

Course Objectives:

Broadband Service Management is a comprehensive course for those interested in deploying and operating broadband networks from a technical and managerial aspect. A broadband network's success is based on its ability to deliver a desired service with a specific service requirement referred to as a Service Level Agreement (SLA). The Service Level Management whether it is with an operator, infrastructure vendor, Third Party Vendor (3PV) or customer all have specific Key Performance Indicators (KPI) associated with them. The ability to define, identify, and manage those Key Performance Indicators associated with a broadband network Service Level Agreement requires a thorough understanding of the entire broadband ecosystem.

The course will present key topics and criteria required to implement and sustain a network. Emphasis will be placed on the ability to define performance quantities and manage the network balancing business risks while minimizing costs to meet the objectives of the broadband network.

Upon successful completion of the course the student should be able to:

- Differentiate the various service requirements for broadband networks
- Identify operation and provisioning management considerations and their consequences
- Understand the various components which comprise a Service Level Agreement (SLA) with emphasis on Key Performance Indicators (KPIs)
- Optimize broadband operations to meet customer and businesses expectations balancing cost consequences
- Implement key technical and managerial concepts with new or existing broadband networks
- Define current and future opportunities and threats faced by broadband service providers.
- Utilize Managed Services and other smart outsourcing techniques properly
- Design and manage Service Level Agreements (SLAs) from an operator, infrastructure vendor, third party vendor (3PV), or subscriber aspect by incorporating all of the important parameters in the operations and network performance and service management agreement

Course Outline:

Week 1: Issues in Broadband Service Management
Week 2: Components of Broadband Service Management: Definition and Function
Week 3: Broadband Technologies
Week 4: Broadband Service Level Management
Week 5: Broadband Service Management for Different Environments
Week 6: SLA Network and Operations Considerations
Week 7: Mid Term
Week 8: Broadband Service Management Alignment
Week 9: Broadband SLA Creation
Week 10: Broadband Service Management Dashboard Schemes
Week 11: End User and Internal Broadband Service Level Management
Week 12: External Service Level Management
Week 13: Project Presentation
Week14: Final

Course Material:

- Lecture Notes
- Text book – Broadband Network Architectures: Designing and Deploying Triple-Play Services
by Chris Hellberg; Dylan Greene; Truman Boyes
Publisher: **Prentice Hall**
Pub Date: **May 01, 2007**
Print ISBN-13: **978-0-13-230057-5**
- Other reference material provided throughout the course

Grading Policy:

- Homework assignments 10%
- Project 20%
- Mid-term Exam 20%
- Final Exam (comprehensive) 40%
- Active participation 10%

Exams:

- Mid-term: weeks 1 through 5 only.
- Final : comprehensive.

The tests will be timed and last 2.0 hours.

Please note that the tests are to be closed book and closed notes. The Stevens Honor system applies for the exams as well as the entire course.

Homework:

There are 11 individual homework assignments which are meant to reinforce both the lecture and reading material assigned. I will be grading the homework, and each homework item has points assigned to it. The homework is meant for learning and reinforcing the weekly lessons. Obtaining credit for the homework is achieved by showing attempting to earnestly answer each question. Answers to the homework will be posted. Homework will be due at the end of each week, for instance if the next class begin starts on the 15th, the homework is due by 23:55 on the 14th.

Project:

The project will consist of putting together a Service Level Management Plan in response to a RFP that has been issued. You will need to define the services offered, how it will be measured and how this potentially maps into the financial viability of your company. You will need to ensure that any Service Levels that they propose not only will meet the service requirements but also will be harmonized within the organization. The project will be team oriented

The project will assume you are the engineering manager and will not require you to perform a engineering design.

- The assumptions for the project will be provided.
- The format for the report t will be provided and expected to be followed.
- Teams will be assigned.
- You will need to determine a team leader from your assigned team. The team leader will be the primary contact between myself and the team for all project related issues.
- There are particular progress milestones you need to meet for the project besides the final due date.
- You will generate an internal presentation selling the project to senior management
- You will also generate a Service Level Management plan in response to the RFP
- The project will be posted and judged by fellow colleagues in the class

Ethical Conduct

The following statement is printed in the Stevens Graduate Catalog and applies to all students taking Stevens courses, on and off campus.

“Cheating during in-class tests or take-home examinations or homework is, of course, illegal and immoral. A Graduate Academic Evaluation Board exists to investigate academic improprieties, conduct hearings, and determine any necessary actions. The term ‘academic impropriety’ is meant to include, but is not limited to, cheating on homework, during in-class or take home examinations and plagiarism.”

Consequences of academic impropriety are severe, ranging from receiving an “F” in a course, to a warning from the Dean of the Graduate School, which becomes a part of the permanent student record, to expulsion.

Reference: The Graduate Student Handbook, Academic Year 2003-2004 Stevens Institute of Technology, page 10.

Consistent with the above statements, all homework exercises, tests and exams that are designated as individual assignments must contain the following signed statement before they can be accepted for grading.

I pledge on my honor that I have not given or received any unauthorized assistance on this assignment/examination. I further pledge that I have not copied any material from a book, article, the Internet or any other source except where I have expressly cited the source.

Name (Print) _____ Signature _____ Date: _____

Please note that assignments in this class may be submitted to www.turnitin.com, a web-based anti-plagiarism system, for an evaluation of their originality.

Instructor Information:

Professor Clint Smith, P.E.

clint.smith@stevens.edu

1-845-987-1787 (office)