

**NORTH CAROLINA STATE UNIVERSITY
DEPARTMENT OF ELECTRICAL & COMPUTER ENGINEERING
GRADUATE OFFICE**

MS-EE, MS-CPE

(MS-CNE use CNE form)

APPOINT ADVISORY COMMITTEE AND CREATE PLAN OF GRADUATE WORK

(Form 2/3/12)

Date: _____

| | | | |
|-----------|-------|--------|-----------|
| Last Name | First | Middle | ID Number |
|-----------|-------|--------|-----------|

E-mail: _____

Degree Sought MS-EE thesis MS EE non-thesis MS-CPE thesis MS-CPE non-thesis
(Place "X" by appropriate degree)

Accelerated BS/MS yes no If ABM give BS graduation date _____

School ENGINEERING (014) _____ Date Expected _____
Month Year

Advisory Committee

At least one chair and two members required if Thesis. If non-thesis, only chair required. Non-thesis students can find out more information about their advisor/chair on the ECE website and intranet.

Print Full Name

Print Full Name

Print Full Name

Print Full Name

Print Full Name

ECE Masters Plan of Work Help

03 February 2012

The Plan of Work is required from all students by the end of the second semester. The current template will require you to annotate the plan with the requirements that each course satisfies. This is easily done using the “Requirement/Course Description” line that is on the left for each course entry. Examples for are given on the next page. CNE Masters students should see the Networking website for degree requirements here: <http://networking.ncsu.edu/program.php>


All EE and CPE MS Students

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.
2. The MS degree requires at least 30 credit hours. The MS program requires both breadth and depth. **SIS will automatically count hours for you.**
3. Breadth is obtained by at least one course from each of three (3) specialty areas in Table 1. **You will need to use the comments section that is available in the “Requirement/Course Description” line to denote the areas.**
4. Depth is achieved by taking at least two **advanced graduate level** courses. Advanced courses are 700 level regularly scheduled 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 may count as an advanced course. **You need to use the comment section that is available in the “Requirement/Course Description” line of the flexible template to note the 700 level courses you chose.**
5. The major, EE or CPE, is obtained by taking **five (5)** courses from major track from the entire list of courses in ECE (see Appendix A below). 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. **You will need to indicate in the “Requirement/Course Description” line which courses are EE and which are CPE. See example below.**
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. **If you take any of the individual studies courses, please note the instructor of the course.**
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.

8. Up to nine hours of graduate-level (500,700) courses outside of ECE may be taken. 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.)

Use of Flexible Template

Create or update your plan of work and advisory committee.

| Requirements | | Find  | | First | 1-11 of 11 | Last | |
|--------------|--------------------------------|--|---------|-------|------------|-----------|-------|
| *Type | Requirement/Course Description | Subject | Catalog | Units | Term | Completed | Grade |
| Major | Transfer Credit (ECE514 PBS) | Select TR | 999 | 3.0 | | | |
| Major | ECE Grad Orient | Select ECE | 600 | 1.0 | Fall '09 | | |
| Major | Digital Sig Proc (EE-sig Proc) | Select ECE | 513 | 3.0 | Fall '09 | | |
| Major | Computer Networks (cpe - net) | Select ECE | 570 | 3.0 | Fall '09 | | |
| Major | Wireless Com Syst ((ee-comm) | Select ECE | 582 | 3.0 | Fall '09 | | |
| Major | Digital Communicat(ee) | Select ECE | 515 | 3.0 | Spring '10 | | |
| Major | Dig Asic Design(cpe-vlsi) | Select ECE | 520 | 3.0 | Spring '10 | | |
| Major | Information Theory (ee-700) | Select ECE | 752 | 3.0 | Spring '10 | | |
| Other | Lin Tran Matr Theo | Select MA | 523 | 3.0 | Fall '10 | | |
| Major | Spec Top(dig imaging:trussell) | Select ECE | 592 | 3.0 | Fall '10 | | |
| Major | Dig Sig Proc Arch(cpe-CA)700 | Select ECE | 747 | 3.0 | Fall '10 | | |

Add Row

Save

Submit For Approval

Start Over

ECE Specialty Areas (Revised January, 2012)

| Specialty | Course Numbers |
|---|---|
| Computer Architecture (CPE) | ECE506 (FS), ECE521(FS), ECE561(S), ECE705 (V), ECE706(F), ECE721(FO), ECE743(V), ECE747(S), ECE785(F), ECE786(S) |
| Software (CPE) | ECE 517(F), ECE 566(S) |
| VLSI Systems (CPE) | ECE 520(S), ECE544(S), ECE546(F), ECE720(S) ECE745(F), ECE 746(V), ECE761(S) |
| Networking(CPE) | ECE 570(FS), ECE573(FS), ECE574(FS), ECE575(S), ECE 576(FS), ECE579(FS), ECE772(S), ECE773(S), ECE774(S), ECE775(F), ECE 776(S), ECE 777(F), ECE779(S) |
| Circuits (EE) | ECE 511(F), ECE 712(S), ECE718(S), ECE 733(S) |
| Microwave Circuits and Applied Electromagnetics (EE) | ECE 532(S), ECE 540(S), ECE549(F), ECE719(F), ECE732(S) |
| Communications (EE) | ECE515(S), ECE582 (F), ECE 751(S), ECE752(SO), ECE762(F), ECE766(S), ECE767(SE), ECE778(F) |
| Signal Processing and Computational Intelligence (EE) | ECE 513(F), ECE 558(F), ECE559(SE), ECE742 (S), ECE 759(SE), ECE763(F), ECE 764(F), ECE 765(S) |
| Robotics, Mechatronics, Control & Instrumentation (EE) | ECE 516(S), ECE522(F), ECE 536(F), ECE555(S), ECE556(F), ECE 726(V), ECE755(F), ECE 756(S) |
| Power Electronics and Power Systems (EE) | ECE 534(F), ECE 553(S), ECE734 (F), ECE 736(F), ECE550(FE), ECE753(SE), ECE792P* (SO), ECE792S*(SE) * these course may count as advanced, pending CAF |
| Nanoelectronics and Photonics (EE) | ECE523(S), ECE 528(V), ECE 530**(F), ECE531(F), ECE538(F), ECE557(F), ECE 722(F), ECE 723(SO), ECE 724(S) ECE 725(S), ECE 727(V), ECE 729(SA), ECE 739(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. | |

ECE Course Detail (Revised January, 2012)

CONSULTCOURSE CATALOG FOR AVAILABILITY EACH TERM

| COURSE NO. | MAJOR | | COURSE TITLE | SPECIALTY AREA | SEM OFR | |
|------------|-------|-----|--------------|--|-------------------------|-----|
| | EE | CPE | | | | |
| ECE | 506 | | X | ARCHITECTURE OF PARALLEL COMPUTERS | COMP. ARC | F/S |
| ECE | 511 | X | | ANALOG ELECTRONICS | CIRCUITS | F |
| ECE | 513 | X | | DIGITAL SIGNAL PROCESSING | SIG PROC COMPINTEL | F |
| ECE | 514 | X | | RANDOM PROCESSES | SEE FOOTNOTE | F |
| ECE | 515 | X | | DIGITAL COMMUNICATIONS | COMM | S |
| ECE | 516 | X | | SYSTEM CONTROL ENGINEERING | ROBOMECH CON INSTR | S |
| ECE(CSC) | 517 | | X | OBJECT-ORIENTED LANGUAGE & SYSTEMS | SOFTWARE | F |
| ECE | 520 | | X | DIGITAL ASIC DESIGN | VLSI SYS | S |
| ECE | 521 | | X | DIGITAL COMPUTER TECHNOLOGY AND DESIGN | COMP. ARC | S |
| ECE(BME) | 522 | X | | MEDICAL INSTRUMENTATION | ROBOMECH CON INSTR | F |
| ECE | 523 | X | | PHOTONICS AND OPTICAL COMMUNICATIONS | NEP | S |
| ECE | 528 | X | | SEMICONDUCTOR CHARACTERIZATION | NEP | F |
| ECE | 530 | X | | PHYSICAL ELECTRONICS <small>(REQ'D FOR NEP MAJORS)</small> | NEP | F |
| ECE | 531 | X | | PRINCIPLES OF TRANSISTOR DEVICES | NEP | F |
| ECE | 532 | X | | PRINCIPLES OF MICROWAVE CIRCUITS | MW CKTS/ APP ELMG | S |
| ECE | 534 | X | | POWER ELECTRONICS | PWR ELEC/ PWR SYS | F |
| ECE(MAE) | 535 | X | | DESIGN OF ELECTROMECHANICAL SYSTEMS | SEE FOOTNOTE | F |
| ECE/BME | 536 | X | | DIGITAL CONTROL SYSTEMS | ROBOMECH CON INSTR | F |
| ECE | 538 | X | | INTEGRATED CKT TECHNOLOGY AND FABRICATION | NEP | F |
| ECE | 540 | X | | ELECTROMAGNETIC FIELDS | MW CKTS/ APP ELMG | S |
| ECE | 544 | X | | DESIGN OF ELECTRONIC PACKAG. & INTERCONNECTS | VLSI SYS | S |
| ECE | 546 | X | X | VLSI SYSTEMS DESIGN (NOTE CROSSLISTING) | VLSI SYS | F |
| ECE | 549 | X | | RF WIRELESS DESIGN | MW CKTS/ APP ELMG | F |
| ECE | 550 | X | | POWER SYSTEM OPERATION AND CONTROL | PWR ELEC/ PWR SYS | F-E |
| ECE | 553 | X | | SEMICONDUCTOR POWER DEVICES | PWR ELEC/ PWR SYS | S |
| ECE | 555 | X | | COMPUTER CONTROL OF ROBOTS | ROBOMECH CON INSTR | S |
| ECE | 556 | X | | AGENT-BASED MECHATRONICS SYSTEMS | ROBOMECH CON INSTR | F |
| ECE | 557 | X | | PRINCIPLES OF MOS TRANSISTORS | NEP | F |
| ECE | 558 | X | | FUNDAMENTALS OF DIGITAL IMAGING | SIG PROC COMPINTEL | F |
| ECE | 561 | | X | EMBEDDED SYSTEM DESIGN | COMP ARC | S |
| ECE | 566 | | X | COMPILER OPTIMIZATION AND SCHEDULING | SOFTWARE | S |
| ECE(CSC) | 570 | | X | COMPUTER NETWORKS | NTWK | F/S |

ECE Course Detail (Revised January, 2012)

CONSULT COURSE CATALOG FOR AVAILABILITY EACH TERM

| COURSE NO. | MAJOR | | COURSE TITLE | SPECIALTY AREA | SEM OFR |
|--------------|-------|-----|---|-----------------------|---------|
| | EE | CPE | | | |
| ECE(CSC) 573 | | X | INTERNETWORK PROTOCOLS AND ARCHITECTURE | NTWK | F/S |
| ECE(CSC) 574 | | X | NETWORK SECURITY | NTWK | F/S |
| ECE(CSC) 575 | | X | INTRODUCTION TO WIRELESS NETWORKING | NTWK | S |
| ECE(CSC) 576 | | X | CONNECTION-ORIENTED NETWORKS | NTWK | F/S |
| ECE 579 | | X | INTRO TO COMPUTER PERFORMANCE MODELLING | NTWK | F/S |
| ECE 582 | X | | WIRELESS COMMUNICATION SYSTEMS | COMM | F |
| ECE 592 | X | X | SPECIAL TOPICS IN ECE (DEPENDS ON TOPIC) | SEE FOOTNOTE | |
| ECE 600 | X | X | ORIENTATION COURSE-MANDATORY REQ'D OF ALL INCOMING STUDENTS IN 1 ST SEMESTER | VARIABLE | F |
| ECE 705 | | X | MEMORY SYSTEMS | COMP ARC | |
| ECE 706 | | X | ADVANCED PARALLEL COMPUTER ARCHITEC | COMP ARC | S |
| ECE 712 | X | | INTEGRATED CIRCUIT DESIGN FOR WIRELESS COMMUNICATION | MW CKTS/ APP ELMG | S |
| ECE(MAE) 717 | X | | MULTIVA LIN SYSTEMS THEORY | SEE FOOTNOTE | |
| ECE 718 | X | | COMPUTER-AIDED CIRCUIT ANALYSIS | CIRCUITS | S |
| ECE 719 | X | | MICROWAVE CIRCUIT DESIGN | MW CKTS/ APP ELMG | F |
| ECE 720 | | X | ELECTRONIC SYSTEM LEVEL AND PHYSICAL DESIGN | VLSI SYS | S |
| ECE 721 | | X | ADVANCED MICROARCHITECTURE | COMP ARC | F-O |
| ECE 722 | X | | ELECTRONIC PROPERTIES OF SOLID STATE MATERIALS | NEP | F |
| ECE 723 | X | | OPTICAL PROPERTIES OF SEMICONDUCTORS | NEP | S-0 |
| ECE 724 | X | | ELECTRONIC PROPERTIES OF SOLID STATE DEVICES | NEP | S |
| ECE 725 | X | | QUANTUM ENGINEERING | NEP | S |
| ECE 726 | X | | ADVANCED FEEDBACK CONTROL | ROBOMECH CON INSTR | V |
| ECE (PY) 727 | X | | SEMICONDUCTOR THIN FILM TECHNOLOGY | NEP | |
| ECE 729 | X | | GROWTH OF THIN FILMS FROM THE VAPOR PHASE | NEP | S-A |
| ECE 733 | X | | DIGITAL ELECTRONICS | CIRCUITS | S |
| ECE 734 | X | | POWER MANAGEMENT INTEGRATED CIRCUITS | PWR ELEC/ PWR SYS | F |
| ECE 736 | X | | POWER SYSTEM STABILITY AND CONTROL | PWR ELEC/ PWR SYS | F |
| ECE 737 | X | | MICROWAVE DEV. CHARACTER. TECHNIQUES | MW CKTS/ APP ELMG | F |
| ECE 739 | X | | INTEGRATED CKT TECHNOLOGY FABRICATION LAB. | NEP | S |
| ECE 742 | X | | ARTIFICIAL NEURAL NETWORKS | SIG PROC COMPINTEL | S |
| ECE 743 | | X | HIGH PERFORMANCE MULTICOMPUTER ARCHITECTURE | COMP ARC | F |
| ECE 745 | | X | ASIC VERIFICATION | VLSI SYS | F |
| ECE 746 | | X | HIGH PERFORMANCE VLSI DESIGN | VLSI SYS | V |
| ECE 747 | | X | DIGITAL SIGNAL PROCESSING ARCHITECTURE | COMP ARC | S |
| ECE 751 | X | | DETECTION AND ESTIMATION THEORY | COMM | S |
| ECE 752 | X | | INFORMATION THEORY | COMM | S-0 |

ECE Course Detail (Revised January, 2012)

CONSULTCOURSE CATALOG FOR AVAILABILITY EACH TERM

| | | MAJOR | | | SPECIALTY AREA | SEM OFR |
|-----------------|-----|-------|--------------|--|-----------------------|---------|
| COURSE NO. | EE | CPE | COURSE TITLE | | | |
| ECE | 753 | X | | COMPUTER ANAL. OF LARGE SCALE POWER SYSTEMS | PWR ELEC/ PWR SYS | S-E |
| ECE | 755 | X | | ADVANCED ROBOTICS | ROBOMECH CON INSTR | F |
| ECE | 756 | X | | ADVANCED MECHATRONICS | ROBOMECH CON INSTR | S |
| ECE | 759 | X | | PATTERN RECOGNITION | SIG PROC COMPINTEL | S-E |
| ECE | 761 | | X | DESIGN AUTOMATION FOR VLSI | VLSI SYS | S |
| ECE | 762 | X | | ADVANCED DIGITAL COMMUNICATIONS SYSTEMS | COMM | F |
| ECE | 763 | X | | COMPUTER VISION | SIG PROC COMPINTEL | S |
| ECE | 764 | X | | DIGITAL IMAGE PROCESSING | SIG PROC COMPINTEL | F |
| ECE | 765 | | X | FAULT TOLERANT COMPUTING | SIG PROC COMPINTEL | S |
| ECE | 766 | | X | WIRELESS COMMUNICATIONS: SIGNAL PROCESSING PRINCIPLES | COMM | S |
| ECE | 767 | X | | ERROR-CONTROL CODING | COMM | S-E |
| ECE | 772 | | X | SURVIVABLE NETWORKS | NTWK | |
| ECE(CSC) | 773 | | X | ADVANCED TOPICS IN INTERNET PROTOCOLS | NTWK | S |
| ECE(CSC) | 774 | | X | ADVANCED NETWORK SECURITY | NTWK | S |
| ECE(CSC) | 775 | | X | ADVANCED WIRELESS NETWORKS | NTWK | F |
| ECE(CSC) | 776 | | X | DESIGN & PERFORMANCE EVALUATION OF NTWK SYS & SVCS | NTWK | S |
| ECE(CSC) | 777 | | X | TELECOMMUNICATIONS NETWORK DESIGN | NTWK | F |
| ECE | 778 | X | | OPTICAL FIBER COMMUNICATIONS | COMM | F |
| ECE(CSC) | 779 | | X | ADVANCED COMPUTER PERFORMANCE MODELING | NTWK | F |
| ECE | 781 | X | X | SPECIAL STUDIES IN ECE GIVEN AS NEED ARISES | VARIABLE | V |
| ECE | 782 | X | X | SPECIAL STUDIES IN ECE GIVEN AS NEED ARISES | VARIABLE | V |
| ECE | 785 | | X | ADVANCED COMPUTER DESIGN | COMP ARC | F |
| ECE | 786 | | X | ADVANCED COMPUTER ARCHITECTURE | COMP ARC | S |
| ECE | 791 | X | X | SPECIAL TOPICS IN ECE (DEPENDS ON TOPIC) | VARIABLE | V |
| ECE | 792 | X | X | SPECIAL TOPICS IN ECE (DEPENDS ON TOPIC) | VARIABLE | V |
| ECE | 633 | X | X | INDIVIDUAL TOPICS IN ECE— only 1 S/U course allowed (MS Level) exception with 695 for thesis students | SEE FOOTNOTE | V |
| ECE | 634 | X | X | INDIVIDUAL STUDIES IN ECE — only 1S/U course allowed (MS Level) exception with 695 for thesis students | SEE FOOTNOTE | V |
| ECE | 833 | X | X | INDIVIDUAL TOPICS IN ECE (PHD Level) | SEE FOOTNOTE | V |
| ECE | 834 | X | X | INDIVIDUAL STUDIES IN ECE FOR QUALIFYING REVIEW (PHD Level) | SEE FOOTNOTE | V |
| FOOTNOTE | | | | COURSE IS NOT ASSOCIATED WITH ANY SPECIFIC SPECIALTY AREA AND CANNOT BE USED TO SATISFY THE BREADTH REQUIREMENT FOR A DEGREE. | | |