

Our Community College Engineering Students Are Your Transfer Students

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Abstract

Over 5.9 million students attend a community college in the US, with 34% of those students earning an Associate's degree.¹ Only 2% of those students will earn an Associates in Engineering (AE) degree and less than 1% will transfer to a University. Why is the transfer rate so low? Students self-advise, or they are confused about required courses, or do not know what classes are needed for specific engineering disciplines at different Universities.² The Engineering Department at Wake Technical Community College has transformed the advising model for engineering students by outlining a prescriptive pathway for the student to complete the AE and transfer to an engineering University.

Key Words

Advising, community college, transfer students, engineering

Introduction

A student who wants to start their engineering education at a community college has little idea of what classes to take, what classes transfer to a University and what is needed to succeed. It is imperative that the student has a well-defined pathway that leads to a four-year engineering University. All that student knows is that "I want to be an Engineer and transfer to NCSU in two years." The key word here is transfer. If statistics are correct, this student is one of the 80% that indicate that they want to transfer and attain a bachelor degree. Realistically, this student is one of the 14% that will actually transfer from the community college and obtain a bachelor degree in six years.³

While the AE plan of study is designed to prepare students to successfully and seamlessly transfer to an engineering degree program at a four-year university, there are many nuances that are unbeknownst to the student. Any misstep in enrolling in the "right courses" for the particular engineering discipline that they want can cause the student extra time and money. The role of an engineering academic advisor is crucial for the student's success in engineering at the community college and subsequent transfer to the University. The advisor provides the student the guidance in the degree requirements for the College, degree requirements for the University and the engineering discipline that they choose.⁴

The advising model outlined in this report guides the student and connects them to their education plan. The Engineering Department at Wake Technical Community College has developed a process that ensures the students chooses the appropriate classes and meets the pre-requisites to graduate with an AE degree. An additional benefit of this model is to give the engineering faculty member and the student the opportunity to establish a rapport with one

another. Research shows that when students forms a close relationship with an advisor, they complete and succeed at a higher rate. All engineering faculty at Wake Tech have worked in industry which provides credibility when they are advising a student on their semester by semester plan. They are able to convey to a student the rationale behind the courses that they recommend. This paper describes the innovative process and interactive model for the student to follow thus providing a pathway to transfer successfully to an engineering University.⁵

The engineering department's goal is to have our community college student become your University's engineering transfer student and an effective way is to have comprehensive advising.

Advising and The Community College Engineering Student

The most common complaint from students at community colleges is the lack of good advising. The students waste time on inappropriate courses due to poor advising. As a result, students run out of time, money and energy and drop out. Well advised students are (a) more likely to enroll, (b) less likely to take classes that do not contribute towards graduation, (c) more likely to enjoy college, and (d) more apt to persist.⁶ Advising can be labor intensive because the life-work balance is complicated for a community college student. The average community college student is 27 years old, works full-time and wants a full load, meaning 12-16 credit hours per semester with 6-8 credit hours in the summer to finish and transfer to the University. Personal problems, funds for education, work, and career options all are factors that must be considered.⁷ In addition to the student's needs, the advisor is looking at retention and completion rates for the College.⁴

The Wake Tech Engineering Advisor

General academic advisors do not understand the complexity of scheduling specific engineering, Calculus and Physics classes for each discipline during the same semester. That is why the advising was shifted to the engineering department advisor, who is the Associate Department Head teaching 8-12 hours. The Department Head sees a few students as well.

The engineering department at Wake Tech has three methods to try and reach close to 2000 students registered in the AE department. Method 1 is to take one to two hours of class time in the Introduction to engineering course to discuss advising. Typically, there are seventeen sections of this course per semester with a population of 324 students. Method 2 is group advising called EAST. EAST is the acronym for Engineering Advising for Student Transfers. EAST is held once a week on two different campuses. EAST is advertised on our Website and general advisors refer students to these sessions. students can drop in anytime during the two-hour session. EAST serves anywhere from 1 to 18 students/session. Method 3 is the face-to-face advising appointments arranged to meet a student's individual needs and schedule. Students can use other opportunities to talk about their academic plan, such as, in the engineering lab on Fridays from 9 AM to 12 PM, researching their plan in the student success course, email correspondence, phone calls or drop-ins. Any method takes up to anywhere from a short 5-minute question/answer, 10 minutes to answer an email, or an hour per face to face advising with the students. The engineering advisor takes up to 7-8 hours per week working with students to make sure that their transfer courses correspond to the engineering discipline that they have chosen.

The engineering advisor must be direct and candid, advising the student holistically. Students are not accustomed to studying rigorous courses, therefore sometimes need a reality check to evaluate, given different degree pathway options, which is the best for their life, career and success. The advisor must be able to direct them to time management techniques while still including Math, Science and Physics courses with general education courses progressing toward the degree. Listening is a big key to the success of the student especially when they get their first D or flunk their first Math class. Effective advisement has been called a critical link to student retention which in turn builds self-esteem leading to “Thinking like an Engineer”.

The engineering advisor must also be connected to the various Universities to which the student may transfer. Establishing not only the NCCCS Universal Articulation Agreement with the Universities in conjunction with establishing an one-on-one communication with the specific engineering University transfer advisor is essential. Many issues of transfer classes being accepted, questions about acceptable AP scores and knowing who to call at the University is important for the health of the transfer agreement and for the student knowing that up-to-date information is exchanged between the two institutions.

Advising Model

The AE to Bachelor of Science Universal Articulation Agreement applies to all NC community colleges that operate the AE program and to UNC constituent institutions (ECU, NC A&T, NCSU, UNC-Charlotte and Western Carolina).⁸ The AE curriculum’s list of courses are very prescriptive, allowing for only 15 semester credit hours of electives for the specific engineering majors.⁹

The key to the advising model adopted by the engineering department is the three-page advising form FIGURES 1, 2 and 3. These three pages offer extensive information for the engineering student. The engineering advisor can discuss the best options for the student and answer more focused questions. The advising model via this form is specifically design to provide as much information as possible for the student to make decisions about their academic and career choices. The first page has basic student information, University, engineering disciplines at each University and transfer GPA that is required and a two-year sample semester by semester plan starting at Calculus I. The first page is helpful to the undecided student, showing the different disciplines at various Universities. The second page lists all of the classes that are required for the AE degree at Wake Tech. Additional courses are listed that include all of the courses the student may take that transfer to a specific University in a specific discipline. This lets the student see what courses they can take and obtain transfer credit while at Wake Tech. The third page is for the advisor and the student to work out a semester-by-semester plan, while at the community college, maximizing their courses that transfer and minimizing the number of semesters at the community college.

The AE is advertised as a two-year program that starts with Calculus I shown on page one as the example semester-by-semester plan. However, the initial math placement test indicates that most of our students, 51% place into Pre-Calculus algebra, making the semester-by-semester plan three years long. In reality, the degree is a six-semester plan. Starting with Calculus I, it is six consecutive semesters, while starting at Pre-calculus algebra it is six semesters, with no classes in the summer.

The engineering department has discerned that if the student double majors in the AE and the Associates in Science (AS) degree, that all of the general education courses will be transferred as a whole, saving the student from taking extra general education courses at certain Universities.

ADVISING SESSION

Basic student information is filled out on the top of page 1, FIGURE 1 with the engineering discipline and a plan A and B University indicated. From the student's transcript, the current program and combined GPA are discussed. Many of our engineering students are employed, working either 20 to 30 hours and are trying to have a full-time academic schedule. This is a good time for the advisor to talk about scheduling, credit versus seated hours and study time. A realistic look at their work-life balance can be initiated to prepare the student with the number of classes and credit hours that realistically can be taken per semester. Talking about whether a student has financial aid or is a veteran is mandatory since they are required to have a minimum of 12 credit hours. This is also a chance for the advisor to talk to the student that is undecided of what engineering discipline to choose or if two different engineering disciplines are being considered.

Page 1 of the advising form shows the Universities and the transfer GPAs of the engineering disciplines that the University offers. Five engineering Universities and other joint programs are listed for comparison so the student and advisor can discuss options in attending various Universities in North Carolina. Most engineering students are not aware of the highly competitive admission standards of the Universities with mechanical engineering being the most highly sought-after degree.

Wake Tech Engineering Advising Form**Website: engineering.waketech.edu**

Last Name:		First Name:		Middle:	Date:
Student ID	Campus: South North	Phone:		GPA program	GPA overall
email: @my.waketech.edu				Working?	Financial Aid Veteran NONE
Catalog Year:				Hrs/wk =	
1 st choice Proposed Engr Major:			Plan A University:		
2 nd choice Proposed Engr Major:			Plan B University:		
COMPETITIVE GPA TO TRANSFER (calculated by the University, and subject to change every year) ACCEPTANCE INTO AN ENGINEERING UNIVERSITY PROGRAM IS NOT GUARANTEED					
ECU 3.0 GPA overall Biomedical Engr Bioprocess Engr Electrical Engr Environmental Engr Industrial & Systems Engr Mechanical Engr <u>All ENGR students must take</u> <u>MAT 285 Differential Eq. and</u> <u>MAT 280 Linear Alg. and</u> <u>EGR 220 Statics</u>	NC A&T 2.5 GPA overall Chemical, Biological, Bioengineering Engr (CBEN) Civil, Architectural, Environmental Engr (CAEE) Computer Science (COMP) Electrical and Computer Engr (ELEN) Industrial and Systems Engr (INEN) Mechanical Engr (MEEN) Mechanical Engineering Aerospace option	NCSU <u>FALL TRANSFERS ONLY</u> 3.5+ GPA overall for BioEngr, Biomed (separate application), Chem E, Civil, Comp E, Comp, Sci, Construc, Elec.E, Enviro, Industrial, Matr'l, Nuclear, Paper, Textiles 3.8+ GPA overall for Mech E and Aerospace Required Calculus for <u>ALL</u> Engineering Majors: MAT 273 & MAT 285 Required Calculus for Computer Science MAT 273 & MAT 280	UNC CHARLOTTE 2.5 for the following Civil & Environmental Computer Science Electrical & Computer Systems & Engr Management 3.0 GPA overall for all Mechanical degrees Mechanical concentration biomedical Mechanical Engineering concentration Energy Systems Mechanical Engineering concentration Motorsports	UNC ASHEVILLE 3.0 GPA overall Mechatronics Joint program with NCSU 3.0 GPA must contact UNC Asheville WESTERN CAROLINA 2.5 GPA overall Electrical Engineering Mechanical Engineering CHAPEL HILL 3.5 GPA Biomedical Computer Science	
EXAMPLE SEMESTER BY SEMESTER PLAN					
1 st Year FALL		1 st Year SPRING		1 st Year SUMMER	
MAT 271 Calculus I	4	MAT 272 Calculus II	4	ECO 251 Micro-Economics	3
CHM 151 General Chem I	4	PHY 251 Physics I	4	Engr. specific course, such as DFT 170	3
ENG 111 Writing	3	ENG 112 Writing & Res	3		
ACA 122 College Transfr Success	1	HIS XXX or SOC 210 or PSY 150	3		
EGR 150 Intro. to Engineering	2				
Total SHC	14	Total SHC	14	Total SHC	6
2 nd Year FALL		2 nd Year SPRING		2 nd Year SUMMER	
MAT 273 Calculus III	4	MAT 285 Differential Equation	3		
ENG 231 or 232 or PHI 240	3	PHY 252 Physics II	4		
Engr specific course	3	Engr specific course	3		
Engr specific course	3	COM 231	3		
Total SHC	13	Total SHC	13		

Developed by Susan Meardon, Engineering Department Head, Wake Technical Community College, April 2018
Save as: lastname.firstname.studentid_mm-dd-yy

REV: 7-8-2014, 8-28-2014, 9-9-2014, 3-23-15, 5-20-15, 6-8-15, 5-17-16, 7-20-17, 4-28-18

Figure 1. engineering Advising form page 1

Page 2, FIGURE 2, of the advising form delineates the general education courses, required courses, notes about pre-requisites for courses and specific courses needed for certain engineering majors at certain Universities. The total semester credit hours in AE is 64. Grades received, transferred courses from other institutions, AP scores or courses in progress are noted on page 2. The courses that have not been taken are highlighted. Since the student is double majoring in the AE and AS degree, Ethics or Literature and Public Speaking are recommended since they are required to satisfy both degrees without taking any extra courses beyond those required for the AE.

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WAKE TECH ASSOCIATES IN ENGINEERING TRANSFERRABLE COURSES TO ENGINEERING UNIVERSITIES IN NORTH CAROLINA					
Courses should be selected from courses classified as premajor, elective or general education courses within the Comprehensive Articulation Agreement.					
Students must meet the receiving university's foreign language and/or physical education requirements, if applicable, prior to or after transfer to the senior institution.					
AS degree SHC	Course Requirements: General Education Hours	Total SHC	Selected Courses	Transfer required	Grade rec'd
6 SHC ENGLISH COMPOSITION Take both	ENG 111 Writing and Inquiry	3	ENG 111	required	
	ENG 112 Writing and Research in the Disciplines	3	ENG 112	required	
Additional Humanities, Fine Arts, Communications, and Social & Behavioral Science courses may be taken to meet requirements at the transfer University.					
3 SHC HUMANITIES Choose one	ENG 231 American Lit I or ENG 232 American Lit II	3		choose one	
	PHI 240 Ethics	3			
	REL 110 World Religion* (not recommended)	3			
	*REL 110 will transfer to all Engineering Programs at all five UNC Institutions that offer undergraduate engineering programs. May not transfer to other undergraduate degree programs				
3 SHC FINE ARTS AND COMMUNICATION Choose one	COM 231 Public Speaking (recommended)	3		choose one	
	ART 111 Art Appreciation or ART 114, Art Survey I or ART 115 Art Survey II	3			
	MUS 110 Mus. Appr. or MUS 112 Intro to Jazz	3			
3 SHC SOC & BE	ECO 251 Micro Econ.	3	ECO 251	required	
3 SHC SOCIAL & BEHAVIORAL SCIENCE Choose one	HIS 111, or 112, (World Civ. I, II) or HIS 131 or 132 (American His. I and II)	3		choose one	
	POL 120 American Government	3			
	PSY 150 General Psychology	3			
	SOC 210 Intro. to Sociology	3			
PRE-REQ MATH courses	MAT 171 Pre-Calculus I				
	MAT 172 Pre-Calculus II				
12 SHC MATHEMATICS	MAT 271 Calculus I <i>pre-req MAT 172 or equivalent</i>	4	MAT 271	required	
	MAT 272 Calculus II	4	MAT 272	required	
	MAT 273 Calculus III	4	MAT 273	required	
12 SHC Natural Sciences	CHM 151 General Chemistry I <i>pre-req MAT 171</i> (Must take CHM 090 or 092 if no Chem in HS)	4	CHM 151	required	
	PHY 251 Physics I <i>pre-req MAT 271 co-req MAT 272</i>	4	PHY 251	required	
	PHY 252 General Physics II	4	PHY 252	required	
TOTAL GENERAL EDUCATION HOURS REQ.:					42 SHC
3 SHC required hours	ACA 122 College Transfer Success <i>take in 1st 30 hours</i>	1	ACA 122	required	
	EGR 150 Intro to Engineering	2	EGR 150	required	
15 SHC OTHER REQUIRED HOURS Students should choose courses appropriate to the specific University and Engineering Major reqs.	MAT 285 Differential Equations <i>pre-req MAT 272 (All Engr)</i>	3		Highly recommend	
	MAT 280 Linear Algebra <i>pre-req MAT 271</i>	3			
	CSC 134 C++	3			
	CSC 151 JAVA (Comp. Sci)	3			
	BIO 111 General Biology (Chem E, Biomed)	4			
	GEL 111 Geology (substitution for BIO 111 for Civil)	4			
	CHM 152 Chem II (Chem E, Biomed)	4			
	DFT 170 Engineering Graphics (ME, Civil, IE, Enviro)	3			
	EGR 212 Logic Systems Design I <i>pre-req MAT 272 & PHY 251</i> (EE, Comp E, and Comp Sci)	3			
	EGR 220 Statics <i>pre-req PHY 251, co-req MAT 273,</i> (ME, Civil, Enviro, IE & ECU Engineering)	3			
	EGR 225 Dynamics <i>pre-req EGR 220</i> (ME)	3			
	ECO 252 Macro Economics	3			
	HUM 110 Technology and Society	3			
	PED 110 Healthy Living <i>not recommended first semester</i>	2			
	TOTAL ENGINEERING DEGREE HOURS				
TOTAL SEMESTER HOURS CREDIT (SHC) in PROGRAM:					60 - 61 SHC

Developed by Susan Meardon, Engineering Department Head, Wake Technical Community College, April 2018

Save as lastname.firstname.studentid_mm-dd-yy

REV: 7-8-2014, 9-28-2014, 9-9-2014, 3-23-15, 5-20-15, 9-9-15, 5-17-16, 7-20-17, 4-24-18

Figure 2. engineering Advising form page 2

A tentative semester-by-semester plan is worked out, on page 3, shown in FIGURE 3 with the engineering advisor and the student. This page is the most important and time consuming as it

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establishes the schedule for the student's remaining semester. The semester that the student needs to apply to the Universities for transfer and when to apply for graduation for the AE and AS degree are noted to remind the student.

[illegible]

Semester to Apply for admission to (Univ) _____ for Semester _____

Semester to Apply online for Wake Tech AS Engineering degree at
Waketech.edu in the upper right hand search bar type in the word "graduation"

Crosswalks: XPOV _____ Change of degree _____

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Save as lastname.firstname.studentid_mm-dd-yy
REV: 7-8-2014, 8-28-2014, 9-9-2014, 3-13-15, 5-20-15, 6-3-15, 5-17-16, 7-20-17, 4-28-18

Figure 3. Engineering Advising form page 3

The engineering advising form is then saved to a folder in a directory that can be accessed by any of the engineering faculty. It is also emailed to the student. All students have access to a password protected software program where they can access their transcripts, search and register for classes and plan their semester-by-semester plan. The engineering department prefers using

the advising form since it is not password protected, accessible by all engineering faculty and is laid out as an academic year.

Engineering Website

More information can be found on the website, *engineering.waketech.edu*. The advising tools page, FIGURE 4 has various files that a potential engineering student could download for more information about the AE degree. Included is information about times for EAST. Engineering students can download the engineering advising form on this page. Other files that can be accessed are recommendations for taking classes, a general semester-by-semester plan starting at Calculus I or Precalculus Algebra. Planning your week is a typical schedule of classes comparing the semester hours to seated hours and analyzing all of the various activities; work, driving, sleeping to 24/7. This is a reality check of time management or lack thereof and the amount of time that is used in a day. Other files on the advising tools page include courses recommended for specific engineering disciplines.

Degree Program

Class Descriptions

News

Advising Tools

- EAST: Engineering Advising Student Transfer
- Wake Tech to University Equivalent Coursework

Program Faculty

Engineering Advising Tools

The courses you choose will depend on the four-year college or university to which you plan to transfer, and the specific field of engineering you have chosen for study. Your degree, the Associate in Engineering, will include the Universal General Education Transfer Courses (UGETC) and the engineering courses that are specific to your major at the university you plan to attend.

Your advisors, who are engineering faculty, can assist you in planning your coursework at [Engineering Advising for Student Transfer \(EAST\) sessions](#). Engineering advising documents are also available to help you choose the courses you need to take, including transfer GPAs, fields of engineering offered at different universities, and a sample semester-by-semester plan of study. Additional courses required by the universities may be taken at Wake Tech, to prepare for transfer.

Engineering Advising Documents:

- [Engineering Advising Form](#)
- [AE Curriculum Standard](#)
- [Recommendations](#)
- [Example Schedule](#)
- [Planning your Week](#)

There are specific University Engineering major semester planning guides that outline Community College to North Carolina Engineering University [equivalent coursework](#). This equivalent coursework shows the courses students will take at Wake Tech on a white background, with the courses that must be taken at the university shaded.

Transferrable Courses

- [Biomedical Engineering](#)
- [Chemical Engineering](#)
- [Civil Engineering](#)
- [Computer Science](#)
- [Electrical & Computer Engineering](#)
- [Industrial Engineering](#)
- [Mechanical Engineering](#)
- [Nuclear Engineering](#)

Figure 4. Engineering Webpage Advising Tools

One of the buttons on the left on the advising tools page is the Wake Tech to University equivalent courses. The Wake Tech to University equivalent course page has all of the engineering Universities in North Carolina, FIGURE 5. Each engineering discipline offered at that University has a page that shows courses that you take at Wake Tech and courses that the student must take at the University for that engineering discipline. FIGURE 6 shows an example of this information. FIGURE 6 is reviewed and updated once a year and more often if we are notified by the University partners that major changes have occurred.

NC A&T

- [Architectural Engineering](#)
- [BioEngineering](#)
- [Bioprocess Engineering](#)
- [Chemical Engineering](#)
- [Civil Engineering](#)
- [Computer Science](#)
- [Computer Engineering](#)
- [Electrical Engineering](#)
- [Industrial and Systems Engineering](#)
- [Mechanical Engineering](#)



North Carolina State University

- [Aerospace Engineering](#)
- [Biomedical Engineering](#)
- [Chemical Engineering](#)
- [Civil Engineering](#)
- [Computer Engineering](#)
- [Computer Science](#)
- [Construction Engineering & Management](#)
- [Electrical Engineering](#)



Figure 5. Wake Tech to University Equivalent Courses

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NCSU Mechanical Engineering					
(Unofficial Community Colleges to NCSU Curriculum)					
Degree Earned:	NCSU Bachelor of Science in Mechanical Engineering			Transfer GPA = 3.8+	
Effective:	2018			Grey Highlighted Courses – Take Courses at NCSU	

FRESHMAN YEAR					
	Fall Semester	Credit		Spring Semester	Credit
CHM 151	CH 101 Chemistry -- A Molecular Science	3	CSC 134	CIS 113 MATLAB	3
CHM 151	CH 102 General Chemistry Lab	1	MAT 272	MA 241 Calculus II	4
EGR 150	E 101 Intro to Engr & Problem Solving	1	PHY 251	PY 205/PY 206 Physics for Engr & Science I	4
NCSU	E 115 Intro to Computing Environment	1	E 102	Engineering in the 21 st Century	2
ENG 111 & ENG 112	ENG 101 Academic Writing & Research	4	PED 110	Fitness and Wellness Course	1
MAT 271	MA 141 Calculus I	4	DFT 170	GC 120 Foundations of Graphics	3
ECO 251	EC 205 Economics (EC 201, ARE 201) (GEP Social Sciences)	3			
PED 110	HES Health and Exercise Studies	1			
18			17		

SOPHOMORE YEAR					
	Fall Semester	Credit		Spring Semester	Credit
NCSU	MAE 200 Intro to ME Design	1	MAT 285	MA 341 Applied Differential Equations	3
MAT 273	MA 242 Calculus III	4	EGR 225	MAE 208 Engr Dynamics	3
EGR 220	MAE 206 Engr Statics	3	NCSU	MAE 201 Thermodynamics	3
PHY 252	PY 208/209 Physics for Engr & Science II	4	NCSU	MAE 305 ME Lab 1	1
	GEP Requirement	3		GEP Requirement	3
NCSU	ST 3700 Prob & Stat for Engineers	3	NCSU	MAE 214 Solid Mechanics	3
18			16		

JUNIOR YEAR					
	Fall Semester	Credit		Spring Semester	Credit
NCSU	ENG 331 Comm Engr & Tech	3	NCSU	ECE 331 Principles of Electrical Engr I	3
NCSU	MAE 302 Engr Thermodynamics II	3	NCSU	MAE 200 Mech Prop of Engr. Materials	3
NCSU	MAE 306 ME Lab II	1	NCSU	Tech Elective	3
NCSU	MAE 308 Fluid Mechanics	3	NCSU	MAE 310 Heat Transfer Fundamentals	3
NCSU	MAE 315 Dynamics of Machines	3	NCSU	MAE 316 Strength of Mech Comp	3
	GEP Requirement	3			
16			15		

SENIOR YEAR					
	Fall Semester	Credit		Spring Semester	Credit
NCSU	MAE 405 Controls Lab	1		GEP Requirement	3
NCSU	MAE 4** Mech Engr Design Elective	3	NCSU	MAE 416 ME Senior Design	4
NCSU	MAE 435 Principles of Auto Control	3	NCSU	MAE 4** Technical Elective	3
NCSU	ISE 311 Engr Econ Analysis	3	PHI 240	Ethics (GEP Requirement)	3
NCSU	Tech Elective	3			
13			13		

NCSU - Minimum Credit Hours Required for Graduation in Mechanical Engineering:					126
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Figure 6. Semester by Semester University Discipline Plan with Wake Tech Courses

Conclusion

Wake Tech's engineering department faculty has created this model based on questions asked by students, experiences when student's transfer and University recommendations. This advising model is comprehensive and intrusive. Advising is the cornerstone of student support, which includes structure, content and intensity.¹⁰ Other community colleges have copied the engineering advising form and the Wake Tech to University equivalent courses to use with their students.

Community College engineering students have diverse backgrounds from diverse cultures with numerous permutations of work-life balance. Given the different opportunities for planning their academic future with engineering advisors, the student can come away with a planned pathway to receive an AE degree. This plan includes as many transferrable courses that the community college offers, making the transfer to the 4-year engineering University seamless. The community college gives the University a capable, persistent learner that has experienced the rigor of several engineering courses. Our community college engineering student is now your transfer student.

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Susan Meardon, MSEE

Susan Meardon is the department Head for engineering at community college, City, State. Susan is a member of ASEE, AE BSE TC and State engineering Pathways. Major Interest: The future of engineering, mechatronics, nanoengineering, engineering Education and neuroscience. Susan has long been a champion of comprehensive advising and has created many documents to streamline the process.