Master of Engineering in Computer Engineering Orientation

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Outline

• Requirements for Master of Engineering in Computer Engineering (Non-Thesis)
• Additional Course Requirements (Applies to ME, MS, and Ph.D.)
• Foundation and First-Level Graduate Courses
• Tentative List of Courses for Master of Engineering CEEN Students
  – Must take at least 6 courses from this list.
• Tentative List of Spring 2018 Computer Engr & Systems Courses
• Location of Departmental Orientation
Requirements for Master of Engineering in Computer Engineering (Non-Thesis)

- Total number of hours (30)
- A minimum of 27 classroom hours (Excludes 681, 684, & 685).
  - Classroom hours must be taken from courses within the College of Engineering and/or College of Science.
  - One course from the ISYS Dept. in the College of Business is allowed.
  - A minimum of 24 classroom hours from the Departments of CSCE and ECEN
  - At least 13 of these 24 hours must be in ECEN.
  - At least 6 courses from the CEEN Master of Engineering student course list – see slides 7-9.
- Transfer hours allowed from another institution (max of 6 hours)
  - Transfer hours must be from a peer institution; they cannot have been used on a previous degree plan.
  - Students must send syllabus, transcript, and TAMU course equivalent to the Graduate Office. Transfer hours are subject to the approval of the GSC.
- Undergraduate hours allowed (max of 6 hours)
  - Only 400 level undergraduate courses can be included on degree plan.
  - Courses must be from the College of Engineering and/or College of Science.
• One hour of seminar is allowed (ECEN/CSCE 681) but is **NOT** required.
• Seminar (681), Internship (684), Directed Studies (685) no more than (3) hours allowed (combined).
  – Research (691) hours are not allowed on the MEN degree plan.
• A **Final Project Report** is required to be submitted to the Graduate Office.
  – A graded project from any ECEN or CSCE graduate course can be used to fulfill this requirement.
  – The project requires a grade, the professor’s signature, and a completed cover page.
  – It must be submitted in the graduating semester; see eCampus page for submission deadlines and other requirements
• Composition of supervisory committee
  – The Graduate Coordinator will be the chair of all MEN committees. No other committee members are needed.
Additional Course Requirements
(Applies to ME, MS, and Ph.D.)

• STAT 651 and STAT 652 (statistics courses) are for non-science majors and are not allowed.
• Traditionally no courses will be admitted from Engineering Technology because of the non-calculus based curriculum and no approved graduate program.
• Credit for CSCE 614 may not be allowed in addition to ECEN 651 unless approved by the student’s advisor.
• Credit for CSCE 619 and CSCE 612 may not be allowed in addition to ECEN 602. Please check with your advisor.
• No credit will be given for CSCE 601 & 602.
• No credit will be given for the following foundation courses ECEN 214, ECEN 248, ECEN 314, ECEN 325, ECEN 350, CSCE 321, CSCE 221 and CSCE 311.
Foundation and First-Level Graduate Courses

• **Foundation Courses (No graduate credit)**
  – ECEN 214 Electrical Circuit Theory
  – ECEN 248 Introduction to Digital Systems Design
  – ECEN 314 Signals & Systems
  – ECEN 325 Electronics
  – ECEN 350 Computer Architecture and Design
  – ECEN 423 Computer and Wireless Communications Networks
  – CSCE 221 Data Structures and Algorithms
  – CSCE 311 Analysis of Algorithms

• **Recommended first-level graduate courses**
  – ECEN Undergraduate Courses: 468
  – CSCE Undergraduate Courses: 410
  – ECEN Graduate Courses: 602, 621, 651, 653, 654, 687, 714, 754, 749
  – CSCE Graduate Courses: 614 (only with advisor approval), 629, 662
Tentative List of Courses for Master of Engineering CEEN Students

- Must take at least 6 courses from the list below and on the following two slides
- **Hardware/VLSI**
  - ECEN 749 Microprocessor System Design
  - ECEN 714 Digital Integrated Circuit Design
  - ECEN 468 Advanced Digital System Design
  - ECEN 654 VLSI System Design
  - ECEN 680 Test and Diagnosis of Digital Systems
  - ECEN 687 Introduction to VLSI Design Automation
  - ECEN 699 Advances in VLSI Logic Synthesis
  - ECEN 751 Advanced Computational Methods for Integrated System Design
  - ECEN 752 Advances in VLSI Circuit Design
Tentative List of Courses for Master of Engineering CEEN Students

**Networks**
- ECEN 602 Computer Communication and Networking
- ECEN 619 Internet Protocols and Modeling
- ECEN 621 Mobile Wireless Networks
- ECEN 627 Multimedia Systems and Networks
- CSCE 663 Real-Time Systems
- CSCE 665 Advanced Networking and Security
- CSCE 664 Wireless and Mobile Systems
- ECEN 689 Special Topics Courses

**Computer Architecture**
- ECEN 651 Microprogrammed Control of Digital Syst.  
  (CSCE 614 with advisor approval only)
- ECEN 653 Computer Arithmetic Unit Design
- ECEN 676 Advanced Computer Architecture
- CSCE 605 Compiler Design
Tentative List of Courses for Master of Engineering CEEN Students

• **Systems and Software**
  – CSCE 410 Operating Systems
  – CSCE 606 Software Engineering
  – CSCE 629 Analysis of Algorithms
  – CSCE 662 Distributed Processing Systems
  – CSCE 670 Information Retrieval and Storage

• **Networking and System Theory**
  – ECEN 434/754 Optimization for Electrical & Computer Engineering Applications
  – ECEN 663 Data Compression with Applications to Speech and Video
  – ECEN 750 Design and Analysis of Communication Networks
  – ECEN 753 Theory and Applications of Networking Coding
  – ECEN 755 Stochastic Systems
  – ECEN 689 Special Topics Courses
Tentative List of Computer Engineering and Systems Classes for Spring 2018

- ECEN 619 – Internet Protocols and Modeling
- ECEN 653 – Computer Arithmetic Unit Design
- ECEN 654 – Very Large Scale Integrated Systems Design
- ECEN 681 – Seminar
- ECEN 699 – Advances in VLSI Logic Synthesis
- ECEN 714 – Digital Integrated Circuit Design (Stacked with ECEN 454)
- ECEN 749 – Microprocessor Systems Design (Stacked with ECEN 449)
- ECEN 751 – Computational Methods for Integrated Systems Design
- ECEN 755 – Stochastic Systems
ECE Department Orientation

- ECE Department Orientation at 1:00 pm in HECC Room 106