

**Master of Science
GRADUATE PLAN OF WORK Requirements**

1. The MS degree requires at least 30 credit hours. The MS program requires both breadth and depth.
Fulfilled with 24 credits of courses and 6 credits of 695.
2. Breadth is obtained by at least one course from each of three (3) specialty areas – **circle courses taken in list below.**
Fulfilled with (1) 521 (CA), (2) 566 (592B) (S/W), (3) 546 (VLSI)
3. Depth is achieved by taking at least two advanced graduate level courses from the major track (EE or CPE) from the list of advanced courses below. – **circle courses taken in list below.**
Fulfilled with 706, 721 and 785/6.
4. The major, EE or CPE, is obtained by taking **six (6)** courses from major track from the entire list of courses in ECE. 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.
Fulfilled with CPE courses 506, 521, 546, 566, 706, 721, 785/6 (Can substitute 695 for one if needed).
5. 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.
Fulfilled with 27 credits of ECE classes, 21 of which are graded.
6. 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.
Fulfilled with only 6 credits of 695.
7. 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.)
Fulfilled with including only 3 credits of CSC 500 level classes (501) in the POW.
8. Examples for plans of work for various areas can be found at (URL)
<http://www.ece.ncsu.edu/academics/grad/plans/>

Specialty	Course Numbers
Computer Architecture (CPE)	ECE506 (FS) ECE521(FS), ECE561(F), ECE721(FE), ECE743(F), ECE747(S), ECE706(S), ECE785/6(FS)
Software (CPE)	ECE 517(F), ECE 566(S)
VLSI Systems (CPE)	ECE 520(S), ECE546(F), ECE 704(FS-Sum), ECE 741(S), ECE761(F)
Networking(CPE)	ECE 570(FS), ECE 576(FS), ECE775(F),ECE 776(S), ECE 777(F)
Circuits (EE)	ECE 711(F), ECE718(S), ECE 733(S)
Microwave Circuits and Applied Electromagnetics (EE)	ECE 740(S), ECE549(F), ECE719(F), ECE732(S)
Communications (EE)	ECE715(S), ECE791W (F), ECE 751(SO), ECE 762(F)
Signal Processing and Computational Intelligence (EE)	ECE 713(F), ECE742 (S), ECE759(SE), ECE763(SO)
Robotics, Mechatronics & Instrumentation (EE)	ECE554(S), ECE754(F) ECE592R (F), ECE525 (F)
Power Engineering and Control (EE)	ECE 716(F), ECE 726(F'99), ECE750(F'99), ECE753(S0)
Nanoelectronics and Photonics (EE)	ECE523(S), ECE 730*(FS), ECE738(F), ECE757(F), ECE 722(F), ECE 723(SO), ECE 724(S) * Required for students majoring (in nanoelectronics and photonics.
Advanced Graduate Courses (EE)	718, 719, 722, 723, 724, 726, 732, 733, 742, 751, 753, 754, 762, 763,
Advanced Graduate Courses(CPE)	704, 706, 72, 74, 743, 761, 775, 776, 777, 785, 786
Key to course offerings: F- fall, S – spring, FS – both fall and spring, FO – fall odd years, SO – spring odd years, SE – spring even years, Sum – summer, for courses that have an inconsistent history, we have noted the last time it was offered.	