TED ROGERS SCHOOL
Information Technology Management

Ryerson University
The Chang School of Continuing Education

RYERSON UNIVERSITY

Ted Rogers School of Information Technology Management
And G. Raymond Chang School of Continuing Education

(C)ITM 305 – Systems Analysis and Design

COURSE OUTLINE FOR 2020-2021

1.0 PREREQUISITE(S)

The prerequisite for this course is [(ITM 100 and ITM 207) or ITM 102] or in the two-year Business Technology Management Ontario College Diploma Graduate Program. Students who do not have the prerequisites will be dropped from the course.

2.0 INSTRUCTOR INFORMATION

- Name:
- Office Phone Number:
- E-mail address:
- Faculty/course web site(s): https://my.ryerson.ca
  - Your instructor is available for virtual consultation during scheduled consultation hours. Information on the consultation format is provided in the D2L course shell. If you wish to make an appointment, kindly do so via email to ensure the professor is available.
- E-mail Usage & Limits:

Students are expected to monitor and retrieve messages and information sent through D2L and Ryerson email on a frequent and consistent basis. In accordance with the policy on Ryerson student email accounts (Policy 157), Ryerson requires that any electronic communication by students to Ryerson faculty or staff be sent from their official Ryerson email account. Messages from other accounts may be disregarded.

3.0 CALENDAR COURSE DESCRIPTION

The course covers the key concepts, techniques, and methodologies relevant to the process of developing information systems (IS). The course focuses on the development of requirements, analysis, and design models of the system to be. The specifications of these models are done using the Unified Modeling Language (UML). In addition, the course provides a contextual coverage of the system development life cycle and select concepts of IS construction, deployment and project management respectively.

4.0 COURSE OBJECTIVES AND LEARNING OUTCOMES

To acquire knowledge of and competency in the major techniques used in the analysis and design of the business information systems. Specifically, to acquire a competency in developing UML diagrams to facilitate the documentation of the analysis and design requirements to meet development requirements.

Upon completion of the course, the student is expected to be able to:

1. Explain the fundamentals of IS development life cycle and methodologies.
2. Explain the key elements of requirements' elicitation, gathering and specification.
3. Create models of system functional behavior.
4. Create structural analysis models of information systems.
5. Create behavioral analysis models of information systems.
6. Explain the fundamentals of system design
7. Explain the Object Oriented Design concepts
8. Create Use Case Realization diagrams

5.0 TEXTS & OTHER READING MATERIALS

Title: Systems Analysis and Design in a Changing World (7th Edition)
Author: John W. Satzinger, Robert B. Jackson, Stephen D. Burd
Publisher: Cengage Learning
ISBN: 978-1305117204
Ebook: https://www.cengage.ca/shop/isbn/9781337001168

6.0 TEACHING METHODS

The course will incorporate lecture and laboratory/tutorial sessions designated at the instructor's discretion. The laboratory/tutorial sessions will be dedicated to practice and problem solving exercises designed to reinforce the learning of the concepts being taught and develop the associated analysis and design skills.

7.0 EVALUATION, ASSESSMENT AND FEEDBACK

The grade for this course is composed of the mark received for each of the following components:

Evaluation Component	Percentage of the Final Grade	Week Due	Week Evaluation Returned
Lab/Homework	20%	1-10	2-11
Midterm Exam	20%	6	7
Project Phase I	10%	7	9
Project Phase II	10%	11	Exam Week
Final Exam	40%		
Total	**100%**		

NOTE: Students must achieve a course grade of at least 50% to pass this course.

- At least **20%** of student's grade based on individual work will be returned to students prior to the last date to drop a course in good academic standing .

Citation Format for Essays and Term Papers

All essay assignments, term paper and other written works must adhere with APA citation format. Technical errors (spelling, punctuation, proofing, grammar, format, and citations) and/or inappropriate levels of language or composition will result in marks being deducted. You are encouraged to obtain assistance from the Writing Centre (www.ryerson.ca/writingcentre) for help with your written communications as needed.

You can find APA guidelines and academic referencing from the following online resources:

Student Learning Support > Online Resources > Writing Support Resources

- APA Basic Style Guide

Ryerson Library Citations and Style Guides

- APA Style
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8.0 TOPICS – SEQUENCE & SCHEDULE

Session	Weekly Topic with Learning Objectives	Readings
1	Fundamentals of Information Systems Development Life Cycle and Development Approaches and Methodologies • Describe the purpose of Systems Analysis and Design • Explain the Systems Development Life Cycle • Explain the Methodologies for the six core processes	Chapter 1/10
2	Requirement Gathering & Specification • Describe the activities of Systems Analysis • Explain the difference between function and nonfunctional requirements	Chapter 2

	• Identify and understand different kinds of stakeholders • Describe and understand information gathering techniques • Describe the role of models and UML in Systems Analysis	
3	Use Case Modeling with Use Case Diagrams • Describe role of Use Stories and Use Case • Apply Event Decomposition to identify Use Cases • Understand Use Case Notation • Implement Use Case Diagrams by actor and subsystem	Chapter 3
4	Use Case Specification & Documentation • Implement fully developed Use Case descriptions • Explain how use case descriptions and UML diagrams work together to define functional requirements Activity Diagrams • Describe the role of Activity Diagrams • Understand Activity Diagram Notation Implement Activity Diagrams	Chapter 5
5	Domain Class Diagrams • Explain the concept of "things" in the problem domain • Identify and analyze domain classes • Create a Domain Model Class Diagram	Chapter 4
6	Midterm Exam (hour 1) Foundations of System Design (hour 2) • Describe the activities of Systems Design • Identify the documents and models used in Systems Design • Explain each major design activity	Chapter 6
7	System Sequence Diagrams • Describe the role of System Sequence Diagrams • Understand System Sequence Notation • Implement System Sequence Diagrams	Chapter 5
8	Object Oriented Design Fundamentals • Explain the purpose and objectives of object-oriented design • Develop Design Class Diagrams • Explain the important fundamentals of object-oriented design	Chapter 12
9	Overview of Use Case Realizations – Single Layer • Develop Sequence Diagrams for Use Case Realization • Understand Relationship to SSD and Class Diagrams	Chapter 13
10	Overview of Use Case Realizations – Multi Layer • Explain the different types of objects and layers in a design • Understand the User Interface layer • Understand the Data Access Layer	Chapter 13 (Cont'd)

	• Understand Packaging Diagrams	
11	Defining the System Architecture • Explain architectural concepts that influence System Design • Describe a systems environment	Chapter 7
12	Agile Approaches and Course Review • Explain the concepts behind Agile • Review the different Agile techniques employed in industry • Course Review	Handouts

9.0 VARIATIONS WITHIN A COURSE

All sections of a course (Day and CE sections) will follow the same course outline and will use the same course delivery methods, methods of evaluation, and grading schemes. Any deviations will be posted on D2L Brightspace once approved by the course coordinator.

10.0 OTHER COURSE, DEPARTMENTAL, AND UNIVERSITY POLICIES

For more information regarding course management and departmental policies, please consult the Course Outline Appendix which is posted on the Ted Rogers School of Information Technology Management website.

NOTE: Students must adhere to all relevant university policies found in their online course shell in D2L and /or on the following URL: senate-course-outline-policies.

The appendix covers the following topics:

Attendance & Class Participation

Email Account

Request for Academic Consideration

Examinations & Tests

Late Assignments

Standard of Written Work

Academic Grading Policy

Academic Integrity

Student Rights

Important Resources Available at Ryerson

- Academic Accommodation Support: Ryerson University acknowledges that students have diverse learning styles and a variety of academic needs. If you have a diagnosed disability that impacts your academic experience, connect with Academic Accommodation Support (AAS). Visit the AAS website or contact aasadmin@ryerson.ca for more information. Note: All communication with AAS is voluntary and confidential, and will not appear on your transcript.
- The Library provides research workshops and individual assistance. If the University is open, there is a Research Help desk on the second floor of the library, or go to Workshops.
- Student Learning Support offers group-based and individual help with writing, math, study skills, and transition support, as well as resources and checklists to support students as online learners.
- You can submit an Academic Consideration Request when an extenuating circumstance has occurred that has significantly impacted your ability to fulfill an academic requirement.
- Ryerson COVID-19 Information and Updates for Students summarizes the variety of resources available to students during the pandemic.
- Familiarize yourself with the tools you will need to use for remote learning. The Continuity of Learning Guide for students includes guides to completing quizzes or exams in D2L or Respondus, using D2L Brightspace, joining online meetings or lectures, and collaborating with the Google Suite.