Coordinating Seminar – TCOM 750

George Mason University
Fall 2021
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Office Hours: By appointment

1. Announcements

TCOM 750 will virtually via Zoom, 25 August 2021 – 15 December 2021.

The material provided in the course is proprietary. Uploading this material anywhere without the express permission of the instructor is strictly prohibited and a violation of the Mason Honor Code. https://oai.gmu.edu/.

Inclement Weather
Please be safe. The class will follow the GMU inclement weather policy. As an aid the Mason Alert system can Notify you whenever the University is closed, or closing, due to weather related issues. To receive these alerts, you must add this option to your Mason Alert account. To join this alert group:

- Log on to Mason Alert at https://alert.gmu.edu
- Click the "My Alerts" tab.
- Click the "Optional Alert" bar.
- Review the full list of alerts and join the "Weather related closing group".
- When finished, click the "Home" tab.
- All of your registered devices and group memberships will be listed.

2. Expected Background

College-level telecommunications engineering, business or engineering statistics and basic business planning are required, although students will be expected to learn, and master, design cost-effective design concepts that require some numerical manipulation. Concepts learned earlier in TCOM classes will be re-enforced with a number of examples to explain the concepts in detail.

3. Expected Learning Experience

TCOM 750 is the required class for all students in the telecommunications program and is the capstone class to introduce you to applying those design concepts in a thoughtful and considered manner. You will be required to do extensive research on current industry trends as well as research on and development of requirements and alternative designs for proposed technology solutions. The class emphasizes an approach based on a Request for Proposal (RFP) and response process where a problem is presented and teams have to develop competitive approaches. Primary course material will be Power Point slides with lectures distributed on Blackboard. You are required to select a topic relevant to the syllabus and give a 5- and a 10-minute presentation to the class during the semester.

NOTE: All lectures and homework assignments and solutions are posted on Blackboard or in class.

You must activate your GMU Email; but you can have your Email forwarded to a preferred email address. Please remember to clean your email regularly to avoid storage problems and rejected Emails.

4. Required Books - None

6. Homework

1. Homework Exercises will be assigned periodically (approximately once per week for the first one-third of the course) and are due the following week at the beginning of class unless otherwise specified.
2. Homework is collected in soft copy only, unless otherwise directed. Please show intermediate steps so partial credit may be given, even if you have not reached the correct solution.
3. PLEASE put your name and ID number on each file or sheet of paper and staple the sheets together. The required file naming format is: **lastname_G00012345_TCOM750_HWx.ppt.**
4. Late homework is only be accepted with prior permission, and if the graded homework has not yet been handed back to the class.
5. To help with travel commitments one assignment may be dropped from the total number of homework.
6. Students can work together on homework problems, but should submit their own written work.

IMPORTANT NOTE: Students are encouraged to find, and use, any and every source they may locate to answer a question. HOWEVER: if elements of their paper have been downloaded from the web or transcribed from another source, STUDENTS MUST WITHOUT FAIL acknowledges the sources. If elements used are exact copies, quoted passages must be within quotation marks to note they are not student original statements. This includes written sections, diagrams and pictures. Failure to acknowledge a source used contravenes the copyright act and may be subject to honor code proceedings if the student claims the work to be original when copied from another person or source. Turnitin.com may be used to review papers for plagiarism.

8. Semester Project

Student teams are required to submit a team presentation paper on a provided topic provided in the form of an engineering proposal. Topics for this project in the past have included:

- Development of a micro-satellite engineering center at GMU.
- Development of a micro-satellite proposal.
- City of Fairfax feasibility study for an 802.11 city-wide wireless network
- One Laptop Per Child (OLPC) Remote Area Communications
- Micro Grid System and Communications
- Unmanned Aerial Vehicle Communications Support for State and Local
- Southwest Asia Remote Village Communications
- Cloud Computing to promote Business Continuity
- Integration of autonomous cars

The semester project is designed to develop awareness of the multifaceted impact of digital

communications technology on our everyday lives, teach organization and teamwork, and give an appreciation for the difficulties of developing communications solutions for an imperfect world. It is also a way of getting students used to writing technical papers and business proposals that will be required in their work careers. Students will work in groups on the semester project, but may be graded individually based on their participation.

References cited may be either placed as footnotes on the page where the reference is cited or sequentially in a numbered index at the end. Full references shall be given (all authors, journal name, volume, number, date, pages [start and stop]) and, for web references, the full URL and the date the material was extracted.

9. Final Exam

Final exam is semester project presentation and that will be given on Wednesday, 15 December 2021.

10. Course Grades

Project Team Grade is the key component and this can be modified/improved based on a weighted average of the homework, class participation, and the 5 and 10 minute presentations.

11. Campus Resources

Some campus policies and resources (Academic Integrity, use of GMU email, Writing Center, Libraries, Counseling and Psychological Services (CAPS), and Office of Disability Services) available for you can be found at:

University Catalog: http://catalog.gmu.edu
University Policies: http://universitypolicy.gmu.edu
Diversity Statement: http://ctfe.gmu.edu/professional-development/mason-diversity-statement/
Calendar of Religious Holidays: http://ulife.gmu.edu/religious_calendar.php

12. Course Outline/Schedule

Note: We will be adjusting this a little depending on the class project and class capabilities.

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Class 01: 25 Aug – Class Intro; 5G Technology/Disruption, Eastern Shore Broadband
Class 02: 01 Sep – Disruptive Innovation/Innovators Dilemma/Telecom Trends
Class 03: 08 Sep – Requirements Analysis and Proposal Process
Class 04: 15 Sep - Making Things Stick
Class 05: 22 Sep – Tipping Point
Class 06: 29 Sep - Systems Engineering and Integration
Class 07: 06 Oct – Effective Presentations
Class 08: 13 Oct – Eastern Shore Broadband Discussion
Class 09: 20 Oct – Strategy
Class 10: 27 Oct – Technology Innovation, Analysis, Business Continuity
Class 11: 03 Nov – SWOT
Class 12: 10 Nov – Business Intelligence
Class 13: 17 Nov - Individual Presentations/Team Meetings
          24 Nov 0 Thanksgiving Break
Class 14: 01 Dec – Individual Presentations/Team Meetings
Class 15: 08 Dec – Final
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