

January 13, 2019

TCOM 521
Systems Engineering
For Telecommunications Management

Pre-Requisites: TCOM 500
Term: Spring 2019
Time: 7 20 PM to 10 00 PM on Mondays
Course Meets: 01/28/19 to 05/13/19
Location: ONLINE and ENGR 1108, as needed.
Instructor: D.K.Sachdev (dksachdev@cox.net)

Course Objectives

The main objectives of this course are to learn modern project management and system engineering principles and to apply them towards the implementation of complex telecommunications systems. For the Spring 2019 class, the students will actively participate in group projects for modern satellite-based systems. They will first learn the basics of Project Management. They will then grasp the programmatic fundamentals as applied to satellite systems. In the second half of the course, they will learn about the major phases of project work in real life. In the project work, the focus will be on system or sub-system definitions, real-world procurement practices and methodologies, and sound management of time frames.

Course Policies:

Students are permitted and encouraged to collaborate on homework and design project assignments. All graded work, however, must be the original effort of the student submitting the paper. This means that, while two or more students can develop a solution approach for a homework problem together, each student must independently execute the solution if it is to be submitted for grading. In the case of the design project, it is encouraged that, while each student must independently develop a response, students seek and provide comments for each other's approach. This collaboration is characteristic of the actual engineering design environment.

Students are not permitted to provide, seek, or accept assistance or information for examination problems other than from their own class notes, class handouts, or published written materials. This policy is intended to include general discussions of the theory and practice of satellite communications systems and related topics during the period between when the examination is released to the students and submitted to the instructor for grading. Questions may be submitted to the instructor during the examination periods but, depending on the question posed, may not be answered. If a student feels that insufficient information is provided to answer an examination question, the student should ask the instructor for clarification. If this is not possible or practical, the student should state the apparent deficiency clearly, make a reasonable assumption, and proceed with the problem.

The course will be a combination of on-campus and online classes. Students must be on time for the classes. The deadlines for homework will be strictly adhered to.

Grade Composition

Home Work	20%
Project	30%
Mid-Term	25%
Final	25%

Required Books

1. Pratt, Bostian and Allnutt, Satellite Communications, Second Edition (2003), Wiley, ISBN 047137007-X
2. Sachdev, D.K., "Business Strategies for Satellite Systems", (2004), Artech House, ISBN 1-58053-592-5

Reference Book

Sachdev, D.K., "Recent Successful Satellite Systems: Visions of the Future" (2017). AIAA ISBN ISBN: 978-1-62410-404-6

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If you are a student with a disability and you need academic accommodations, please see me and contact the Disability Resource Center (DRC) at 993-2474. All academic accommodations must be arranged through the DRC.

TCOM 521 Spring 2019 CLASS SCHEDULE

(Please note that the Spring 2019 course will be largely online. Some classes could be held in Room 1108 and in the Video Conference Facility)

DATE	CLASS	TOPICS
01/28	1	Course Overview & Introduction
02/04	2	Project Management
02/11	3	Project Topics Discussion & Teams Organization
02/18	4	Satellite Background & Tools-1
02/25	5	Satellite Background & Tools-II

03/04	6	Satellite Background & Tools-III
03/11		NO CLASS.SPRING BREAK
03/18	7	Mid-Term Exam
03/25	8	Business Strategy Development & Business Planning
04/01	9	System Planning
04/08	10	Engineering the System
04/15	11	Satellite Control network
04/22	12	Operations & Consumer Equipment
04/29	13	Team Presentations-1
05/06	14	Team Presentations-2
05/13	15	Final Exam