

## Course Syllabus

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### Course Information

### **CS6368 - Telecommunications Network Management**

Term : Summer 2015

Days & Time and Location : MW 5:30PM-7:45PM @ ECSS 2.311

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### Instructor Contact Information

Nhut Nguyen, Ph.D.

Phone: 972 883-4521

Email: [nhutnn@utdallas.edu](mailto:nhutnn@utdallas.edu)

Office hours: MW 2:00PM – 3:00PM

Office: ECSS 3.607

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### Course Pre-requisites, Co-requisites, and/or Other Restrictions

One of CS5390 and CS6390, or CS6385.

*Prerequisite will be strictly enforced.*

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### Course Description

This graduate course is an in-depth study of the telecommunication network management technology and systems. Its main focus is on the architecture, functions, methods and protocols necessary to design modern network management systems. Special emphasis is on network management standards such as Telecommunications Management Network (TMN) and Simple Network Management Protocol (SNMP.) Basic network management concepts and methods will be covered. Real-world examples will be used to illustrate concepts, protocols and methods that are fundamentals to address network management issues.

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### Student Learning Objectives/Outcomes

The objectives of this course include gaining solid knowledge and some hands-on experience of the telecommunication network management technology. After taking this course a student is expected to be able to explain and evaluate the architectures and functions, as well as important concepts, methods and protocols used in telecom network management systems. Paper critique and hands-on small projects will be used to further the understanding of this important telecommunication technology.

Course learning objectives of this course are:

- Be able to describe network management issues and the importance of network management standards in telecommunication networks
  - Ability to describe fundamentals concepts and evaluate techniques of the Simple Network Management Protocol (SNMP) and related standards
  - Be able to describe fundamental concepts in the Open Systems Interconnection (OSI) management framework
  - Ability to evaluate the Telecommunication Management Network (TMN) standards of the International Telecommunications Union (ITU), and to describe fundamental concepts use in the standards, especially those of service management
  - Be able to describe device management issues and standards
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### **Textbook & References:**

No required textbook but the following book can be used as a reference.

**"Network Management – Principles and Practice, 2<sup>nd</sup> Ed"**, Mani Subramanian, Pearson Education 2010, ISBN-13: 978-8131727591.

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### **Suggested Course Materials**

Topics to be discussed in this course include

- Telecommunication networks review
  - Principles of telecommunication network management
  - SNMP
  - TMN
  - Fault Management
  - Configuration Management
  - Performance Management
  - Security issues
  - Telecommunication network management protocols: e.g. SNMP, CMIP, etc...
  - Web based network management
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### **Assignments & Academic Calendar**

**Exams:** There will be two exams, and the second exam is comprehensive. Test materials will be taken mainly from classroom lectures and require a clear understanding of topics discussed in class.

**Assignments:** Homework will be assigned. Students are also required to read and critic network management technologies related papers as homework. Results of projects and paper critique may need to be presented to the class.

**Project:** A small design project will be assigned and is to be performed by teams. Teams will present their project at the end of the semester.

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## Grading Policy

The grade each student earns from this class will be based on the following table.

Exam I	15%
Exam II	40%
Assignments & Quizzes	20%
Project	<u>25%</u>
Total	100%

Grades are assigned according to the scale on the right:

A	93 – 100
A-	90 – 92
B+	87 – 89
B	83 – 86
B-	80 – 82
C	70 – 79
F	Below 70.0

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## Course & Instructor Policies

*There will be absolutely no makeup exams.  
No late homework or assignment will be accepted!*

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## UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus.

Please go to <http://go.utdallas.edu/syllabus-policies> for these policies.

*These descriptions and timelines are subject to change at the discretion of the Instructor.*