

Master of Engineering in Computer Engineering Orientation

August 22, 2018

Pierce Cantrell

Department of Electrical and Computer Engineering

- Requirements for Master of Engineering (ME) in Computer Engineering (Non-Thesis)
- Additional ME Course Requirements
- 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 Academic Year 2019 and 2020 Computer Engineering & Systems Courses
- Computer Science and Engineering (CSE) Class Restrictions
- Other Orientations

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 7-11.*
- Transfer hours allowed from another institution (maximum of 6 hours)
 - Transfer hours must be from a U.S. peer institution; they cannot have been used on a previous degree plan.
 - Students must send syllabi, transcript, and TAMU course equivalent to the Graduate Office. Transfer hours are subject to the approval of the GSC.
- Undergraduate hours allowed (maximum of 6 hours)
 - Only 400 level undergraduate courses can be included on your 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) (Continued)



- 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 ME 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 the eCampus page for submission deadlines and other requirements.
- Composition of supervisory committee:
 - The Graduate Coordinator will be the chair of all ME committees. No other committee members are needed.

Additional Course Requirements (Applies to ME)

- 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 will normally not be allowed. Take ECEN 651 instead.
- Credit for CSCE 619 and CSCE 612 in addition to ECEN 602 will normally not be allowed.
- 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 221	CSCE 311	CSCE 321

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 Course: 468
 - CSCE Undergraduate Course: 410
 - ECEN Graduate Courses: 602, 621, 651, 653, 654, 687, 714, 754, 749
 - CSCE Graduate Courses: 629, 662

Tentative List of Courses for Master of Engineering CEEN Students



Must take at least 6 courses from the list on slides 7-11.

- **Hardware/VLSI**

- **ECEN 468** Advanced Digital System Design
- **ECEN 654** VLSI System Design
- **ECEN 661** Integrated Systems Design Automation
- **ECEN 680** Test and Diagnosis of Digital Systems
- **ECEN 687** Introduction to VLSI Design Automation
- **ECEN 689** Special Topics Courses in Hardware/VLSI
- **ECEN 699** Advances in VLSI Logic Synthesis
- **ECEN 714/454** Digital Integrated Circuit Design
- **ECEN 749/449** Microprocessor System Design
- **ECEN 751** Advanced Computational Methods for Integrated System Design
- **ECEN 752** Advances in VLSI Circuit Design
- **ECEN 759** Hardware Security

Tentative List of Courses for Master of Engineering CEEN Students



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

Tentative List of Courses for Master of Engineering CEEN Students



- **Computer Architecture**
 - **ECEN 651** Microprogrammed Control of Digital Systems (Not CSCE 614)
 - **ECEN 653** Computer Arithmetic Unit Design
 - **ECEN 659** Parallel / Distributed Numerical Algorithms and Applications
 - **ECEN 676** Advanced Computer Architecture
 - **ECEN 689** Special Topics Courses in 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 & Storage

Tentative List of Courses for Master of Engineering CEEN Students



- **Networking and System Theory**
 - **ECEN 663** Data Compression with Applications to Speech and Video
 - **ECEN 689** Special Topics Courses in Networking and System Theory
 - **ECEN 750** Design and Analysis of Communication Networks
 - **ECEN 753** Theory and Applications of Networking Coding
 - **ECEN 754/434** Optimization for Electrical and Computer Engineering Applications
 - **ECEN 755** Stochastic Systems
 - **ECEN 756** Game Theory
- **Data Science**
 - **ECEN 689** Special Topics Courses in Data Science
 - **ECEN 748** Data Stream Algorithms and Applications
 - **ECEN 758** Data Mining and Analysis

Tentative List of Computer Engineering and Systems Classes for Fall 2018



- ECEN 602 Computer Communication and Networking
- ECEN 676 Advanced Computer Architecture
- ECEN 681 Seminar – Computer Engineering
- ECEN 689 Sp. Topics in Dependable Learning Systems
- ECEN 689 Sp. Topics in Online Decision Making and Learning
- 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 System Design
- ECEN 753 Theory and Applications of Network Coding
- ECEN 754 Optimization for Electrical and Computer Engineering Applications
- ECEN 758 Data Mining and Analysis
- ECEN 759 Hardware Security

Tentative List of Computer Engineering and Systems Classes for Spring 2019



- ECEN 619 Internet Protocols and Modeling
- ECEN 651 Microprogrammed Control of Digital Systems
- ECEN 654 Very Large Scale Integrated Systems Design
- ECEN 681 Seminar – Computer Engineering
- ECEN 689 Sp. Topics in Architecture and Circuits for Machine Learning
- ECEN 689 VLSI Machine Learning Systems
- ECEN 714 Digital Integrated Circuit Design
(Stacked with ECEN 454)
- ECEN 748 Data Stream Algorithms and Applications
- ECEN 749 Microprocessor Systems Design
(Stacked with ECEN 449)
- ECEN 755 Stochastic Systems
- ECEN 756 Game Theory
- ECEN 757 Distributed Systems and Cloud Computing
- ECEN 758 Data Mining and Analysis

Tentative List of Computer Engineering and Systems Classes for Fall 2019



- ECEN 602 Computer Communication and Networking
- ECEN 621 Mobile Wireless Networks
- ECEN 651 Microprogrammed Control of Digital Systems
- ECEN 681 Seminar – Computer Engineering
- ECEN 687 Introduction to VLSI Physical Design Automation
- ECEN 689 Sp. Topics in Processor Memory System Architecture
- 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 System Design
- ECEN 754 Optimization for Electrical and Computer Engineering Applications
- ECEN 758 Data Mining and Analysis
- ECEN 759 Hardware Security

Tentative List of Computer Engineering and Systems Classes for Spring 2020



- ECEN 619 – Internet Protocols and Modeling
- ECEN 653 – Computer Arithmetic Unit Design
- ECEN 654 – Very Large Scale Integrated Systems Design
- ECEN 681 – Seminar – Computer Engineering
- ECEN 689 Sp. Topics in Architecture and Circuits for Machine Learning
- ECEN 689 Sp. Topics in Smartphone Systems
- ECEN 689 Sp. Topics in VLSI Machine Learning Systems
- ECEN 714 Digital Integrated Circuit Design
(Stacked with ECEN 454)
- ECEN 748 Data Stream Algorithms and Applications
- ECEN 749 Microprocessor Systems Design
(Stacked with ECEN 449)
- ECEN 750 Design and Analysis of Communication Networks
- ECEN 755 Stochastic Systems
- ECEN 758 Data Mining and Analysis

Computer Science & Engineering (CSE)

Class Restrictions



- Beginning in Fall 2018, the CSE Department has placed enrollment restrictions on several high-demand CSCE graduate classes
 - In order to enroll in one of these high-demand classes as a CEEN major, you need to get on the waiting list.
 - FAQ: <https://engineering.tamu.edu/cse/academics/graduate-program/faq.html#ForceRequests>
 - URL: <https://csnet.cs.tamu.edu/apps/forces/>
- CSCE Fall 2018 Classes with enrollment restrictions (As of 8/21/2018)
 - CSCE 606 Software Engineering
 - CSCE 608 Database Systems
 - CSCE 611 Operating Systems
 - CSCE 625 Artificial Intelligence
 - CSCE 629 Analysis of Algorithms
 - CSCE 678 Distributed and Cloud Computing

- Drop-In Daily WEB 333E: 8:00 – 12:00 & 1:00 - 4:00
- One-on-one meeting with Ms. Vickie Winston, CESG Program Specialist
 - Assignment of Mentor/Advisor for Course Advice
 - Useful Information
- WEB 333 - Suite in the Northwest corner of Wisenbaker includes Vickie's office, CESG Offices, & the Fishbowl

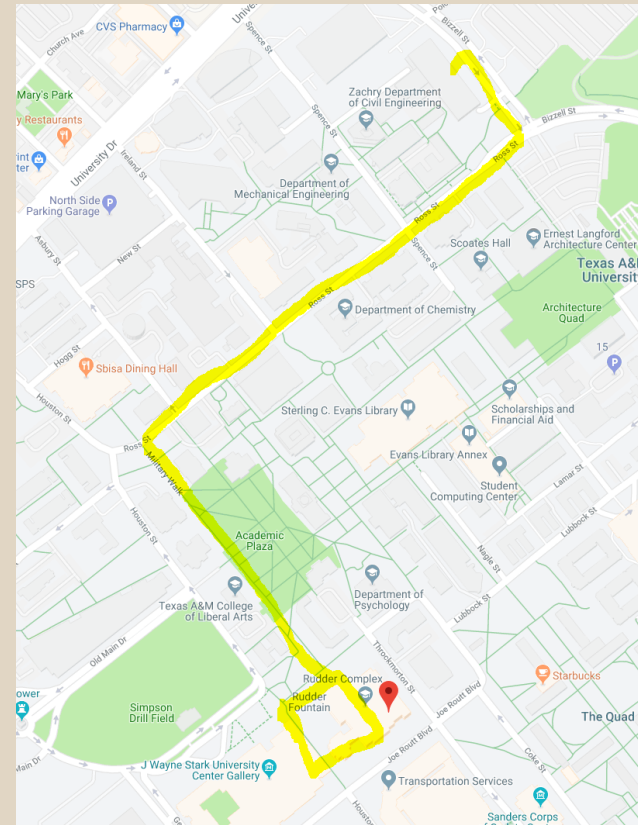
International Students

<https://calendar.tamu.edu/iss/#!view/day>



TEXAS A&M
UNIVERSITY

- Thursday, August 23 8:00 AM - 4:00 PM
- MSC Ballroom & Rudder Auditorium



OGAPS Orientation

(Registration is now closed)



- Highly Recommended
- Friday, August 24, 8:00 AM to 4:00 PM
- Rudder Exhibit Hall
- **Register** for orientation!
<https://ogaps.tamu.edu/New-Current-Students/New-Graduate-Student-Orientation>

previous session held on Friday, 8/17/18

- You can find this PowerPoint Thursday at:

<https://cesg.tamu.edu/>

