

# **Master of Engineering in Computer Engineering Orientation**

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**Department of Electrical and Computer Engineering**

- 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.

# Requirements for Master of Engineering in Computer Engineering (Non-Thesis) (Cont)



- 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 211 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 211 Data Structures and Their Implementations
  - 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 Comm. 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

