

CLASSES OF 2024

NC STATE

Engineering

ENGINEERING FIRST YEAR
NEW STUDENT ORIENTATION

2020

A man with a beard, wearing a blue polo shirt and grey cargo pants, is standing in an anechoic chamber. He is holding a black drone controller in his right hand and a black rectangular device in his left. To his right, a black drone is mounted on a stand. The background is a wall of yellow, pyramid-shaped acoustic absorbers. The text "CLASSES OF 2024" is overlaid on the left side of the image in a large, green, sans-serif font.

CLASSES OF 2024

STUDENT SUCCESS
— YOUR SUCCESS —
IS OUR NUMBER
ONE PRIORITY.

A man in a red polo shirt and khaki pants is holding a black drone with four propellers. He is standing in front of a large, tall stack of brown cardboard boxes. The boxes are stacked in a way that creates a series of peaks and valleys, filling the background. The man is looking down at the drone he is holding.

Welcome to New Student Orientation!

Go ahead — give yourself a round of applause. You've done a wonderful job in high school, excelling both inside and outside the classroom. Now, it's time to begin the next chapter of your life as you pursue a degree in engineering.

From the moment you begin New Student Orientation to the time you turn your tassel at graduation, dedicated faculty and staff are here to remind you that your success is our number one goal. Our students don't journey alone.

To get you started, we've filled this handbook with helpful resources, suggestions and answers to frequently asked questions. Please hold on to this packet and use it as a reference as you progress through your first year.

Inside, you will find information that will help you prepare for your first meeting with an advisor, identify questions that you should be asking and learn more about what to expect during your first year at NC State.

It may initially seem like you're receiving an overwhelming amount of information; however, we encourage you to hang in there. Remember, we'll be with you every step of the way.

We can't wait to see how you'll make a difference.

The NC State Engineering Team

ENGINEERING FIRST YEAR

NEW STUDENT ORIENTATION

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Welcome to NC State!



You have arrived on campus at an exciting time for the College of Engineering. There are big shoes to fill. The students who have come before you have gone on to become CEOs, astronauts and leading researchers. They have turned their ideas into life-changing products through undergraduate research and senior design projects. They study and serve abroad, representing the College and becoming globally minded problem solvers. Now, it's your turn.

Our faculty and staff are fully engaged in preparing you — the next generation of engineers — to solve the Grand Challenges for Engineering for the 21st century identified by the National Academy of Engineering. They include vital tasks like providing access to clean water, securing cyberspace, restoring urban infrastructure and engineering better medicines.

You have been accepted into one of the top colleges of engineering in the nation. NC State is one of the only colleges of engineering in the country to lead two National Science Foundation Engineering Research Centers — the FREEDM Systems Center and the ASSIST Center — at once. Our faculty

members are playing a major role leading the PowerAmerica Next Generation Power Electronics National Manufacturing Innovation Institute, which will spur the development of wide bandgap semiconductor technology.

Our faculty and students are developing a smarter power grid and inventing wearable health monitoring systems. They are tackling cancer, working to keep nuclear weapons out of the wrong hands and improving sanitation in the Third World. If being in the middle of this kind of important work sounds like fun, you have come to the right place.

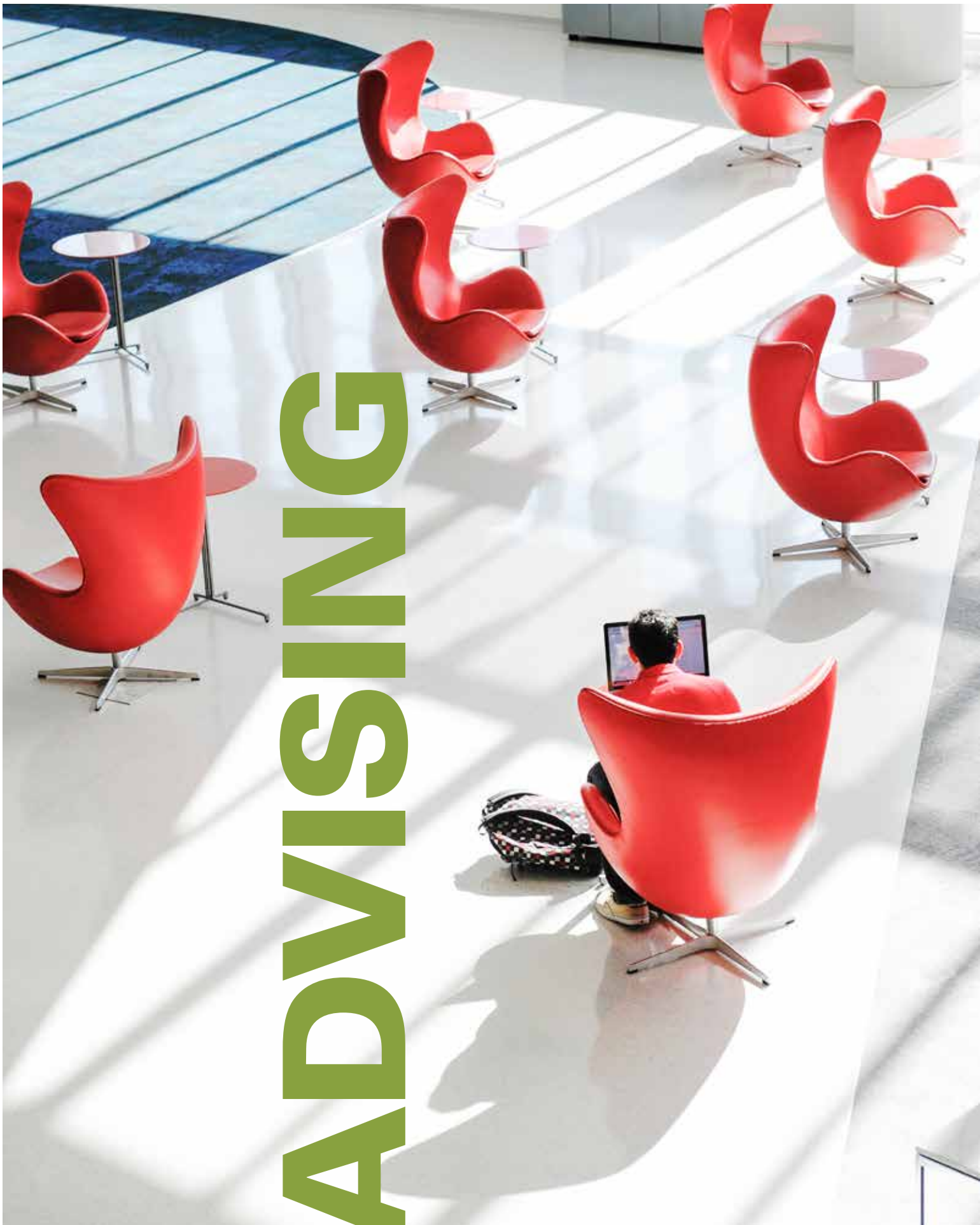
Ahead of you are challenging courses taught by leading faculty that will inspire you and help you to think differently. It will mean long hours and intense studying, but you'll come away with an engineering degree that will prepare you for whatever awaits you in the next phase of your life.

While you are here, I encourage you to enjoy everything that college life has to offer, including the chance to make lifelong friends. You'll be spending the next few years in an area acknowledged on many lists and by many publications as one of the best in the United States in which to live. Centennial Campus and the amazing James B. Hunt Jr. Library are some of the best university facilities in the world. And while on campus, see the continued progress of Fitts-Woolard Hall, the newest engineering building that will house the Department of Civil, Construction, and Environmental Engineering and the Edward P. Fitts Department of Industrial and Systems Engineering, opening in summer 2020.

From internships to study-abroad and service opportunities, your time on campus is sure to help you develop your full potential.

It's a transformative journey, and it all starts here.

Louis A. Martin-Vega, Ph.D.
Dean



ADVISING



ACADEMIC ADVISORS

Aerospace Engineering

Cheryl Tran

cheryl_tran@ncsu.edu ▪ 919.513.7687

3205 Engineering Building III

Biological Engineering

Dr. Andy Hale

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108 Weaver Hall

Biomedical Engineering

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4016 Engineering Building III

Chemical and Biomolecular Engineering

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2012 Engineering Building I

Civil Engineering

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203B Mann Hall

Computer Engineering

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3006 Engineering Building II

Computer Science

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1204 Engineering Building II

Construction Engineering

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203B Mann Hall

Electrical Engineering

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3006 Engineering Building II

Engineering (General)

Dr. Mary Clare Robbins

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118 Page Hall

Environmental Engineering

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Industrial and Systems Engineering

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441 Daniels Hall

Materials Science and Engineering

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3078C Engineering Building I

Mechanical Engineering

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3205 Engineering Building III

Nuclear Engineering

Lisa Marshall

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3150 Burlington Labs

Paper Science and Engineering

Dr. Med V. Byrd Jr.

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Textile Engineering

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ASSIGNMENT OF ACADEMIC ADVISORS

- The College of Engineering seeks to assign advisors by early-August. If you have questions between now and then you can contact the appropriate coordinator of advising found on the previous page.
- Academic advisors, once assigned, can be found within MyPack Portal.
- Advisors are assigned based on your engineering interest, as listed in your NC State application.
- Please note that you may request an advisor change as your interests evolve. Requests should be made only after you are confident in your decision.
- General College of Engineering advisors are always available to assist you in 118 Page Hall, 919.515.3263, **engineering@ncsu.edu**.
- Undecided students will see academic advisors in the College of Engineering's Academic Affairs department.

THE ADVISING PROCESS

STUDENT RESPONSIBILITIES

- Plan programs of study and meet graduation requirements (specifics to follow);
- Keep up to date with university, school and department curriculum requirements through materials available from faculty advisors, your departmental coordinator of advising, and/or NC State's Registration and Records;
- Remain informed of academic deadlines and changes in academic policies as updated in the NC State policies, rules and regulations website;
- Consult with advisors at each pre-registration period and other times as needed;
- Arrive at appointments prepared with any required paperwork / forms; and
- Check degree audits before and after enrollment and each semester to track progress through the degree.

ADVISOR RESPONSIBILITIES

- Be available for conferences at appropriate times and places;
- Provide accurate information about academic regulations and procedures, course prerequisites and graduation requirements;
- Assist students in planning academic programs suited to their interests, abilities and career objective(s);
- Discuss with their advisees appropriate course choices in fulfilling curriculum requirements as well as possible consequences of alternative course choices;
- Inform their advisees when their proposed course selections conflict with university academic or curricular regulations;
- Assist advisees with following proper procedures or various exceptions (e.g., registering for more than 18 hours, repeating a course);
- Refer their advisees for special testing or counseling as needed; and
- Assist their advisees in considering the appropriateness of academic adjustments where these become necessary in cases of serious injury or illness.

ACADEMIC ADVISING OPPORTUNITIES AND RESOURCES

ACADEMIC ADVISING OPPORTUNITIES AND RESOURCES

- **Engineering First Year Advising and Registration Modules contain:**
 - Detailed advising information
 - Frequently Asked Questions
 - Student Help Forum
- **Live Virtual Question & Answer sessions with Academic Advisors (mid-June through mid-July)**
- **Individual Academic Advisors will be assigned prior to the start of the fall semester**
- **Academic Advisors available anytime at engineering@ncsu.edu or 919.515.3263**

Online Advising Resources: Virtual Advisor (general advising questions): advising.dasa.ncsu.edu/advising/virtual-advisor

Engineering Specific Advising questions contact your assigned academic advisor, Coordinator of Advising, or engineering@ncsu.edu at any time.



DATES & DETERMINS

CHECKLIST ■ FALL 2020

July

- ☒ New Student Orientation
- ☐ Learn about your engineering program
www.engr.ncsu.edu/academics/undergrad/firstyear
- ☐ Register for fall classes
studentservices.ncsu.edu/calendars/academic/#fall

August

- ☐ Finalize your fall schedule
- ☐ Participate in Wolfpack Welcome Week
- ☐ Begin the first day of the fall semester
- ☐ Attend the 20th Annual College of Engineering Welcome
(mandatory, unless class schedule conflict exists)
- ☐ Join a student organization
getinvolved.ncsu.edu/organizations
- ☐ Apply for Alternative Service Break
(Ex: Engineering Village ASB to Nicaragua)
leadandengage.dasa.ncsu.edu/asb

September

- ☐ Apply for externships
careers.ncsu.edu
- ☐ Attend a University Tutorial Center orientation
tutorial.dasa.ncsu.edu/tutoring/fallspring-tutoring
- ☐ Apply to study abroad in Summer 2021
studyabroad.ncsu.edu
- ☐ Begin CODA application
- ☐ Attend the NC State Engineering Career Fair
engr.ncsu.edu/careerfair/students/

NO CLASSES: LABOR DAY

October

- ☐ Apply for an internship and/or Co-op
careers.ncsu.edu
- ☐ Participate in an externship
- ☐ Seek academic advising for spring
- ☐ Pre-register for spring classes
- ☐ Drop / revision deadline (if necessary)
studentservices.ncsu.edu/calendars/academic

NO CLASSES: FALL BREAK

November

- ☐ Participate in First Year Engineering Design Day
www.engr.ncsu.edu/academics/undergrad/firstyear/fedd
- ☐ Apply for the Caldwell Fellows Program
- ☐ Submit CODA application (by Dec. 1)
www.engr.ncsu.edu/academics/undergrad/coda

NO CLASSES: THANKSGIVING

December

- ☐ Apply for an on-campus job
- ☐ Apply to the Engineering Ambassadors team
www.engr.ncsu.edu/academics/undergrad/engineering-ambassadors
- ☐ Apply for College of Engineering scholarships
www.engr.ncsu.edu/academics/undergrad/scholarships
- ☐ Review exam calendar
studentservices.ncsu.edu/calendars/exam

****Dates/information are subject to change; please check departmental websites for the most up to date information.****

KEY TERMS

AUDIT

A grading option that allows you to sit in on a class; results in an AU (audit) or NR (no recognition) grade on your transcript; **under no circumstance will an audited course count toward any degree requirement.**

C WALL

Courses identified as “C wall” must be completed with a C or better.

C- WALL

Courses identified as “C minus wall” must be completed with a C- or better.

CENSUS DATE

Last day to add a course (requires instructor permission). Last day for tuition refunds due to dropping a course or changing from credit to audit. Last day for undergraduate students to drop below 12 hours or to drop a course without a W grade. This date is the 10th day of classes for fall / spring and 3rd day of classes in summer sessions.

CHANGE OF DEGREE APPLICATION (CODA)

The process by which a student applies to change their major.

COREQUISITE

A course that must be taken simultaneously (or prior to) another course; for example, E 115 and MA 141 are corequisites of CSC 111 (Python), meaning that a student must take E 115 and MA 141 either concurrently or prior to starting CSC 111.

COURSE / SECTION RESTRICTIONS

Criteria limiting who can enroll in certain classes / sections of a course; for example, STS 302H in the fall semester is restricted to Benjamin Franklin Scholars. In MyPack Portal, click on the “i” in the blue circle for more information on how the course is restricted.

CREDIT HOUR

A measure of the academic “value” of a course; to be full time, a student must be enrolled in 12 credit hours per semester; to be in compliance with the university’s Progress Toward Degree policy, students are encouraged to enroll in a minimum of 15 credit hours toward their degree every fall and spring semester.

CREDIT ONLY

A grading option that allows you to earn satisfactory/unsatisfactory (S/U) instead of a letter grade; courses taken as credit only do not affect your NC State GPA. Within engineering curricula, only E 115 and HES (physical education) courses may be taken as credit only and still count toward degree requirements. **Consult an advisor before switching to credit-only grading.**

DEGREE AUDIT

A personal record of your progress toward graduation; the listing includes courses that are complete (denoted with a green check), in progress (denoted with a yellow diamond), planned (denoted with a blue star) and not yet complete (denoted with a red x).

ENGINEERING AMBASSADOR (EA)

Upper-class engineering students who support the College of Engineering. Ambassadors may serve as co-presenters at College information sessions or host at the College’s Explore Engineering events; all sections of E 101 will have Engineering Ambassadors serving as teaching assistants (TA).

ENGINEERING FIRST YEAR (EFY)

All incoming freshmen are designated as EFY students until they CODA to join an engineering department; you may only remain an EFY student for a maximum of four semesters before joining a department.

ENROLLMENT DATE

The earliest date and time that a student may register for courses for the upcoming semester(s); plan to meet with your advisor prior to your enrollment date (listed in MyPack Portal).

GENERAL EDUCATION PROGRAM (GEP)

Courses that fulfill University graduation requirements; categories include math, science, humanities, social sciences, interdisciplinary perspectives, English composition, foreign language, and health / exercise sciences (PE). A summary of GEP options available to engineering students can be found in this booklet and online.

MYPACK PORTAL

The online student information system where you can monitor your classes, grades, progress toward degree, financial aid, parental access, etc. Access MyPack portal at www.ncsu.edu by clicking on the red “Resources” tab at the top of the page.

PREREQUISITE

A course that must be taken prior to another course; for example, MA 141 is a prerequisite to MA 241, meaning that a student must have already taken or have credit for MA 141 prior to starting MA 241.

WAITLIST

A list of students waiting to gain entrance into a course; there is no guarantee of enrollment in the course.

WITHDRAWAL

Withdrawing/dropping a course after census date will result in a “W” reported on transcript.



DEGREE

ENGINEERING DEPARTMENTS, DEGREES AND CONCENTRATIONS

DEPARTMENT	DEGREE	CONCENTRATION <i>(optional)</i>	SPECIALIZATION
BIOLOGICAL AND AGRICULTURAL ENGINEERING (BAE)	Biological Engineering (BE)	<ul style="list-style-type: none"> Agricultural Bioprocess Ecological Environmental 	
BIOMEDICAL ENGINEERING (BME)	Biomedical Health Sciences and Engineering (BHSE)		Medical Microdevices, Biosignals and Imaging, Rehabilitation Engineering, Regenerative Medicine, Pharmco Engineering
CHEMICAL AND BIOMOLECULAR ENGINEERING (CBE)	Chemical Engineering (CHE)	<ul style="list-style-type: none"> Biomufacturing Science Biomolecular Honors Nanoscience Sustainable Engineering, Energy and Environment 	
CIVIL, CONSTRUCTION, AND ENVIRONMENTAL ENGINEERING (CCEE)	Civil Engineering (CE) Construction Engineering (CON) Environmental Engineering (ENE)		Civil - Coastal Engineering and Water Resources, Computing and Systems, Construction Engineering, Environmental Engineering, Geotechnical Engineering, Structural Engineering and Transportation Engineering
COMPUTER SCIENCE (CSC)	Computer Science (CSC)	<ul style="list-style-type: none"> Game Development 	Security, Entrepreneurship
ELECTRICAL AND COMPUTER ENGINEERING (ECE)	Computer Engineering (CPE) Electrical Engineering (EE)	<ul style="list-style-type: none"> Renewable Electric Energy Systems 	
FOREST BIOMATERIALS (FB)	Paper Science and Engineering (PSE)		
INDUSTRIAL AND SYSTEMS ENGINEERING (ISE)	Industrial Engineering (IE)		Health Systems (Certificate Program)
MATERIALS SCIENCE AND ENGINEERING (MSE)	Materials Science and Engineering (MSE)	<ul style="list-style-type: none"> Biomaterials Nanomaterials 	
MECHANICAL AND AEROSPACE ENGINEERING (MAE)	Aerospace Engineering (AE) Mechanical Engineering (ME)		
NUCLEAR ENGINEERING (NE)	Nuclear Engineering (NE)		
TEXTILE ENGINEERING, CHEMISTRY AND SCIENCE (TECS)	Textile Engineering (TE) <i>(concentration required)</i>	<ul style="list-style-type: none"> Chemical Processing Information Systems Product Engineering 	

CHANGE OF DEGREE APPLICATION (CODA)

All first year students admitted to the College of Engineering enter as Engineering First Year (EFY) students. This designation allows students time to make an informed decision about which engineering majors they may like to pursue in the College.

EFY students are eligible to join an engineering department through the Change of Degree Application (CODA) process

after they have completed the required courses. Students earning the minimum grades listed below and meeting other EFY program and University requirements are guaranteed a seat in one of the engineering departments at NC State. All programs will review academic performance in determining CODA admissions.

OFFICIALLY JOINING A DEPARTMENT

STEP 1: COMPLETE REQUIRED COURSES

CH 101 + 102	C or better
MA 141	C or better
MA 241	C or better
PY 205 + 206	C or better
ENG 101	C- or better
E 101	C- or better
E 102*	C- or better
E 115	S

ACADEMIC PERFORMANCE

**not required for BAE, PSE and TE majors; speak with academic advisor if all other CODA requirements can be met in the fall semester.*

STEP 2: APPLY FOR A SEAT IN A DEPARTMENT

www.engr.ncsu.edu/academics/undergrad/coda

COURSES



FALL SCHEDULE

Generally speaking, an EFY student's fall semester will include:

ENGINEERING (E 101)	= 1 credit <i>(must be taken in the fall)</i>
MATH (MA __)	= 4 credits
CHEMISTRY (CH __) OR PHYSICS (PY __)	= 4 credits
ENGLISH (ENG 101) OR [ECONOMICS (EC __) AND E 115]	= 4 credits
GENERAL EDUCATION PROGRAM (GEP)	= 3 credits
SPECIAL GROUP COURSE (EXAMPLES: USP, HON, MUS, USC, STS)	
SPECIAL INTEREST COURSE (EXAMPLES: FL, HES __)	
GOAL = 15-17 credits	

www.engr.ncsu.edu/academics/undergrad/firstyear/common-first-year-efy

While the College of Engineering has attempted to select and enroll students in the appropriate courses for the fall, each student is responsible for making their own schedule. *Since all engineering degrees require the courses below, this is a great place to start when evaluating your fall schedule.*

E 101	Introduction to Engineering <i>(must be taken in the fall)</i>
E 102	Engineering in the 21 st Century <i>(must be taken in the spring)</i>
E 115	Introduction to Computing Environments
ENG 101	Academic Writing and Research
CH 101	Chemistry: A Molecular Science
CH 102	General Chemistry Laboratory
MA 141	Calculus I
MA 241	Calculus II
MA 242	Calculus III
PY 205	Physics for Engineers and Scientists I
PY 206	Physics for Engineers and Scientists I Laboratory
PY 208	Physics for Engineers and Scientists II
PY 209	Physics for Engineers and Scientists II Laboratory
GEP courses <i>(includes economics)</i>	

ENGINEERING

E 101, E 102 AND E 115

E 101 – Intro to Engineering and Problem Solving

You **must** take this course during the fall semester. You should be enrolled in a lab and practicum.

E 115 – Intro to Computing Environments

An eight-week, hybrid course taken for “credit only” (pass/fail) grading. Corequisite for computer science courses. Credit-by-exam offered early in the semester.

go.ncsu.edu/e115

E 102 – Engineering in the 21st Century

You **must** take this course during the spring semester. This course meets the Interdisciplinary Perspectives General Education Program requirement.

www.engr.ncsu.edu/academics/undergrad/firstyear

FIRST-YEAR WRITING

PROGRAM

ENG 101

All NC State students must take ENG 101 – Academic Writing and Research, have transferable credit or have received credit by having sufficient scores via the following exams: SAT Critical Reading, the ACT Reading, ACT English, AP Language and Composition, or IB English A (Higher Level): Literature & Language or IB English A (Higher Level): Literature along with IB diploma.

Review the charts below to determine your English Composition placement and credit information.

Exam	Score	Credit Awarded (CR)
New SAT-Reading Test	39-40	ENG 101
ACT English	≥ 33 English	ENG 101
AP English Language and Composition	5	ENG 101
IB English A (Higher Level): Literature & Language or IB English A (Higher Level): Literature along with IB diploma	Currently Under Review Send questions to firstyearwriting@ncsu.edu	ENG 101
North Carolina Community Colleges	Any two of the following: ENG 111, ENG 112, ENG 113, or ENG 114	ENG 101

[Click here to submit IB diploma english.chass.ncsu.edu/undergraduate/first_year_writing/fy_writing_placement.php](http://english.chass.ncsu.edu/undergraduate/first_year_writing/fy_writing_placement.php)

CHEMISTRY

CH 101 AND CH 102

The Department of Chemistry requires that all students demonstrate their chemistry background before being allowed to enroll in CH 101 – Chemistry: A Molecular Science. Most students are required to demonstrate their preparation for CH 101 with the NC State Chemistry Placement Exam (CPE). **A student may not enroll in CH 101 without taking the CPE.** Chemistry credit and placement information can be found in the chart below.

Not sure?

Students with transferable or AP credit for CH 101 **do not** need to take the exam **if** they do not intend to enroll in CH 101 at NC State.

Exam	Score	Credit Awarded (CR)	Enrollment Option(s)*	CODA Credentials CH 101	CH 102
NC State Chemistry Placement Exam (CPE)	CPE < 15	—	enroll in CH 111	—	—
	15 ≤ CPE ≤ 18	—	enroll in CH 101+102 (reduced load)	—	—
	CPE ≥ 19	—	enroll in CH 101+102	—	—
AP Chemistry	1	—	—	—	—
	2	—	—	—	—
	3	CH 101+102	consult advisor	C+	A
	4	CH 101+102 CH 201+202	consult advisor	B	A
	5	CH 101+102 CH 201+202	consult advisor	A	A
IB Higher Level Chemistry	5	CH 101+102	consult advisor	C+	A
	6	CH 101+102 CH 201+202	consult advisor	B	A
	7	CH 101+102 CH 201+202	consult advisor	A	A
North Carolina Community Colleges	CHM 115	CH 101	consult advisor	CHM 115 grade	—
	CHM 131+131A	CH 101+102	consult advisor	CHM 131 grade	CHM 131A grade
	CHM 135	CH 101+102	consult advisor	CHM 135 grade	A
	CHM 151	CH 101+102	consult advisor	CHM 151 grade	A

*You may decline higher placement and enroll in a lower level.

www.ncsu.edu/chemistry/classes/cpe.html

Department of Chemistry ▪ Dr. Jeremiah Feducia ▪ 108-B Dabney Hall ▪ 919.515.2355 ▪ jeremiahfeducia@ncsu.edu

MATH

MA 141, MA 241 AND MA 242

The Department of Mathematics requires that all students demonstrate their math proficiency before being allowed to enroll in a math course at NC State. Students may demonstrate proficiency with the following

- A score of 2 or better on the College Board AP Calculus exam
- Transferable math credits that serve as the necessary prerequisites
- The ALEKS Placement test (available online)

Math credit and placement information can be found in the chart below. If you do not have a math indicator, you will not be allowed to register for a math course, which could result in a math placement not representative of your ability. The delay may also impede the formation of your fall schedule.

Need more information about math classes?

Visit math.ncsu.edu/courses for more information about math courses and support resources available.

Exam	Score	Credit Awarded (CR)	Enrollment Option(s)*	CODA Credentials MA 141	MA 241
ALEKS Placement Assessment	0-60	—	enroll in MA 107	—	—
	61-75	—	enroll in MA 111	—	—
	76-100	—	enroll in MA 141	—	—
AP Calculus AB	1	—	-	—	—
	2	—	enroll in MA 141	—	—
	3	—	enroll in MA 141	—	—
	4	MA 141	enroll in MA 241	B	—
	5	MA 141	enroll in MA 241	A	—
AP Calculus BC	1	—	—	—	—
	2	—	enroll in MA 141	—	—
	3	MA 141	enroll in MA 241	B (or MA 241 grade, whichever is higher)	—
	4	MA 141+ MA 241	option 1: enroll in MA 241	A- (or MA 241 grade, whichever is higher)	—
			option 2: enroll in MA 242	A-	C+ (or MA 242 grade, whichever is higher)
	5	MA 141+ MA 241	enroll in MA 242	A	A
IB Higher Level Math	5	conditional MA 141	enroll in MA 241	C+	—
	6	conditional MA 141	enroll in MA 241	B	—
	7	conditional MA 141	enroll in MA 241	A	—
North Carolina Community Colleges	MAT 271	MA 141	enroll in MA 241	MAT 271 grade	—
	MAT 272	MA 241	enroll in MA 242	MAT 271 grade (or AP/IB score if applicable)	MAT 272 grade
	MAT 273	MA 242	consult advisor	MAT 271 grade (or AP/IB score if applicable)	MAT 272 grade (or AP/IB score if applicable)

math.sciences.ncsu.edu/mathplacement

**You may decline higher placement and enroll in a lower level.*

Dr. Molly Fenn ▪ Coordinator of Classroom Instruction ▪ 2108 SAS Hall ▪ 919.513.2288 ▪ mafenn2@ncsu.edu

PHYSICS

PY 205 + 206 AND PY 208 + 209

Exam	Score	Credit Awarded (CR)	Enrollment Option(s)*	CODA Credentials PY 205	CODA Credentials PY 206
AP Physics C: Mechanics	1	—	enroll in PY 205 + 206	—	—
	2	—	enroll in PY 205 + 206	—	—
	3	—	enroll in PY 205 + 206	—	—
	4	PY 205 + 206	enroll in PY 208 + 209	B	A
	5	PY 205 + 206	enroll in PY 208 + 209	A	A
AP Physics C: Electricity and Magnetism	1	—	enroll in PY 205 + 206	—	—
	2	—	enroll in PY 205 + 206	—	—
	3	—	enroll in PY 205 + 206	—	—
	4	PY 208 + 209	enroll in PY 205 + 206	—	—
	5	PY 208 + 209	enroll in PY 205 + 206	—	—
IB Higher Level Physics	5	conditional PY 205 + 206	enroll in PY 208 + 209	conditional C+	conditional A
	6	conditional PY 205 + 206	enroll in PY 208 + 209	conditional B	conditional A
	7	conditional PY 205 + 206	enroll in PY 208 + 209	conditional A	conditional A
North Carolina Community Colleges	PHY 251	PY 205 + 206	enroll in PY 208 + 209	PHY 251 grade	PHY 251 grade
	PHY 252	PY 208 + 209	enroll in PY 205 + 206 (if still needed)	—	—

*You may decline higher placement and enroll in a lower level.

*MA 141 is a prerequisite for enrollment in PY 205 + 206. MA 241 and PY 205 + 206 are prerequisites for enrollment in PY 208 + 209.

www.physics.ncsu.edu/undergraduate

REQUIREMENTS



GENERAL EDUCATION PROGRAM (GEP)

Every NC State student must complete the General Education Program (GEP) requirements. These courses are designed to offer graduates the opportunity to experience diverse and integrative disciplinary perspectives. GEP courses enhance intellectual engagement and prepare you for lifelong learning and the demands of professional careers. NC State's GEP is divided

into several categories. However, within engineering degrees, courses within certain categories will already be selected. When College of Engineering faculty / staff refer to "GEP courses," they are referring to the sub-section of the GEP wherein engineering students have choices — a total of seven courses, labeled below (■).

2	Mathematical Sciences	MA 141 MA 241
2	Natural Sciences	CH 101 PY 205
	First-Year Writing Program	ENG 101

Engineering students use these courses to fulfill GEP requirements

2	Health and Exercise Studies	<div style="display: flex; justify-content: space-between;"> <div>1. _____</div> <div><i>must be 100-level</i></div> </div> <div style="display: flex; justify-content: space-between;"> <div>2. _____</div> <div></div> </div>
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2	Humanities	<div style="display: flex; justify-content: space-between;"> <div>■ 1. _____</div> <div><i>(different disciplines)</i></div> </div> <div style="display: flex; justify-content: space-between;"> <div>■ 2. _____</div> <div></div> </div>
2	Social Sciences	<div style="display: flex; justify-content: space-between;"> <div>■ 1. <u>Economics</u></div> <div><i>(EC 201, EC 205, ARE 201)</i></div> </div> <div style="display: flex; justify-content: space-between;"> <div>■ 2. _____</div> <div></div> </div>
2	Interdisciplinary Perspectives	<div style="display: flex; justify-content: space-between;"> <div>■ 1. <u>E 102</u></div> <div></div> </div> <div style="display: flex; justify-content: space-between;"> <div>■ 2. _____</div> <div></div> </div>
1	Additional Breadth	<div style="display: flex; justify-content: space-between;"> <div>■ 1. _____</div> <div><i>can be humanities, social science or visual / performing art</i></div> </div>
	<p><i>Corequisites (not additional courses)</i></p> <div style="display: flex; justify-content: space-between;"> <div>US Diversity (USD)</div> <div><input type="checkbox"/></div> </div> <div style="display: flex; justify-content: space-between;"> <div>Global Knowledge (GK)</div> <div><input type="checkbox"/></div> </div> <p><i>(some engineering curricula have additional corequisites)</i></p> <div style="display: flex; justify-content: space-between;"> <div></div> <div><input type="checkbox"/></div> </div>	

■ College of Engineering GEP Requirements

■ NC State GEP Requirements

To see what courses are available in each GEP category visit the NC State GEP Course List at: oucc.dasa.ncsu.edu/general-education-program-gep/gep-category-requirements.

SPECIAL INTEREST COURSES

Some students may enroll in courses outside of their engineering degree requirements to fulfill requirements towards a minor, second major, or extracurricular activity such as music performance. We encourage students to plan these additional course requirements as early as possible and to speak with an academic advisor regarding any questions or concerns.

Engineering First Year students will be pre-registered for some common classes, but will still make updates to their schedules including adding additional courses to achieve the recommended number of credit hours to make updates to their schedules including adding additional courses to achieve the recommended number of credit hours. Examples of possible updates might

include swapping your current calculus course for a lower level because you want to improve your understanding before moving on, or dropping chemistry (CH 101 and CH 102) because you received your AP Chemistry score of 3 or better. Examples of adding courses might include adding an HESF 100-level course as one of the required physical education courses or enrolling in a history course to satisfy one of the humanities requirements of the General Education Program (GEP).

Before classes start, you should aim to have 15-17 credit hours of appropriate courses in your fall semester. Review your degree audit after solidifying your schedule to be sure planned courses fulfill your expected requirements.

USP 110	University Scholars Program (U.S.P.) <i>U.S.P. students are strongly encouraged to also enroll in an additional Honors / Scholars course (designated with an "H")</i>
HON 202	University Honors Program (U.H.P.) <i>U.H.P. students must be enrolled in an HON seminar during their first semester</i>
E 144	Minority Engineering Programs (MEP)
STS 302H	Benjamin Franklin Scholars Program
MUS 131	Marching Band
Q Courses	First Year Inquiry <i>Courses with a "Q" are inquiry courses that have small class sizes and are designed for easy discussion and active participation. Example: HI 205Q</i>

FOREIGN LANGUAGE REQUIREMENT

All students at NC State must demonstrate competency at the Elementary II level in a foreign language (FL* 102) as a requirement for graduation.

Methods of demonstrating proficiency:

- At least 2 years / units of high school study of the same language with a C (77) or better
- NC State Foreign Language Placement Test
 - Chinese, French, German, Spanish and Latin - - available online at https://apps.chass.ncsu.edu/placement_test/webcape/placement_test.php
 - Other languages — contact Department of Foreign Languages and Literatures

- Transferable foreign language credit from another institution
- Advanced Placement (AP) scores
- Non-native English speakers

NOTE: Students who do not meet the proficiency requirement should take a placement test to determine where they will start at NC State if they do not wish to begin at the introductory level of a language. If a non-native English speaker's degree audit still does not show Foreign Language Proficiency credit midway through the semester, the student should contact Dr. Scott Despain.

fill.chass.ncsu.edu/undergraduate/placement.php

Dr. Scott Despain ▪ 319 Withers Hall ▪ 919.513.1482 ▪ despain@ncsu.edu

AP, IB AND TRANSFER CREDIT

Advanced Placement (AP) Credit

admissions.ncsu.edu/apply/credit-opportunities/advanced-placement-ap

International Baccalaureate (IB) Credit

admissions.ncsu.edu/apply/credit-opportunities/international-baccalaureate-ib

North Carolina Community College Equivalencies

www.acs.ncsu.edu/php/transfer

North Carolina School of Science and Mathematics Articulation Agreement

www.acs.ncsu.edu/php/transfer

Additional Transfer Credits

www.acs.ncsu.edu/php/transfer

OPPORTUNITIES



CliftonStrengths®



COMMON EXPERIENCE

Engineering First Year (EFY) students are expected to participate in the Clifton Strengths Assessment prior to the start of classes. Discussions and assignments related to the assessment will occur a majority of E 101 classes. More information about the Clifton Strengths will be provided by New Student Programs.

LIVING AND LEARNING VILLAGES

Villages are interest-based communities that engage students both inside and outside the classroom through partnerships. They enhance your learning experience by supporting and integrating students' academic and personal development. A rich variety of villages allows you to engage in active and collaborative learning with peers, faculty and staff. Formal and informal interactions foster a sense of community, creating an intellectually stimulating environment that sets the stage for your learning and success.

Visit housing.dasa.ncsu.edu/villages to see the full list.

ENGINEERING VILLAGE

ECOVILLAGE

WOMEN IN SCIENCE & ENGINEERING
(WISE) VILLAGE

UNIVERSITY SCHOLARS VILLAGE

Live, Learn and Achieve

STUDENT COMPUTING

Nearly all incoming students are now bringing a wireless laptop. For additional information, see the website below.

oit.ncsu.edu/my-it/hardware-software/your-computer

Information Technology and Engineering Computer Services (ITECS)

Campus Box 7901 ▪ 204 Daniels Hall + 1002 Engineering Building I ▪ 919.515.2458 ▪ soc-support@ncsu.edu ▪ eoshelp@ncsu.edu

HIGH-IMPACT EXPERIENCES

High-Impact Activities are essential to your long term success. Get involved and make the most of your education, always remember: student success — your success — is our number one priority.

WORK · **SERVICE** · **RESEARCH** · **INTERNATIONAL**



studentinvolvement.dasa.ncsu.edu

FALL SCHEDULE REVIEW AND REGISTRATION PREPARATION

Your goal is to have 15 to 17 credit hours before the start of the semester and to have all of your questions answered prior to leaving orientation. If you have questions after orientation you can send your questions to engineering@ncsu.edu or contact your academic advisor.

E 101 or E102 is on my fall schedule:	<input type="checkbox"/> Yes	<input type="checkbox"/> No, I will add it tomorrow
E 115 is on my fall schedule:	<input type="checkbox"/> Yes	<input type="checkbox"/> No, I will attempt to add tomorrow <input type="checkbox"/> No, I plan to take in the spring
ENG 101* is on my fall schedule: <small>*International students should enroll in FLE 101 as an ENG 101 substitution</small>	<input type="checkbox"/> Yes <input type="checkbox"/> No, I have credit	<input type="checkbox"/> No, I will attempt to add tomorrow <input type="checkbox"/> No, I plan to take in the spring
CH 101 & 102 are on my fall schedule:	<input type="checkbox"/> Yes <input type="checkbox"/> No, I earned credit	<input type="checkbox"/> No, I will attempt to add tomorrow <input type="checkbox"/> No, I am enrolled in CH 111
The correct math course is on my fall schedule:	<input type="checkbox"/> Yes <input type="checkbox"/> No, I will attempt to add/change tomorrow	<input type="checkbox"/> No, I earned credit for all three calculus courses and do not wish to retake them

**I currently have _____ credit hours on my schedule.
I need to add _____ number of credits to reach my
desired course load of 15 to 17 credit hours.**

In addition to the courses mentioned above you may add General Education Courses (generally 3 credit hours) or

Health & Exercise Studies courses (generally 1 credit hour) to reach the recommended course load. If you have credit for MA 141 and are in need of credit hours you may consider adding PY 205 & 206 particularly if you have credit for CH 101 & 102 (please discuss with an advisor); we generally do not recommend taking two lab classes in the first semester.

Questions I would like to discuss with an advisor include:

SCHEDULING TIPS

You will have an opportunity to make changes to your fall schedule after you have completed the engineering advising tutorials available to you in Moodle and continuing until your first day of class. As you adjust your schedule based on the academic advising resources you have reviewed, your personal educational background and goals, and preferences regarding times, etc. we hope you will seek out resources when needed.

WHO TO CONTACT:

- When a class requires “**Departmental Approval / Permission**” to add = Call the department offering the class; contact information can be found on departmental websites.
- When a class requires “**Instructor Approval / Permission**” to add = Call or email the instructor teaching the course; contact information can be found on NC State directory.
- When deciding **whether to add or drop a class** = if you have questions of this nature you should contact your academic advisor or your coordinator of advising or email questions to **engineering@ncsu.edu**.

WHEN ADDING CLASSES:

- Keep in mind you **cannot have more than 18 credit hours** in your schedule / shopping cart including waitlisted courses.
- **Adding CH 101 to your schedule?** Make sure you are also adding CH 102 at the same time (both classes must be in your shopping cart).
- **Adding PY 205 to your schedule?** Make sure you are also adding PY 206 at the same time (both classes must be in your shopping cart).
- Courses without a time listed **or** with a **section number of 601** are distance education courses.
- Use your Degree Audit in MyPack Portal to see how your **AP / Transfer / IB credits** are counting toward your degree. Learn more about your Degree Audit here: **studentservices.ncsu.edu/your-degree/degree-planning/degree-audit**.
- **When Adding Classes:** Hover over the “i” in the blue circle to determine if remaining seats in a class are restricted to certain types of students.

- **Trouble getting one or two classes you want? Don’t panic.** The registration system is dynamic and some seats will open as the summer progresses. Check the registration system regularly throughout the summer if you would like to make additional changes to your schedule after orientation. In particular, try checking for open seats the day after tuition is due.

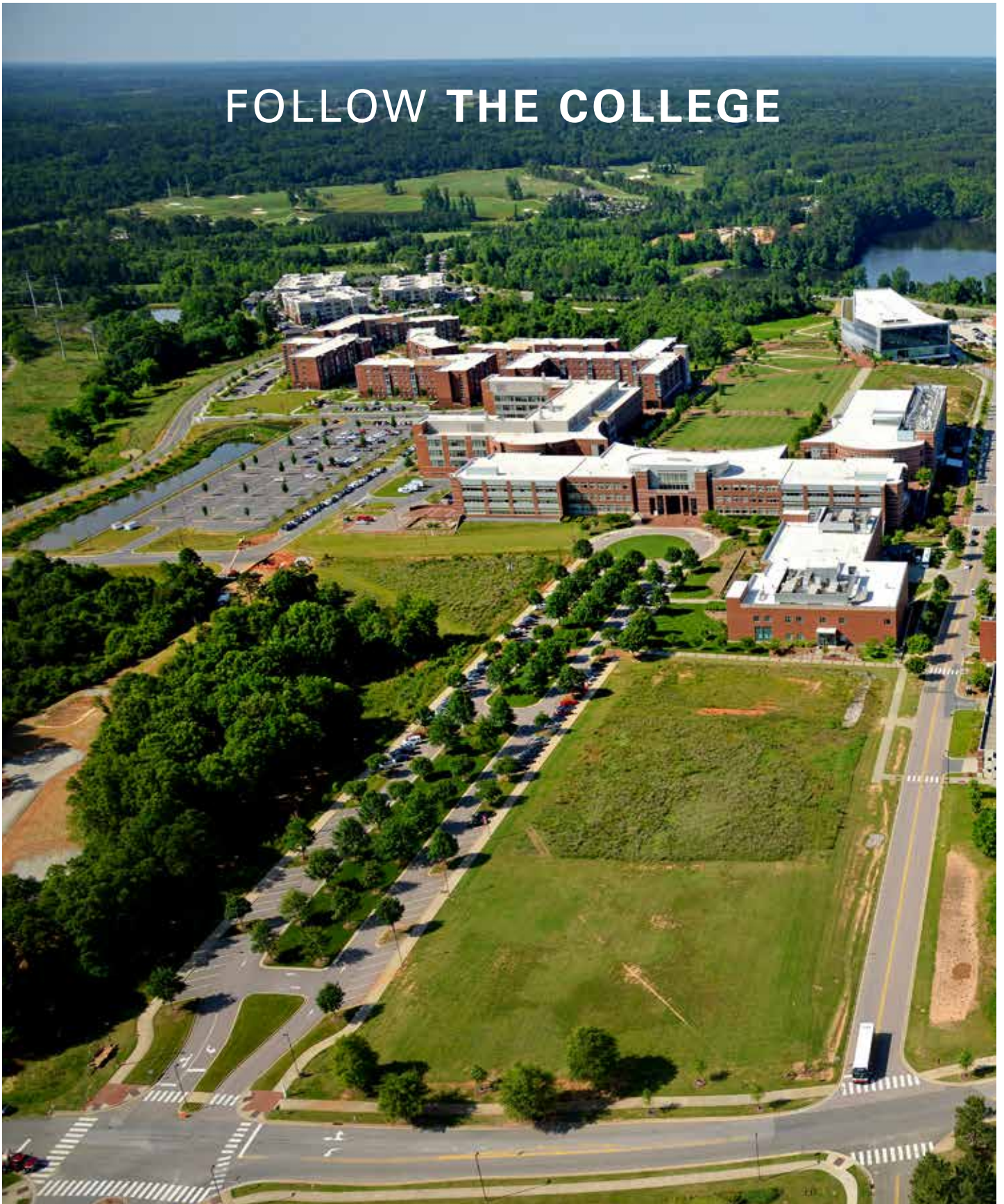
MAKING SCHEDULE ADJUSTMENTS:

- Do **not** drop a course for a **new day / time adjustment**; use the SWAP feature to make such changes. Watch the YouTube tutorial here: **youtu.be/k277rXykP4E**
- Use your Degree Audit in MyPack Portal to see how your **AP / Transfer / IB credits** are counting toward your degree.
- If you **know** you have credit for a course **and** you do not intend to retake it, please drop the course to make room on your schedule and to allow another student who needs the course to enroll.

COMMON CONCERNS AND HELPFUL HINTS

- **Health Exercise and Studies courses** can be taken for pass / fail or credit-only grading.
- **400 level courses and beyond** are for juniors and seniors and should **not** be taken in your first year.
- **Completed most or all of your GEP requirements? Searching for more credit hours to add?** Minors require at least 15 additional credit hours. Explore second majors, minors and certificates offered at NC State at **advising.dasa.ncsu.edu/explore-majors-and-minors** to compliment your engineering degree or to pursue other academic interests.
- There is no instructor listed for a course. **When will you know who is teaching that course?** Departments may not input instructors until classes start, as fall schedules for faculty are finalized. Do not let a lack of instructor within MyPack Portal prevent you from enrolling.
- You can walk anywhere on **Main Campus** in **15 minutes**.
- You typically need **30 minutes** to commute from Main Campus to **Centennial Campus**.

FOLLOW THE COLLEGE



facebook.com/NCStateEngineering



twitter.com/NCStateEngr



[@ncstateengr](https://instagram.com/@ncstateengr)



ALTERNATIVE SPRING BREAK TRIPS

ENGINEERING CONFERENCES

TAKE THE CHALLENGE!

The **College of Engineering** encourages students to take advantage of as many high impact experiences and enhancement opportunities as possible during their time at **NC State**. These experiences enhance your education outside of the classroom and will support your professional and personal growth. Some examples of these opportunities include **professional conferences, student design competitions, research experiences, Alternative Service Break trips, study abroad**, creating your own **enhancement experience** under the guidance of a faculty member, and anything else you can envision that would enhance your College of Engineering experience.

If you can think it, we will help you do it!

We encourage you to take the challenge and submit a request!

STUDY ABROAD

STUDENT DESIGN COMPETITIONS



Financial Support for Engineering Enhancement Opportunities

To help facilitate these engagement opportunities, financial support is available for students' participation.

WHO CAN APPLY FOR FINANCIAL SUPPORT?

NC State engineering students and engineering student organization groups (only engineering majors). **Funds will not support students outside the College of Engineering.**

HOW DO I APPLY FOR SUPPORT?

Visit go.ncsu.edu/engrfundrequest and complete the "Enhance Your Engineering Experience Application" form. You should be notified within 5-7 business days regarding your approval status.

WHEN SHOULD I APPLY FOR SUPPORT?

The form will be open during the following times (these are only the application dates):

FALL DATES

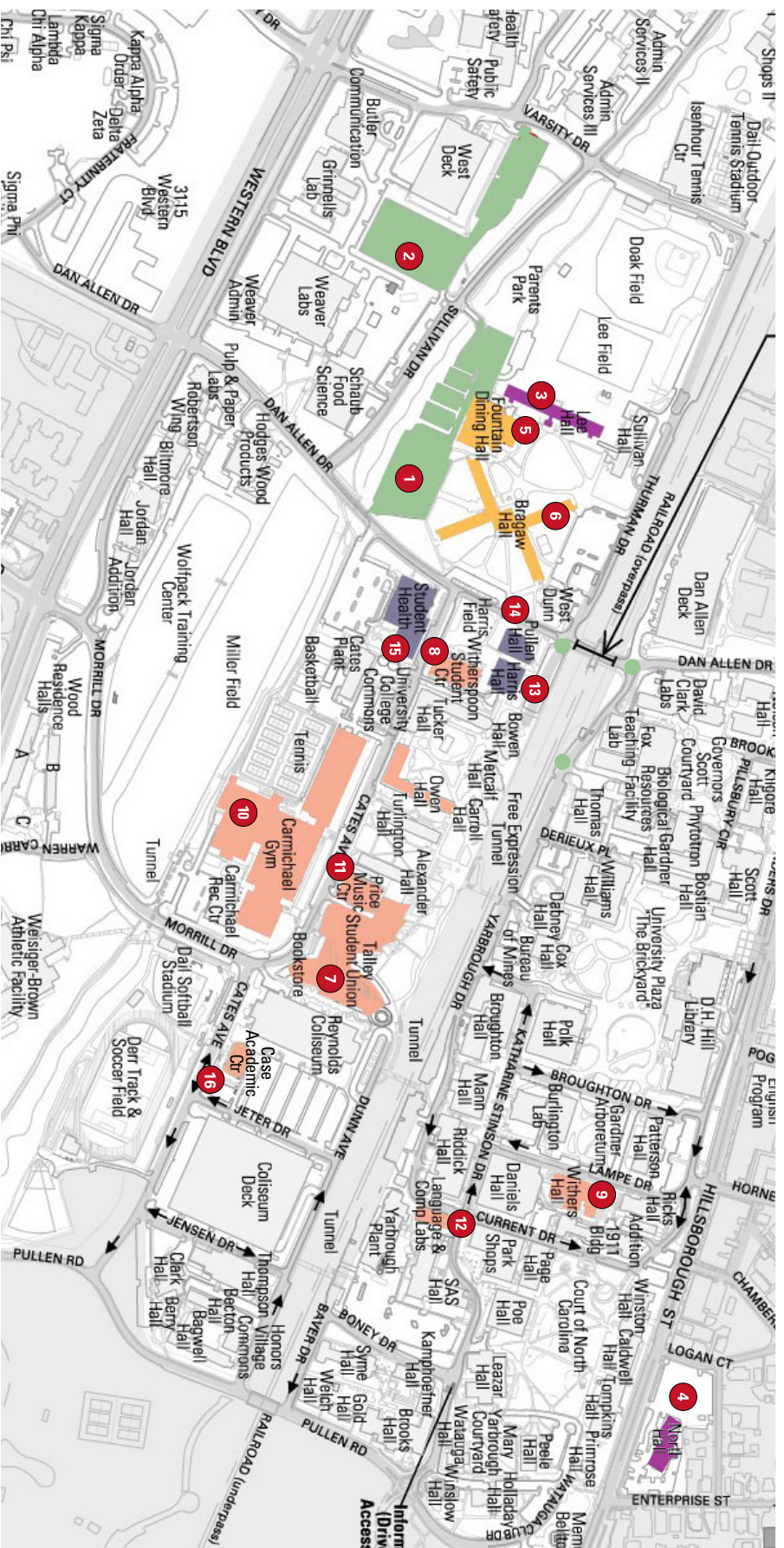
August 15th

SPRING DATES

January 15th

**If your event is outside of these dates, please consult the website. For questions, please email the program coordinator Dr. Shelly Hoover-Plonk at engrfundrequest@ncsu.edu.*

CAMPUS MAP



Orientation Parking

- 1 Lee Lot
 - 2 West Lot
- Indicates Gate Access Only

Orientation Housing

- 3 Lee Residence Hall
- Student Housing
- 4 North Residence Hall
- Family Housing

Orientation Dining

- 5 Fountain Dining Hall
- 6 Bragaw Convenience Store (C-Store)
- 7 Talley Student Union
- Talley Market (2nd Floor)
- Port City Java (2nd Floor)
- Starbucks Coffee (1st Floor)

Orientation Sessions and Activities

- 7 Talley Student Union
- 8 Witherspoon Student Center
- 9 Withers Hall
- 10 Carmichael Gym
- 11 Price Music Center
- 12 Foreign Language Technology Center
- 16 Case Academic Center

Student Services Offices

- 7 Talley Student Union
- Wolfpack One Card Office
- 13 Harris Hall
- Registration and Records
- Cashier's Office
- Scholarships and Financial Aid
- 14 Pullen Hall
- University Housing
- 15 Student Health Center
- Health Insurance
- Immunization Records