COMSATS Institute of Information Technology
Registrar Office, Principal Seat, Islamabad
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No: CIIT-Reg/Notif-674/11/1490

November 02, 2011

Notification

The Board of Advanced Studies and Research in its 13th meeting held on September 26, 2011, approved MS in Telecommunications Engineering (MSTE) for Fall 2009 session only for CIIT System **(Details are attached at Annex-A).**

Nadeem Uddin Qureshi
Additional Registrar

(Encl: Pages 06 in total including this page)

Distribution:

1. Dean, Faculty of Engineering CIIT.
2. All Campus Directors, CIIT.
3. Chairman, Department of Electrical Engineering, CIIT Islamabad Campus
4. All Incharges, Academic Sections, CIIT Campuses.
5. All HoDs Department of Electrical Engineering, CIIT Campuses.
6. Controller of Examinations, CIIT.
7. Additional Registrar (Academics) CIIT, Islamabad Campus.
8. All Incharges, Examination Departments, CIIT Campuses.

CC:

1. Registrar CIIT.
2. PS to Rector.

Duration of the Programs:

i) Duration:

- Minimum: 18 months (3 semesters)
- Maximum: 03 Years (6 semesters)

ii) Credit Limits

- Minimum: 30 Cr Hrs

iii) Distribution of Credit Hrs and Courses

Program Core Courses:	4	12 Cr. Hrs
Program Electives:	3-4	09-12 Cr. Hrs
Program Open Electives:	0-1	00-03 Cr. Hrs
Thesis :		06 Cr. Hr

Study Plan

Semester 1			
Code	Subject	Credits*	Prerequisites†
	Program Core - I	3	
	Program Core - II	3	
	Program Elective - I	3	
	Program Elective - II	3	
	Sub Total Credits	12	
Semester 2			
Code	Subject	Credits	Prerequisites†
	Program Core - III	3	
	Program Core - IV	3	
	Program Elective - III	3	
	Program Elective — IV or Open Elective-I	3	
	Sub Total Credits	12	
Semester 3			
Code	Subject	Credits	Prerequisites†
EEE699	Thesis Research	6	
	Sub Total Credits	6	
	Total Credits	30	

† Courses with prerequisites can only be registered if all prerequisite courses are passed.

- The credits earned in prerequisite(s) courses are not counted towards the Minimum Credit Hours required to complete the degree

List of Prerequisite Courses

1. MTH263 Probability Theory and Random Variables
2. EEE352 Analog Communication Systems/EEE351 Principles of Communication Systems
3. EEE314 Data Communication and Computer Networks
4. Object Oriented Programming in C++/Java or Equivalent
5. CSC112 Algorithms and Data Structures
6. EEE 223 Signals and Systems
7. EEE232 Electronics- II
8. EEE324 Digital Signal Processing

Program Core Courses (12 credit Hours)

Following four courses are mandatory for the MSTE.

1. EEE503 Stochastic Processes	3(3, 0)
2. EEE553 Communications Systems Engineering	3(3, 0)
3. EEE554 Digital Telephony	3(3, 0)
4. EEE560 RF System Engineering and Design	3(3, 0)

Program Elective Courses (6-9 Credit Hours)

The students will be required to earn minimum of 6 Credit Hours from one of the following areas of specialization.

RF/Microwave Engineering

1. EEE561 RF Propagation and Planning for Wireless Communications	3(3, 0)
2. EEE562 Microwave Passive Devices and Circuits	3(3, 0)
3. EEE563 Electromagnetic Interference & Compatibility	3(3, 0)
4. EEE661 Electromagnetic Field Theory	3(3, 0)
5. EEE662 Microwave Active Devices and Circuits	3(3, 0)
6. EEE663 Antennas Theory/Design and Applications	3(3, 0)
7. EEE664 Radio Wave Propagation	3(3, 0)
8. EEE665 Satellite Communications and Navigation Systems	3(3, 0)
9. EEE666 RF Network Planning and Design	3(3, 0)
10. EEE667 Introduction to RF Front-End Design	3(3, 0)
11. EEE668 Radar Systems	3(3, 0)
12. EEE761 Numerical and Computational Techniques in Electromagnetics	3(3, 0)
13. EEE762 Microwave Integrated Circuits	3(3, 0)
14. EEE763 Smart Antennas for Mobile Communications	3(3, 0)
15. EEE764 RF Filter Design	3(3, 0)
16. EEE765 RF and Microwave Measurement Techniques	3(3, 0)
17. EEE767 Wireless Channel Modeling	3(3, 0)
18. EEE861 Advanced Topics in RF/Microwave Engineering	3(3, 0)
19. EEE862 Advanced Topics in RF System Design	3(3, 0)
20. EEE863 Advanced Topics in Radio Wave Propagation	3(3, 0)
21. EEE864 Advanced Topics in Antenna Design	3(3, 0)
22. EEE866 Advanced Topics in RF Planning and Optimization	3(3, 0)

Telecommunication Systems and Networks

1. EEE511 Probabilistic Methods in Computer Systems Modeling   3(3, 0)
2. EEE513 Advanced Operating Systems   3(3, 0)
3. EEE514 Communication Networks-Architectures and Protocols   3(3, 0)
4. EEE518 Data Networks and Communications   3(3, 0)
5. EEE611 Queuing Theory for Performance Modeling   3(3, 0)
6. EEE612 Graph Theory and Network Optimization   3(3, 0)
7. EEE613 Mobile and Broadband Networks   3(3, 0)
8. EEE614 IP Routing Protocols and Internetwork Design   3(3, 0)
9. EEE617 Advanced Network Programming   3(3, 0)
10. EEE618 Networks and Computer Security   3(3, 0)
11. EEE619 Performance Evaluation of Computer Networks   3(3, 0)
12. EEE709 Telecommunication Software Design   3(3, 0)
13. EEE711 Application Development for Mobile Devices   3(3, 0)
14. EEE712 Mobile Computing   3(3, 0)
15. EEE714 Design and Analysis of Computer Communication Networks 3(3, 0)
16. EEE715 Network Management and Operational Network Security   3(3, 0)
17. EEE716 Internetworking: Architectures, Protocols and Applications 3(3, 0)
18. EEE717 Network Forensics   3(3, 0)
19. EEE718 Telecommunication Software Design   3(3, 0)
20. EEE554 Digital Telephony   3(3, 0)
21. EEE555 Digital Communications   3(3, 0)
22. EEE651 Performance Analysis of Communication Systems   3(3, 0)
23. EEE652 Cryptography and Secure Communication   3(3, 0)
24. EEE654 Telecommunication Switching Systems   3(3, 0)
25. EEE655 Wireless Communication Techniques   3(3, 0)
26. EEE656 Broadband Network Architectures   3(3, 0)
27. EEE657 Broadband Access Networks   3(3, 0)
28. EEE658 Mobile Cellular Systems and Standards   3(3, 0)
29. EEE659 IP Telephony   3(3, 0)
30. EEE750 Modeling and Analysis of Telecommunication Networks   3(3, 0)
31. EEE751 Telecommunication Network Management   3(3, 0)
32. EEE753 QoS Architectures for Multimedia Wireless Networks   3(3, 0)
33. EEE754 Multimedia Networking   3(3, 0)
34. EEE755 Teletraffic Engineering   3(3, 0)
35. EEE759 Traffic Engineering and QoS in TCP/IP Networks   3(3, 0)
36. EEE585 Optical Communications   3(3, 0)
37. EEE685 Optical Fiber Communication Systems   3(3, 0)
38. EEE686 Optical Fiber Networks   3(3, 0)
39. EEE816 Special Topics in Computer Networks   3(3, 0)
40. EEE817 Advanced Topics in Network Security   3(3, 0)
41. EEE855 Special Topics in Communication Systems   3(3, 0)

Wireless Information Networks

1. EEE556 Wireless Networks   3(3, 0)
2. EEE561 RF Propagation and Planning for Wireless Communications 3(3, 0)
3. EEE613 Mobile and Broadband Networks   3(3, 0)
4. EEE711 Application Development for Mobile Devices   3(3, 0)
5. EEE 712 Mobile Computing   3(3, 0)
6: EEE650 Wireless LANs   3(3, 0)
7. EEE655 Wireless Communication Systems   3(3, 0)
8. EEE658 Mobile Cellular Systems and Standards   3(3, 0)
9. EEE665 Satellite Communications and Navigation Systems   3(3, 0)
10. EEE 666 RF Network Planning and Design   3(3, 0)
11. EEE750 Modeling and Analysis of Telecommunication Networks   3(3, 0)
12. EEE752 Emerging Wireless Networks   3(3, 0)
13. EEE753 QoS Architectures for Multimedia Wireless Networks   3(3, 0)
14. EEE756 Advanced Multi-user Systems for Wireless Communications 3(3, 0)

15. EEE757 Adaptive Techniques for Wireless Communications   3(3, 0)
16. EEE767 Wireless Channel Modeling   3(3, 0)
17. EEE856 Advanced Topics in Wireless Networks   3(3, 0)
18. EEE857 Selected Topics in Wireless Network Security   3(3, 0)
19. EEE858 Selected Topics in Wireless Networks Design and Planning   3(3, 0)

Optical Fiber Communications

1. EEE582 Theory of Optical Fibers   3(3, 0)
2. EEE583 Optical Fiber Devices and Components   3(3, 0)
3. EEE584 Lasers and Optical Communication   3(3, 0)
4. EEE585 Optical Communications
5. EEE681 Optical Signal Processing   3(3, 0)
6. EEE682 Integrated Optical Circuits and Devices   3(3, 0)
7. EEE683 Optical Fiber Components and Transmission Systems 3(3, 0)
8. EEE685 Optical Fiber Communication Systems   3(3, 0)
9. EEE686 Optical Fiber Networks   3(3, 0)
10. EEE785 Optical Networks - Transport and Switching   3(3, 0)
11. EEE786 Next Generation Optical Networks   3(3, 0)
12. EEE782 Advanced Optoelectronic and Photonic Devices   3(3, 0)
13. EEE885 Advanced Topics in Optical Networks   3(3, 0)
14. EEE886 Advanced Topics in Optical Communications   3(3, 0)

Communication Signal Processing

1. EEE520 DSP Hardware Systems Design   3(3, 0)
2. EEE521 DSP Software Systems Design   3(3, 0)
3. EEE523 Linear Systems Theory   3(3, 0)
4. EEE552 Information Theory and Coding   3(3, 0)
5. EEE555 Digital Communications   3(3, 0)
6. EEE653 Advanced Digital Communications   3(3, 0)
7. EEE624 Advanced Digital Signal Processing   3(3, 0)
8. EEE724 Radar Signal Processing   3(3, 0)
9. EEE626 Digital Image Processing   3(3, 0)
10. EEE620 Multimedia Data Compression   3(3, 0)
11. EEE652 Cryptography and Secure Communication   3(3, 0)
12. EEE654 Wireless Communication Techniques   3(3, 0)
13. EEE726 Image, Video, and Multimedia   3(3, 0)
14. EEE727 Audio Signal Processing   3(3, 0)
15. EEE758 Detection and Estimation Theory   3(3, 0)
16. EEE725 Radar Signal Processing   3(3, 0)
17. EEE822 Special Topics in Signal Processing   3(3, 0)
18. EEE855 Advanced Topics in Communications Theory   3(3, 0)
19. EEE827 Advanced Topics in Communication Signal Processing 3(3, 0)

Telecommunication Electronics

1. EEE533 Integrated Circuit Analysis and Design   3(3, 0)
2. EEE535 Integrated Circuits for Communications   3(3, 0)
3. EEE633 Mixed-Signal VLSI Systems Design   3(3, 0)
4. EEE634 VLSI Systems Design   3(3, 0)
5. EEE635 Advanced Integrated Circuits for Communications   3(3, 0)
6. EEE562 Microwave Passive Devices and Circuits   3(3, 0)
7. EEE662 Microwave Active Devices and Circuits   3(3, 0)
8. EEE762 Microwave Integrated Circuits   3(3, 0)
9. EEE734 VLSI Architectures and Algorithms   3(3, 0)
10. EEE735 Design of System-on-Chip (SoC)   3(3, 0)
11. EEE737 Low Power Analog and Mixed Signal ICs   3(3, 0)
12. EEE536 Synthesis and Design of Analog Filters   3(3, 0)
13. EEE648 ASIC and FPGA Design   3(3, 0)
14. EEE738 VLSI for Telecommunication Systems   3(3, 0)
15. EEE748 Embedded System Design for Telecommunications   3(3, 0)
16. EEE837 Advanced Topics in Telecommunication Electronics   3(3, 0)

Open Electives (Max. 3 Cr. Hrs)

A maximum of 3 Cr. Hrs of Elective Courses can be taken from the following courses or a course from any stream of Electrical Engineering MS programs subject to the course offerings and departmental approval.

1. EEE501 Advanced Engineering Mathematics   3(3, 0)
2. EEE502 Professional and Technical Communication   3(3, 0)
3. EEE503 Stochastic Processes   3(3, 0)
4. EEE504 Advanced Linear Systems   3(3, 0)
5. EEE505 Graph Theory   3(3, 0)
6. EEE507 Discrete Mathematics   3(3, 0)
7. EEE508 Automata Theory   3(3, 0)
8. EEE602 Software Development Methodologies   3(3, 0)
9. EEE 604 Probabilistic Learning: Theory and Algorithms   3(3, 0)
10. EEE 605 Modern Data Analysis Methods   3(3, 0)
11. EEE607 Optimization Techniques   3(3, 0)
12. EEE608 Formal Specification and Modeling   3(3, 0)