EXPANDED COURSE DESCRIPTION
ELECTRICAL ENGINEERING AND COMPUTER SCIENCE
Lassonde School of Engineering
Electrical Engineering Computer Science
LE / EECS 4413 3.0 SECTION Z
BUILDING E-COMMERCE SYSTEMS
FALL 2019 / WINTER 2020

Last Modified Date: 08/28/2019

COURSE CALENDAR DESCRIPTION
A study of the technical infrastructure that underlies Electronic Commerce on the Internet. The foundational concepts are presented through a series of projects that use an industrial-strength framework on the server side, standard-compliant technologies on the client side, and a variety of messaging protocols on the network side. Best practices, security concerns, and performance issues are emphasized throughout. Prerequisite: cumulative GPA of 4.50 or better over all major EECS courses (without second digit "5"); LE/EECS 2030 3.00 or LE/EECS 1030 3.00; LE/EECS 2011 3.00. Previously offered as: LE/CSE 4413 3.00.

INSTRUCTOR(S)

<table>
<thead>
<tr>
<th>Name</th>
<th>Section / Format / Term</th>
<th>Contact Email</th>
<th>Contact Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Litoiu, Marin</td>
<td>Sec. Z / LECT / W</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ADDITIONAL INFORMATION

TOPICS AND CONCEPTS
Topics covered may include the following (with examples of technologies in parenthesis):
1. E-Commerce Concepts, Examples, Architectures, Patterns
2. Client Design and Client Technologies (HTML, CSS, JavaScript, Ajax)
3. Design Patterns and Application Layer (Servlets, JSP, Filters and Listeners, ESTL)
4. Data Layer Design and Technologies (JDBC, Reverse Index and Search)
5. Software as a Service and Web Services (XML, SOAP, REST, XLST, JAXB )
6. Deployment Architectures and Testing
7. Design for Performance and Scalability
8. Security (Authentication, access control, encryption, common threats)
9. Advanced Concepts (cloud, big data, recommenders)

COURSE LEARNING OUTCOMES
After successful completion of the course, students are expected to be able to:
• Develop an appreciation of the components that make up the web landscape and how these components interact with each other.
• Acquire the skills needed to build a complete web application that incorporates session management, database access, and analytics on the server side, and page formatting and interactivity on the client side.
• Build restful web services that interact with Ajax-powered client apps using a variety of transport protocols for data transfer.
• Become familiar with, and adhere to, best practices and design patterns to ensure code maintainability, interoperability, and scalability, and to minimize exploitable vulnerabilities.
• Learn how to build complex applications collaboratively through building abstractions and APIs, naming conventions, documentation, and organizing.
• Compare and contrast existing frameworks and approaches and develop an insight into the forces that are driving the current web trends.
ACADEMIC INTEGRITY LINKS
- Senate Policy on Academic Honesty - http://secretariat-policies.info.yorku.ca/policies/academic-honesty-senate-policy-on/
- Academic Integrity - http://lassonde.yorku.ca/academic-integrity

STUDENT LINKS
- Student Rights and Responsibilities - http://oscr.students.uit.yorku.ca/student-conduct
- Religious Observance - https://w2prod.sis.yorku.ca/Apps/WebObjects/cdm.woa/wa/regobs
- Student Accessibility Services (SAS) - https://accessibility.students.yorku.ca/
- York University’s Policies on Gender/LGBTQ*/Positive Space - http://rights.info.yorku.ca/lgbtq/

LAND ACKNOWLEDGEMENT
- We acknowledge our presence on the traditional territory of many Indigenous Nations. The area known as Tkaronto has been care taken by the Anishinabek Nation, the Haudenosaunee Confederacy, the Huron-Wendat, and the Métis. It is now home to many Indigenous Peoples. We acknowledge the current treaty holders, the Mississaugas of the New Credit First Nation. This territory is subject of the Dish With One Spoon Wampum Belt Covenant, an agreement to peaceably share and care for the Great Lakes region.
- The Indigenous Framework for York University: A Guide to Action can be found here: http://indigenous.info.yorku.ca/
- Meaning of a land acknowledgement: http://healthydebate.ca/opinions/indigenous-land-acknowledgements

Many courses utilize Moodle, York University’s course website system. If your course is using Moodle, click here to access it.

Moodle @ York University