

1. Calendar Information

SENG 697 Agent-based Software Engineering

Principles and practices of engineering agent-based software systems.

Course Hours: Q(3-0)

Calendar Reference (choose as appropriate):

<http://www.ucalgary.ca/pubs/calendar/current/software-engineering.html>

2. Learning Outcomes

This course begins with an overview of the agent systems and software agents. Then we focus on agent system architecture and infrastructure from a software engineering viewpoint, including:

- Requirements for agent-based systems
- Modelling and design of agent-based systems
- Development process for agent-based systems

Topics such as agent architecture, communication, knowledge sharing, computing and uncertainty management are discussed. Studying society of agents and models of agency follows. Finally, a perspective on a methodology for agent-oriented software engineering and standards are presented.

At the end of this course, you:

- will have an understanding of the agent system terminology and development process of agent-based systems.
- will have learned techniques to design agent-based system.
- will know how to modify architecture of the current software systems and re-structure them to be agent-based.

3. Timetable

Section	Days of the Week	Start Time	Duration (Minutes)	Location
L01	Tue	17:30	160	ICT 518

4. Course Instructor

Section	Name	Phone	Office	Email
L01	<i>Dr. Behrouz H. Far</i>	<i>210-5411</i>	<i>ICT 543</i>	<i>far@ucalgary.ca</i>

5. Examinations

There will be no midterm or final examination.

6. Use of Calculators and Reference Material in Examinations

n/a

7. Final Grade Determination

The final grade in this course will be based on the following components:

Component	Weight
Tutorial Report	40 %
Project Report	50 %
Presentation & Group Discussion	10 %
TOTAL	100 %

Note:

The student must submit both tutorial and project reports to pass the course.

8. Textbook

Course materials are selected from a number of journal papers and delivered on each session. The following textbooks are recommended as supplementary text.

The following textbook(s) is/are required for this course:

Title	Multiagent Systems: A modern approach to distributed Artificial Intelligence
Author(s)	G. Weiss, Edt.
Edition, Year	1999, ISBN: 0262731312
Publisher	MIT Press

Title	Agent-Oriented Methodologies
Author(s)	Brian Henderson-Sellers, Paolo Giorgini
Edition, Year	2005, ISBN: 1-59140-581-5
Publisher	Idea Group Publishing

Title	Constructing Intelligent Agents Using Java: Professional Developer's Guide
Author(s)	Joseph P. Bigus, Jennifer Bigus
Edition, Year	2001, ISBN: 0-471-39601-X
Publisher	John Wiley and Sons

9. Course Policies

All Schulich School of Engineering students and instructors have a responsibility to familiarize themselves with the policies described in the Schulich School of Engineering Advising Syllabus available at:

<http://schulich.ucalgary.ca/undergraduate/advising>

In addition to these policies relating to graduate and undergraduate students, SSE graduate students should be aware of the following:

9.1 Graduate Student Association.

Information on the Graduate Student Association can be found at:

<http://www.ucalgary.ca/gsa/>

10. Additional Course Information

Agent-based systems are software products that not only do things as specified but also have knowledge to do their job and can do it in a cooperative, coordinative and competitive way.

- What are myths and realities of the agent-based systems?
- How to develop an agent-based system for a particular task?
- How to evolve from object-oriented development to agent-based systems?
- How to incorporate and share knowledge among software agents?

These are only a few questions that can be answered by agent-based systems.

SENG 697 course home page contains links to up-to-date course information, problem assignments announcements, as well as laboratory and examination scheduling. The SENG 697 course home page is available through the B.H. Far's home page at the URL:

<http://www.enel.ucalgary.ca/People/Far/Lectures/SENG697/>

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