Computer Science (COMP) 637

Mobile Computing (Revision 1)

Status:	Replaced with new revision, see the **course listing** for the current revision
Delivery mode:	**Grouped study**
Credits:	3
Area of study:	Information Systems
Prerequisites:	This course requires you have a general understanding of computer networks. You should also be able to do some basic programming, read pseudo codes, and interpret algorithms.
Precluded:	None
Faculty:	**Faculty of Science and Technology**
Notes:	This is a graduate level course and students need to apply and be approved to one of the graduate programs or as a non-program **School of Computing and Information Systems** graduate student in order to take this course. Minimum admission requirements must be

met. Undergraduate students who do not meet admission requirements will not normally be permitted to take this course.

Instructor:	**Dr. Qing Tan**

Overview

People and businesses benefit extensively from mobile technologies, which at anytime and from anywhere, provide a user with the ability to receive emails, browse Web pages, play online games, and upload/download important documents using either smart phones or laptops with 3.5G wireless adapters. An employee can access product information, obtain technician/expert help, acquire stock information, and place orders directly to the business database. Businesses can reduce the cost of network construction, provide employees with convenient and quick supports anytime and anywhere, and give customers twenty-four/seven, year-round, non-stop service, in either information inquiry or specific representative contact.

COMP 637 illustrates how mobile computing works, what mobile computing involves, and the different applications that mobile computing offers to people, employees, and businesses. Students will become familiar with the technologies/topics they prefer, and will have the opportunity to thoroughly investigate these topics through discussion with their peers. Students will play a significant role in searching, defining, refining, and updating information regarding the latest mobile computing infrastructures, technologies, and applications; and their contributions(for example, the glossaries in Unit 6 and the presentation in Unit 7) will be used as resources for future students.

Outline

- Unit 1. Social Software and Academic Search Service
- Unit 2. Fundamental of Mobile Computing
- Unit 3. Infrastructures for Mobile Computing Applications

- Unit 4. Mobile Computing Technologies
- Unit 5. Mobile Computing Applications
- Unit 6. Research Exploration in Depth
- Unit 7. Presentation and Reflection

Learning outcomes

Upon successful completion of this course, you will be able to

- explain the principles and theories of mobile computing technologies.
- describe infrastructures and technologies of mobile computing technologies.
- list applications in different domains that mobile computing offers to the public, employees, and businesses.
- describe the possible future of mobile computing technologies and applications.
- effectively communicate course work through written and oral presentations.

Objectives

This course will provide graduate students of MSc Information Systems with both broad and in-depth knowledge, and a critical understanding of mobile computing from different viewpoints: infrastructures, principles and theories, technologies, and applications in different domains. The course will provide a complete overview of the mobile computing subject area, including the latest research. In Unit 6, each student will have the opportunity to delve into more specific technology and/or application domains by forming a small special interest group (SIG) with their fellow students. In addition, through presentations, Q&A, and debates, students will have the opportunity to further explore specific topics.

Evaluation

To **receive credit** for COMP 637, you must achieve a cumulative course grade of **B- (70 percent)** or better. Your cumulative course grade will be based on

the following assessment.

Activity	Weight
Glossaries	20%
Survey	10%
Presentation	20%
Reflection	15%
Comments	15%
Contributions	20%
Total	**100%**

- Glossaries (20%) (a group mark, based on the SIG's creation of glossary topics that include history, background, theory and principles, examples, applications, further studies, references, internal links to relevant glossaries, external links to other resources)
- Literature Review (10%) (an individual mark based on the review of the literature in Unit 6, preparatory to the writing of the glossaries. 1/6 from comments, 1/6 from reflection, 1/3 from glossaries, 1/3 from presentation)
- Presentation (20%) (using plain language, give the audience a smooth, integrated talk, instead of presenting two or three topics/papers separately)
- Reflection (15%) (discuss/post your thoughts and questions for each unit)
- Comments (15%) (respond to questions, and discuss issues with your peers)
- Contributions (20%) (1/3 from glossaries, 1/3 from reflection, and 1/3 from comments)

Materials

All materials for Computer Science 637 will be made available through a link guide on the course Web site.

Readings for this course will be taken entirely from Web-based resources, which are typically accessed via the academic journal databases on the AU Library Web site, Google Scholar, Google Book, Google, CiteSeer, and CiteSeerX. In each unit, students will be given a list of required readings, which they must then find and read. Current, significant literature and presentations that represent hot topics for discussion will be selected and added to the recommended reading materials, glossaries, presentations, and news feeds on the Moodle discussion forums.

Other Materials

The remaining learning materials for Computer Science 637 are also distributed in electronic format. At this time, those materials include

1. *Computer Science 637* Study Guide;
2. detailed descriptions of the requirements for the individual assignments;
3. a course evaluation form;
4. links to a variety of resources on the World Wide Web.

Special Course Features

COMP637 will be offered in paced electronic mode. Electronic paced study is facilitated through a variety of computer-mediated communication options, and can be completed at the student's workplace or home.

Special Note

Students registered in this course will NOT be allowed to apply for a course extension due to the nature of the course activities.

Important links

- Future Course Offerings
- Important Dates and Deadlines
- MSc IS Contact Information

Athabasca University reserves the right to amend course outlines occasionally and without notice. Courses offered by other delivery methods may vary from their individualized study counterparts.

Opened in Revision 1, December 10, 2009

Updated March 17, 2025