another person's answers to individually assigned projects;
iii. consulting with another person or unauthorized materials outside of an examination room during the examination period (e.g. discussing an exam or consulting materials during an emergency evacuation or when permitted to use a washroom);
iv. improperly submitting an answer to a test or examination question completed, in whole or part, outside the examination room unless specifically permitted by the examination format;
v. resubmitting altered test or examination work after it has already been evaluated;

vi. presenting falsified or fabricated material, including research results; or

vii. improperly obtaining, through deceit, theft, bribery, collusion or otherwise, access to examination paper(s) or set of questions, or other confidential information. (Student Code of Academic Conduct, Ryerson University, 2006, p. 2)

The University penalties for cheating can be severe, ranging from getting zero on the assignment or test up to, in cases of prior academic dishonesty, suspension or expulsion.