Stevens Institute of Technology

Howe School of Technology Management

Syllabus

**TM670 Decision Analysis for Network Systems**

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| Semester: Fall | Schedule |
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**Overview**

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| This course provides the students with tools and hands on experience to integrate learnings from other TM courses in implementing a corporate telecommunication network and explores related issues. Issues of technology selection, equipment acquisition, financing, and accounting will be analyzed. Additionally, the equipment/system selection process will use the techniques of probabilistic outcomes, simulation, sensitivity analysis, and multi-attribute analysis to better define the risks and opportunities of these investments. Also learning to evaluate telecommunications systems’ effects on the balance sheet of the corporation as financial assets or liabilities  *Prerequisites: TM 610, TM 605, MGT 600, & MGT 618* |

**Relationship of Course to Rest of Curriculum**

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| This course is a Capstone in the Telecom Management Program and integrates much of the students learning in the program. |

**Learning Goals**

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| 1. Lit the key issues in expanding existing or installing a new corporate telecommunications network  2. Describe how to decide on the technology and other hardware and software required  3. Be able to develop a business case for the project, including potential alternatives with consideration of cost, financing and revenue generation.  4. Describe how to define the selection criteria and develop recommendations for the best option. |

**Pedagogy**

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| * The course will employ lectures, class discussion, homeworks, exams and a term project. For the term project, students work in teams. Each team will select an existing corporation to develop and implement a communications network as their term project. |

**Required Text(s)**

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| * + The Selection Process for Capital Projects   Hans Lang & Donald Merino  1993--4th printing  John Wiley & Son, Inc.  ISBN 0-471-63425-5 |

**Required Readings**

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| Book chapters, case studies |

**Assignments**

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| * Individual assignment -Regularly scheduled homework * Team Assignment – Term Projects by Teams of 3 or 4 students * Class presentation of project phases. |

**Grading**

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| **Assignment** | **Grade**  **Percent** |
| * Homework | 10% |
| * Exam | 40% |
| * Case study | 10% |
| * Term Project | 40% |
| **Total Grade** | **100%** |

# **Typical Schedule**

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| Session # | Lecture | Topic |
| 1 |  | Review TM670 Deliverables |
| 1 | Overview Strategic Business Mgt |
| 2 | Team Process |
| 2 | 3 | Business Case & RFP Process |
| 4 | Estimation (chap 20) |
|  | Review H/Ws (ch 23) |
|  | Project Work |
| 3 | 5  6  7 | Simulation (chap 24)  Uncertainty (Ch 25)  Intro to Multi-Attribute Analysis (Ch 26) |
|  | Review H/W (Chap20) |
|  | Project Work |
| 4 |  | Project Presentation Part A |
|  | Review H/Ws( Chp24-26) |
| 5 | 8  9 | Multi-Attribute Analysis (Ch 27)  Analytical Hierarchy (Ch 28)  PROJECT WORK |
| 6 |  | Project Presentation Part B |
|  | Review H/W 4B & 5  Review case study |
| 7 |  | Project Work |
| 8 |  | Case Study Review  Exam Preparation |
| 9 |  | EXAM |
| 10 |  | Project Presentation- Part CExam Review |
| 12 |  | Project Work |
| 13 |  | Project Presentation Part D(Final) |
| 14 |  | Project Enhancements and Delivery Part E |

# **Ethical Conduct**

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| 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.  Signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_  Please note that assignments in this class may be submitted to [www.turnitin.com](http://www.turnitin.com), a web-based anti-plagiarism system, for an evaluation of their originality. |

**Course/Teacher Evaluation**

Continuous improvement can only occur with feedback based on comprehensive and appropriate surveys. Your feedback is an important contributor to decisions to modify course content/pedagogy which is why we strive for 100% class participation in the survey.

All course teacher evaluations are conducted on-line.  You will receive an e-mail one week prior to the end of the course informing you that the survey site (<https://www.stevens.edu/assess>) is open along with instructions for accessing the site.  Login using your Campus Pipeline (email) 'CPIPE' username and password. This is the same username and password you use for WebCT.  Simply click on the course that you wish to evaluate and enter the information. All responses are strictly anonymous.  We especially encourage you to clarify your position on any of the questions and give explicit feedbacks on your overall evaluations in the section at the end of the formal survey which allows for written comments.  We ask that you submit your survey prior to the last class.