

## MSN, Computer Architecture &amp; Systems (CAS), Microarchitecture emphasis

**MASTER of SCIENCE GRADUATE PLAN OF WORK PROPOSED**

On this page list your proposed program in chronological order. Be sure to show a total of at least 30 hours.

| <b>ECE COURSES</b>  |                              |                |                 |              |
|---|------------------------------|----------------|-----------------|--------------|
| <b>21 hours coursework required, maximum 6 hours 695</b>                                    |                              |                |                 |              |
| <b>Course Prefix/Number (Specialty)</b><br><small>* elective (may substitute other)</small> | <b>Major Track (EE, CPE)</b> | <b>Credits</b> | <b>Semester</b> | <b>Grade</b> |
| ECE 506 (CA)  | CPE                          | 3              | F1              |              |
| ECE 521 (CA)  | CPE                          | 3              | F1              |              |
| ECE 546 (VLSI)  | CPE                          | 3              | F1              |              |
| ECE 600   |                              | 1              | F1              |              |
|   |                              |                |                 |              |
| ECE 520 (VLSI)  | CPE                          | 3              | S1              |              |
| * ECE 706 or 705 or 786 (CA)  | CPE                          | 3              | S1              |              |
| * ECE 561 or 786 (CA)   | CPE                          | 3              | S1              |              |
|   |                              |                |                 |              |
| * ECE 566 (S/W)   | CPE                          | 3              | F2              |              |
| ECE 721 (CA)  | CPE                          | 3              | F2              |              |
| * ECE 570 (NET)   | CPE                          | 3              | F2              |              |

| <b>NON-ECE Courses</b>              |              |                |                 |              |
|-------------------------------------|--------------|----------------|-----------------|--------------|
| <b>Course Prefix/Number (Topic)</b> | <b>Minor</b> | <b>Credits</b> | <b>Semester</b> | <b>Grade</b> |
| * CSC 501 (operating systems)       |              | 3              | S1              |              |
|                                     |              |                |                 |              |
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**Master of Science  
GRADUATE PLAN OF WORK Requirements**

1. All graduate students must attend the ECE600 seminar (a one credit hour course) in either the first or second semester. This seminar deals with topics important for the graduate career of the student.  
Check: POW has 1 credit of ECE 600 in first semester.
2. The MS degree requires at least 30 credit hours. The MS program requires both breadth and depth.  
Check: POW has 30 credits of graded courses and 1 credit of ECE 600.
3. Breadth is obtained by at least one course from each of three (3) specialty areas in Table 1.  
Check: (1) CA (e.g., 521), (2) S/W (566), (3) VLSI (e.g., 546).
4. Depth is achieved by taking at least two **advanced graduate level** courses. Advanced courses are 700 level regularly scheduled ECE courses. Special topics courses, 79x, may not be counted as advanced. At least one of the advanced courses must come from the major track (EE or CPE). For thesis MS students, ECE695 counts as an advanced course.  
Check: CPE (706 or 705 or 786, 721).
5. The major, EE or CPE, is obtained by taking **five (5)** courses from major track from the entire list of courses in ECE. At least one of the advanced courses must come from the major track. Three hours of thesis can be credited as one course in the major. Only one course in the major track is subject to this substitution.  
Check: 9 CPE courses.
6. The student must take 21 hours of ECE courses, 18 hours must be graded, i.e., only one S/U course allowed, (ECE633, 634, 682), exclusive of ECE695. ECE695 cannot be used for credit by non-thesis students. The student must have a GPA of at least 3.000 in ECE courses. This includes courses cross-listed with other departments.  
Check: POW has 28 ECE credits, 27 of which are graded.
7. Maximum six(6) hours of ECE695 is allowed for MST students – an MST student may have up to nine hours of S/U, e.g., 6 hours ECE695 + 3 hours ECE633.  
Check: no 695 for MSN.
8. Up to nine hours of graduate-level (500,700) courses outside of ECE may be taken. At most one senior-level (400) course may be included in these nine hours. These courses must be part of a unified plan of study for an advanced ECE degree. These courses should be taken with prior approval of the director of graduate programs or the ECE Graduate Studies Committee.  
(As a guideline, note that the common graduate-level, technical courses in CSC, MA, STAT, PHYS, CH, or any engineering department are acceptable. BUS courses that are listed for the CNE program are acceptable. Substitutions for BUS courses require prior approval. It is wise to check with the graduate office before taking courses outside of the above mentioned areas.)  
Check: POW includes 3 hours of pre-approved CSC courses at 500/700 level (501).
9. Examples for plans of work for various areas can be found at (URL)

| <b>TABLE 1: Specialty areas</b>   |   |
|---|---|
| <b>Specialty</b>  | <b>Course Numbers</b>   |
| Computer Architecture (CPE)   | ECE506(FS) ECE521(FS), ECE561(S), ECE721(FO), ECE743(V), ECE747(S), ECE705(V), ECE706(S), ECE785(F), ECE786(S)  |
| Software (CPE)  | ECE 517(F), ECE 566(S)  |
| VLSI Systems (CPE)  | ECE 520(S), ECE546(F), ECE 704(V), ECE 741(V), ECE745(F), ECE761(S)   |
| Networking(CPE)   | ECE 570(FS), ECE573(FS), ECE574(FS), ECE575(S), ECE 576(FS), ECE579(FS), ECE773(S), ECE774(S), ECE775(F), ECE 776(S), ECE 777(F), ECE779(S)                       |
| Circuits (EE)   | ECE 511(F), ECE703(F), ECE 712 (S), ECE718(S), ECE 733(S)   |
| Microwave Circuits and Applied Electromagnetics (EE)  | ECE 540(S), ECE549(F), ECE719(F), ECE732(S)   |
| Communications (EE)   | ECE515(S), ECE582 (F), ECE 751(SO), ECE752(SO), ECE 762(F), ECE766(S), ECE767(SE)   |
| Signal Processing and Computational Intelligence (EE)   | ECE 513(F), ECE559(SE), ECE742 (S), ECE763(F)   |
| Robotics, Mechatronics, Control & Instrumentation (EE)  | ECE 516(S), ECE522(F), ECE555(S), ECE556(F), ECE 726(V), ECE755(F)  |
| Power Electronics and Power Systems (EE)  | ECE 534 (F), ECE550 (FE), ECE553 (S), ECE734 (S), ECE 736(F), ECE753(SE), ECE792P* (SO), ECE792S* (SE), * these course may count as advanced, pending CAF         |
| Nanoelectronics and Photonics (EE)  | ECE523(S), ECE 530**(F), ECE531(F), ECE538(F), ECE557(F), ECE 722(F), ECE 723(SO), ECE 724(S) ** Required for students majoring in nanoelectronics and photonics. |
| Key to course offerings: F- fall, S – spring, FS – both fall and spring, FO – fall odd years, FE – fall even years, SO – spring odd years, SE – spring even years, V – variable, depending on instructor availability, Sum – summer, for courses that have an inconsistent history, we have noted the last time it was offered. |   |