

Guidelines for PhD-Plan of Work (POW) Worksheet

Worksheets have been created to help students see how their coursework will meet the PhD requirements. It is based on the requirements listed in the ECE Graduate Handbook, which are included in an abbreviated format below. An example of how to use this worksheet, along with a blank worksheet that students can use, can be found on the following pages. There are separate worksheets for PhD students with an NCSU MS degree with continuous enrollment and for PhD students with a Non-NCSU MS degree or a NCSU MS degree without continuous enrollment.

I. Minimum Degree Requirements

1. The PhD Plan of Work must have at least 72 credit hours, including MS credit hours.
2. ECE 600 is a mandatory 1 credit hour course for graduate students enrolled in the CPE and EE programs. This requirement will be waived for students with a previous degree from NC State.
3. For PhD students with only a BS degree or an NCSU MS degree with continuous enrollment:
 - a) Students who received their MS degree at NCSU can include courses from their MS degree on their PhD Plan of Work. ECE 695 does not count towards PhD requirements.
 - b) A minimum of 42 graded credit hours must be taken at NCSU.
 - c) A minimum of 36 graded credit hours of ECE courses must be taken at NCSU.
4. For PhD students with a Non-NCSU MS degree or an NCSU MS degree without continuous enrollment:
 - a) A maximum of 18 credit hours from the previous MS degree can be included in the PhD Plan of Work.
 - b) A minimum of 18 graded credit hours must be taken at NCSU.
 - c) A minimum of 12 graded credit hours of ECE courses must be taken at NCSU.

II. Plan of Work Requirements

1. **Breadth beyond major:** Nine credit hours of graded NCSU graduate level courses that are not in the student's major (EE or CPE). Cross-listed courses cannot be used to meet this requirement. These courses can be non-ECE courses if they are in a related technical area and can include courses used for a formal Minor.
2. **Depth:** Two 700-level ECE courses (minimum of six credit hours) must be taken. At least one of these 700-level courses must be in the student's major (EE or CPE). This requirement *cannot* be met with *non-ECE* 700-level courses.
3. **Breadth within major:** A minimum grade of B+ in three ECE courses, each in a different specialty.
4. **Research Credits:** ECE 833, 834, and 895.

Example of how to complete PhD POW worksheet for PhD students with only BS degree or NCSU MS Students with continuous enrollment

	Graded NCSU ECE courses (36 credit hours, minimum)	credit hours
1	ECE 511	3
2	ECE 546	3
3	ECE 549	3
4	ECE 719	3
5	ECE 540	3
6	ECE 712	3
7	ECE 530	3
8	ECE 582	3
9	ECE 513	3
10	ECE 514	3
11	ECE 557	3
12	ECE 718	3
	Total	36

	Additional Graded NCSU courses	
1	MA 501	3
2	MA 502	3
3	MAE 518	3
4		
5		
	Total	9

ECE 600	1
Graded NCSU courses (42 credit hours, minimum)	45
ECE 833, 834, 895 credit hours	36
Total (72 hours, minimum)	82

Notes Include MS courses in PhD POW
ECE 695 cannot be used in PhD POW
Cross-listed courses cannot be used for Breadth beyond major

DEGREE REQUIREMENTS

Breadth(3): at least 1 course in 3 different specialties
Grade of B+ or better

Course	Computer Engineering
	COMP ARCH
	NETWORKING
	SOFTWARE
	VLSI SYSTEMS
Course	Electrical Engineering
ECE 511	CIRCUITS
ECE 582	COMMUNICATIONS
ECE 549	MW CKTS/APP EM
	NEP
	PWR ELEC
	PWR SYS
	ROBOTICS/MECH/CONTROL INSTR
	SIGNAL PROC/COMP INTEL

Breadth: 9 credit hours beyond major (EE or CPE)

EE or CPE	Courses
1	MA 501
2	MA 502
3	MAE 518

Depth(2): two 700-level ECE courses, one of which has to be in major

EE CPE	ECE 712
EE CPE	ECE 718

Example of how to complete PhD POW worksheet for Non-NCSU MS or NCSU MS without continuous enrollment

	Graded NCSU ECE courses (12 credit hours, minimum)	credit hours
1	ECE 733	3
2	ECE 785	3
3	ECE 729	3
4	ECE 792-017	3
Total		12

	Additional Graded NCSU courses	
1	CSC 501	3
2	ST 511	3
3		
4		
5		
Total		6

ECE 600	1
MS Credit Hours	18
Graded NCSU courses (18 credit hours, minimum)	18
ECE 833, 834, 895 credit hours	36
Total (72 hours, minimum)	72

Notes

ECE 695 cannot be used in PhD POW

Breadth in 3 different specialities must be taken at NCSU

Cross-listed courses cannot be used for Breadth beyond major

DEGREE REQUIREMENTS

Breadth(3): at least 1 course in 3 different specialties
Grade of B+ or better

Course	Computer Engineering
ECE 785	COMP ARCH
	NETWORKING
	SOFTWARE
ECE 720	VLSI SYSTEMS
Course	Electrical Engineering
ECE 733	CIRCUITS
	COMMUNICATIONS
	MW CKTS/APP EM
	NEP
	PWR ELEC
	PWR SYS
	ROBOTICS/MECH/CONTROL INSTR
	SIGNAL PROC/COMP INTEL

Breadth: 9 credit hours beyond major (EE or CPE)

EE or CPE	Courses
1	ECE 733
2	CSC 501
3	ST 511

Depth(2): two 700-level ECE courses, one of which has to be in major	
EE CPE	ECE 785
EE CPE	ECE 733

DEGREE REQUIREMENTS

	Graded NCSU ECE courses (36 credit hours, minimum)	credit hours
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
	Total	

	Additional Graded NCSU courses	credit hours
1		
2		
3		
4		
5		
	Total	

ECE 600	1
Graded NCSU courses (42 credit hours, minimum)	
ECE 833, 834, 895 credit hours	
Total (72 hours, minimum)	

Breadth(3): at least 1 course in 3 different specialties
Grade of B+ or better

Course	Computer Engineering
	COMP ARCH
	NETWORKING
	SOFTWARE
	VLSI SYSTEMS
Course	Electrical Engineering
	CIRCUITS
	COMMUNICATIONS
	MW CKTS/APP EM
	NEP
	PWR ELEC
	PWR SYS
	ROBOTICS/MECH/CONTROL INSTR
	SIGNAL PROC/COMP INTEL

Breadth: 9 credit hours beyond major (EE or CPE)

EE or CPE	Courses
1	
2	
3	

Depth(2): two 700-level ECE courses, one of which has to be in major

EE	CPE

Notes Include MS courses in PhD POW
ECE 695 cannot be used in PhD POW
Cross-listed courses cannot be used for Breadth beyond major

	Graded NCSU ECE courses (12 credit hours, minimum)	credit hours
1		
2		
3		
4		
	Total	

	Additional Graded NCSU courses	
1		
2		
3		
4		
5		
	Total	

ECE 600	1
MS Credit Hours	18
Graded NCSU courses (18 credit hours, minimum)	
ECE 833, 834, 895 credit hours	
Total (72 hours, minimum)	

Notes

ECE 695 cannot be used in PhD POW
 Breadth in 3 different specialities must be taken at NCSU
 Cross-listed courses cannot be used for Breadth beyond major

DEGREE REQUIREMENTS

Breadth(3): at least 1 course in 3 different specialties
 Grade of B+ or better

Course	Computer Engineering
	COMP ARCH
	NETWORKING
	SOFTWARE
	VLSI SYSTEMS
Course	Electrical Engineering
	CIRCUITS
	COMMUNICATIONS
	MW CKTS/APP EM
	NEP
	PWR ELEC
	PWR SYS
	ROBOTICS/MECH/CONTROL INSTR
	SIGNAL PROC/COMP INTEL

Breadth: 9 credit hours beyond major (EE or CPE)

EE or CPE	Courses
1	
2	
3	

Depth(2): two 700-level ECE courses, one of which has to be in major

EE	CPE