GENERAL ENGINEERING GUIDE

COLLEGE OF ENGINEERING
ENGINEERING EDUCATION
VIRGINIA TECH.

2021 - 2022

Contents

👤 What's a Hokie? I am!

Welcome

Hello and welcome to the College of Engineering at Virginia Tech. We are excited to have you join the Hokie community! Please review this resource thoroughly for important details about being a Hokie at Virginia Tech in the College of Engineering.

You should have completed all items on the Engineering Orientation Checklist. This checklist provides several items you need to complete, including enrolling in our 2-factor authentication system, completing the engineering pre-orientation form, sending your official test scores and transcripts, and preparing for class registration. Questions or concerns about Engineering's orientation and class registration process can be directed to Dr. Marlena Lester, Director of Advising, marlenal@vt.edu.

COVID-19 Virginia Tech's Plan for the Fall 2021 Semester

This website, https://vt.edu/ready/home.html, provides information, resources, and updates regarding the COVID-19 pandemic.

Virginia Tech Email

Your VT email is the official contact method for the university. Check and read your email on a daily basis for notifications from university officials, advisors, and professors regarding upcoming events, deadlines, etc. If you have questions regarding the content of an email, simply reply to the sender.

When emailing university officials, please include a proper greeting, your full name, and a closing in your email. Standard response time to email is 24-48 business hours.

Engineering Computer and Supply List

Engineering students have specific computer requirements, and additional required and recommended supplies such as a flash drive, scientific calculator, and business attire. You can see the full list of supplies, as well as specifications for your computer system at:
https://enge.vt.edu/content/dam/enge_vt_edu/undergraduate/orientation/engineering_supply_list.pdf.

Family Educational Rights and Privacy Act (FERPA)

FERPA requires you authorize the university prior to release of any academic record information to a third party. Creation of a FERPA passcode on Hokie SPA allows you to approve disclosure of your academic record information to parent(s) and/or guardian(s). A passcode will remain valid until you remove the authorization. We highly encourage you to create a FERPA Passcode for Self to allow university officials to discuss your record with you. Additional details regarding FERPA are located at: https://www.registrar.vt.edu/FERPA.html

To create a FERPA Passcode for Self, go to [Hokie Spa](#) → FERPA (Family Educational Rights and Privacy Act Disclosure).

- Enter your first name and last name.
- Select Self in the Relationship drop down menu.
- Answer the question regarding tax dependency.
- Enter an 8-character alphanumeric passcode.
- Click the Add/Delete Record button.

Student Responsibilities on Official Student Records

Students are responsible for keeping and being familiar with their own records and for the accuracy of these records.

Review the complete student responsibility statement located at: [https://www.undergradcatalog.registrar.vt.edu/2021/academic-policies.html#21](#). If you are receiving transfer credit, we highly recommend you verify each course and its equivalent on your Virginia Tech transcript. You can do this on [Hokie Spa](#) → Transcripts and Certifications Menu → View Unofficial Transcript.

General Engineering

General Engineering Program Overview

The Department of Engineering Education is home to all first-year and transfer engineering students. Once specific course requirements are complete, students become eligible to declare a degree-granting engineering major offered at Virginia Tech. Complete details, including the course requirements, are located at: [https://enge.vt.edu/em](#).

The program objective for General Engineering is to prepare first-year and transfer engineering students for academic success in a degree-granting engineering program. More specifically, students will:

- select an engineering major that aligns with their interests and aptitudes,
- have the academic, technical, and professional knowledge and skills needed to succeed in the following years, and
- develop a sense of belonging and identification with engineering to support long-term persistence toward a degree.

These objectives are supported by a curriculum through which students will achieve the following student outcomes by the end of their first year:

1. demonstrate a basic understanding of the engineering profession;
2. demonstrate a basic understanding of professional skills in engineering;
3. demonstrate a basic understanding of and capacity for problem solving;
4. demonstrate a basic understanding of and ability in engineering software tools for mathematical analysis, data acquisition and manipulation, and graphical representation of engineering objects and processes;
5. demonstrate a basic understanding of the engineering design process;

General Engineering Website

General Engineering is housed in the Department of Engineering Education (ENGE) and our website is located at https://www.enge.vt.edu/undergraduate. This website provides you with additional information on academic advising, change of major requirements, exploring engineering majors, the general engineering experience, incoming student information, and available resources and support.

Academic Advising

Academic advising is a collaborative process between the student and their advisor, leading to the exchange of information that encourages the student to make responsible academic and career decisions. Academic advisors are available to help you navigate the requirements for your intended major, academic policies, and campus resources while you are at Virginia Tech. Once your official advisor assignment is made, you can view your assignment on Hokie Spa → View your General Student Information.

You are encouraged to meet with your assigned academic advisor at least once a semester and/or prior to:

- registering for classes
- dropping a class
- withdrawing from a class
- resigning from a semester
- choosing a major and/or minor
- taking classes at another institution
- studying abroad
- accepting a co-op/internship

General Engineering first-year students will be assigned a professional academic advisor within the Department of Engineering Education until all requirements to change from general engineering into a degree-granting engineering major are completed. Most students will complete these requirements within two semesters. Instructions for scheduling an appointment during the academic year with your advisor are located at: https://enge.vt.edu/content/dam/enge_vt_edu/undergraduate/scheduling_an_appointment.pdf.

Academic Advising Newsletters

The General Engineering Advising Team values the delivery of accurate, consistent, and timely academic information to our advisees. Our email communication begins upon acceptance of the offer of admission with a welcome message and concludes upon exit of the General Engineering program.

Approximately every two weeks during the academic year, each of our advisees receive a common newsletter by email from their assigned academic advisor with vital information concerning upcoming academic deadlines, policies, and procedures. Email subjects always begin with "Academic Advising:" Newsletters will also be available here: https://drive.google.com/file/d/10uYvtDVprQBzU-TOfgTdYpP_5OSNgG_S/view?usp=sharing

General Engineering Student Events Calendar

The General Engineering Advising Team has created a Google Calendar with a schedule of important events for all General Engineering students, including information sessions about engineering majors and university deadlines. To receive timely reminders of the events, please add the calendar to your Google account using this link: https://calendar.google.com/calendar/u/0?cid=Y19wNGJxa2JqqNDA4cmVnaHBiazVhZjF2cDJsOEBncm91cC5jYWxlbmRhci5nb29nbGUuY29t.

📍 Placements

Chemistry - CHEM 1035 General Chemistry Placement Assessment

At Virginia Tech, we are committed to our students' academic success. We place special emphasis on the success of incoming students in CHEM 1035 (General Chemistry), so they have a positive start to their college career.
If you are an incoming student and want to take CHEM 1035 in your first semester at Virginia Tech, you must

- earn a score of 61% or better on the CHEM 1035 Placement Assessment or
- earn a score of 80% or better on the MATH 1225 Placement Assessment or
- have an AP Chemistry score of 4+ or an IB Chemistry score of 5+ (Higher Level with completion of the Certificate or Diploma).

Additional details regarding the Chemistry Placement Assessment located at:
https://chem.vt.edu/academics/undergraduate/chem-readiness.html. Your placement displays on Hokie Spa → View your General Student Information → Orientation Information.

Here is a chart of common tests and scores which award credit for General Chemistry.

Test	Required Score	VT Equivalent Credit
AP Chemistry	4 or 5	CHEM 1035, 1045, 1036, and 1046
IB Higher Level Chemistry with completion of the Certificate or Diploma	5, 6, or 7	CHEM 1035, 1045, 1036, and 1046
IB Standard Level Chemistry with completion of Diploma	7	CHEM 1035 and 1045
Virginia Community College - CHM 111	C or higher	CHEM 1035 and 1045
Virginia Community College - CHM 126	C or higher	CHEM 1035 and 1045
Other Transferable Courses	C or higher	Lookup at: https://apps.es.vt.edu/ssb/hzsktgid.P_DispTranGuide

English - Strong Start for Writing Placement Inventory (SSWPI) / Conditional Advanced Standing

Virginia Tech offers Conditional Advanced Standing for English 1105. To qualify for Conditional Advanced Standing, students must complete the Strong Start for Writing Placement Inventory (SSWPI). Even if you are expecting ENGL 1105 and/or 1106 credit, you will still complete the SSWPI as part of your admissions process.

After completing the assessment, you will be assigned one of two placements: ENGL 1105 or ENGL 1106. You can find your placement on [Hokie Spa](#) → View your General Student Information → Orientation Information. It will include both the raw SSWPI score as well as the assigned ENGL placement.

- If you scored between a 3.1 and 10.6, your English Placement will be ENGL 1105.
- If you scored between a 0 and 3.0, your English Placement will be ENGL 1106.
- If you have not taken the SSWPI then you have no English Placement and your Orientation Information will say "None." You need to complete the SSWPI. Even students who are expecting credit for ENGL 1105 and/or ENGL 1106 must still complete the SSWPI as part of the admissions process.

If you are assigned a placement of ENGL 1105 you MUST enroll in ENGL 1105 in your first semester at Virginia Tech if you are not expecting AP, IB, or Transfer Credit for the course. If you are assigned a placement of ENGL 1106 you will enroll in ENGL 1106 in your first or second semester at Virginia Tech depending on space availability if you are not expecting AP, IB, or Transfer Credit for the course.

Students must earn a C- or higher on the first attempt in ENGL 1106 at Virginia Tech, or a C or better in equivalent transfer credit, to receive advanced standing credit for ENGL 1105. C or better = A, A-, B+, B, B- or C. Withdrawing from ENGL 1106, or earning lower than an acceptable grade on the first attempt removes eligibility for ENGL 1105 Conditional Advanced Standing.

Here is a chart of common tests and scores which award credit for ENGL 1105 and/or ENGL 1106.

Test	Required Score	VT Equivalent Credit
AP Lang/Comp or Lit/Comp	3	ENGL 1105
AP Lang/Comp or Lit/Comp	4 or 5	ENGL 1105 and ENGL 1106
IB Higher Level English with completion of the Certificate or Diploma	4	ENGL 1105
IB Higher Level English with completion of the Certificate or Diploma	5, 6, or 7	ENGL 1105 and ENGL 1106
IB Standard Level Language A with completion of the Diploma	6 or 7	ENGL 1105
IB Standard Level English A: Literature or English A: Language and Literature with completion of the IB Diploma	5, 6, or 7	ENGL 1105
CLEP ENGL College Composition	50-80	ENGL 1105
Virginia Community College - ENG 111	C or higher	ENGL 1105
Virginia Community College - ENG 112	C or higher	ENGL 1106
Other Transferable Courses	C or higher	Lookup at: https://apps.es.vt.edu/ssb/hzsktgid.P_DispTranGuide

Math - Math 1225 Placement Assessment

At Virginia Tech, we are committed to our students' academic success. We place special emphasis on the success of incoming students in MATH 1225 (Calculus of a Single Variable), so they have a positive start to their college career.

If you are an incoming student, and want to take MATH 1225 in your first semester at VT, you must:

- earn a score of 80 or better on a MATH 1225 Placement Assessment or
- have a qualifying score on one of the following exams:

Your placement displays on Hokie Spa → View your General Student Information → Orientation Information.

Here is a chart of common tests and scores which award credit for MATH 1225 and/or MATH 1226.

Test	Required Score	VT Equivalent Credit
AP Calculus AB	4 or 5	MATH 1225
AP Calculus BC	3	MATH 1225
AP Calculus BC	4 or 5	MATH 1225 and MATH 1226
IB Higher Level Mathematics with completion of the Certificate or Diploma	5	MATH 1225
IB Higher Level Mathematics with completion of the Certificate or Diploma	6 or 7	MATH 1225 and MATH 1226
CLEP Calculus	64-80	MATH 1225
Virginia Community College - MTH 263	C or higher	MATH 1225
Virginia Community College - MTH 264	C or higher	MATH 1226
Other Transferable Courses	C or higher	Lookup at: https://apps.es.vt.edu/ssb/hzsktgid.P_DispTranGuide

Spatial Visualization - Spatial Visualization Assessment

All first-year General Engineering students are required to complete the Spatial Visualization Exercise. The Spatial Visualization Exercise will evaluate your three-dimensional visualization skills and is offered online through the GE Orientation Canvas course site. This is a timed exercise. You must have an excellent internet connection (preferred wired) before starting the Spatial Visualization Exercise. If you believe you will have internet issues, please wait to complete the assessment once a better connection is available.

First-year students who score below 17 on the assessment will be pre-registered for ENGE 1354: Introduction to Spatial Visualization, a 1-credit fall semester course, to aid in improving their spatial visualization skills.

📢 Declaring an Engineering Major

Your Current Major - General Engineering

You may have selected a specific engineering discipline on your Virginia Tech admissions application; however, all first-year engineering students admitted to the College of Engineering are classified as "General Engineering." You cannot graduate from General Engineering (GE). The GE program guides you toward your transition into a specific engineering major (also known as a degree-granting engineering major) by providing an environment focused on building community through common coursework, engaging faculty, and professional academic advisors.

General Engineering Concentration

Your GE concentration is the degree-granting engineering major you intend to pursue. It will be displayed as your primary major concentration under the General Engineering major on your unofficial transcript. You can find this on Hokie Spa → Transcripts and Certifications Menu → View Unofficial Transcript.

Your initial GE concentration is what you listed on your Virginia Tech admissions application but it can be changed. We find many students change their intended major several times over the course of their time in General Engineering. You can change your concentration (intended major) at any time by completing the GE Change of Concentration form. Review our Frequently Asked Questions for details. Changing your GE concentration is not the same as the change of major process, also known as declaring an engineering major.

Change of Major Requirements

General Engineering students must apply to declare their intended degree-granting engineering major. To become eligible to apply, you must complete the course requirements, earn 12 minimum GPA hours at Virginia Tech, and earn a minimum of a 2.0 overall Virginia Tech GPA. Students with a minimum 3.0 overall Virginia Tech GPA will be guaranteed their first choice Engineering major (some exceptions apply). Complete details, including the course requirements, are located at: https://enge.vt.edu/em.

Courses	GPA	GPA Hours
❑ CHEM 1035 ❑ CHEM 1045 ❑ ENGE 1215 (C- minimum) ❑ ENGE 1216 (C- minimum) ❑ ENGL 1105 ❑ ENGL 1106 ❑ MATH 1225 ❑ MATH 1226 ❑ PHYS 2305 ENGE 1215 and ENGE 1216 are the **only** courses that require a C- or higher for the change of major process	❑ Minimum 2.0 overall GPA Students with a 3.0 or higher overall GPA are **guaranteed** their first choice major	❑ Minimum 12 GPA Hours ❑ Maximum 55 GPA Hours GPA hours include any A-F graded courses taken at VT (excluding W's and P/F if the class is passed)

*Biomedical Engineering has an additional application/interview process and does not adhere to the 3.00 guarantee.

GPA Hours

You must earn a minimum of 12 GPA hours to change from General Engineering to a degree-granting engineering major. Complete details, including the course requirements, are located at: https://enge.vt.edu/em. GPA hours include any A-F graded courses taken at Virginia Tech (excluding W's and P/F if the class is passed), and do not include transfer credits.

Typical First Year Curriculum for Engineering

Typical First Semester for All Engineering Majors		
COURSE	TITLE	CREDITS
ENGE 1215	Foundations of Engineering (C-)	2
ENGL 1105	First-Year Writing: Pre: Strong Start for Writing Placement Inventory (SSWPI)	3
MATH 1225	Calculus of a Single Variable (C-) Pre: Math 1225-Eligible to Enroll	4
CHEM 1035	General Chemistry Pre: CHEM 1035 - Placement Assessment	3
CHEM 1045	General Chemistry Lab	1
	Pathways to General Education (Pathways Concept 2, 3, 6a, or 7)	3
Total Credit Hours		**16**

Typical Second Semester for All Engineering Majors		
COURSE	TITLE	CREDITS
ENGE 1216	Foundations of Engineering (C-) Pre: ENGE 1215 (C-)	2
ENGL 1106	First-Year Writing Pre: ENGL 1105 or Conditional Advanced Standing	3
MATH 1226	Calculus of a Single Variable Pre: MATH 1225 (C-)	4
PHYS 2305	Foundations of Physics Pre: MATH 1225 or MATH 1226 Co: MATH 1226	4
PHYS 2305	Foundations of Physics Lab Pre: MATH 1225 or MATH 1226 Co: MATH 1226	0
	Additional Course or Pathway Elective	2-3
Total Credit Hours		**15-16**

📝 Degree Requirements

Graduation Requirements (Checksheets)

All majors are composed of the following components: degree core, major requirements, pathways to general education, and electives. You can view each major's requirements using our checksheets (College of Engineering Undergraduate Graduation Requirements). The university has transitioned to Date of Entry (DOE) checksheets. Please be sure to use the checksheet labeled "Date of entry under UG Catalog 20XX - 20XX" for the academic year you started at Virginia Tech.

Pathways to General Education

Pathways to General Education is the general education curriculum at Virginia Tech. To graduate, you must complete Pathways to General Education course requirements, in addition to the courses required for your major. If you earned an Associate of Science or Associate of Arts and Sciences degree from a Virginia Community College (VCCS), see the next section.

Requirements for Pathways 1F, 4, 5F, 5A, 6D are fulfilled through courses required for your engineering degree. Review your [intended major checksheet](#) for specific details.

College of Engineering **PATHWAYS TO GENERAL EDUCATION**		
Pathways Concept 1	Discourse Foundational: Fulfilled with ENGL 1105-1106 Advanced: Major Choice	9 credits
Pathways Concept 2	Critical Thinking in the Humanities All Majors: Student's Choice	6 credits
Pathways Concept 3	Reasoning in the Social Sciences AE, CE, MSE, OE: require ECON 2005 CEM: requires ECON 2005-2006 All other majors: Student's Choice	6 credits
Pathways Concept 4	Reasoning in the Natural Sciences Fulfilled with CHEM 1035/1045 and PHYS 2305	8 credits
Pathways Concept 5	Quantitative and Computational Thinking Foundational: Fulfilled with MATH 1225-1226 Advanced (CS): Fulfilled with CS 3114 Advanced (All other majors): Fulfilled with MATH 2214	11 credits
Pathways Concept 6	Critique and Practice in Design and the Arts Arts: Student's Choice Design: Fulfilled with ENGE 1215-1216	7 credits
Pathways Concept 7	Critical Analysis of Identity and Equity in the United States All Majors: Student's Choice	3 credits

VCCS Associates Degree and General Education

If you earned an Associate of Science or Associate of Arts and Sciences degree from a Virginia Community College (VCCS), your general education requirements are satisfied unless your intended engineering major requires a specific course for the Pathways requirement (i.e. Aerospace Engineering, Civil Engineering, Materials Science and Engineering, Ocean Engineering require ECON 2005; Construction Engineering and Management requires ECON 2005 and ECON 2006).

This does not apply if you earned an Applied Associate degree. You can see if the Associate Degree has been awarded and recognized by VT on [Hokie Spa](#) → Grades Menu → Transfer and Other Additional Credit. The below screenshot shows what the coding looks like when VT has received and updated the Associate Degree. You will see "VCCS Associate Degree."

Northern Va Cmty Coll-Annandal
College Code: 005515
VCCS Associate Degree

Important: If the general education requirement is satisfied, this does not always mean you have the appropriate number of credit hours (there is not a one-to-one mapping of courses to each Pathways requirement). For most engineering majors, students need 18 hours of Pathways Electives (6 credits of Pathways 2 + 6 credits of Pathways 3 + 3 credits of Pathways 6a + 3 credits of Pathways 7). You will need to find courses which will satisfy the credits required for each Pathways. These can be any course not being used to satisfy degree requirements (lower-level math, general education types of classes, etc.). If you do not have enough credits to cover the credits needed for each Pathways, free electives will be needed to satisfy the total number of credits required for your degree.

Foreign Language Requirement

All engineering students must complete a foreign language requirement prior to graduation. To meet this requirement, you must have either completed two years of a single foreign language in high school or completed one year of a single foreign language at the college level (6 credit hours). College-level credits used to meet this requirement do not count towards the degree. This requirement is complete for students whose native language is not English.

Your foreign language completion status on Hokie Spa → View your General Student Information may show "foreign language requirement not met." If you completed two years of a single foreign language in high school, you need to send your high school transcript to the Office of the University Registrar, Mail Code 0134, Student Services Building Suite 250, 800 Washington St., SW, Blacksburg, Virginia 24061 to have this requirement updated. Keep in mind your status may not be updated until several months into your first semester at VT as verification requires a manual review of your transcript.

Plan of Study / Graduation Plan

An academic plan of study allows you to outline all of the courses needed to fulfill the graduation requirements of the degree you wish to earn. However, there are certain periods of time (i.e. orientation, first week of classes, registration periods) in which there is an increased demand on your advisor's time and they are unable to develop an entire academic plan. In the meantime, you can work on this independently with our How to Develop An Academic Plan of Study document.

Students participating in the Reserve Officers' Training Corps (ROTC) may be required to complete a four to five year plan of study. General Engineering ROTC students can find additional plan of study resources on the General Engineering Plan of Study website → Additional ROTC Plan of Study Resources.

Transfer Credits

AP, IB, Cambridge, CLEP, and Dual Enrollment Transfer Credit

Virginia Tech accepts Advanced Placement, International Baccalaureate, University of Cambridge International Examinations, and College Level Examination Program based on certain scores. Scores should be sent directly from the testing agency to the Office of the University Registrar, Student Services Building Suite 250, 800 Washington St., SW, Blacksburg, Virginia 24061. We cannot accept transcripts from other institutions to award credit for these exams. Scores must come from the testing agency or through original score reports. https://www.registrar.vt.edu/Advanced-Standing-Transferable-Credit.html

You can verify when Virginia Tech has processed transcripts/score reports on Hokie Spa → Grades Menu → Transfer and Other Additional Credits.

EQUIVALENCY CHARTS, GUIDES, AND DATABASES

- AP, IB, CLEP, Cambridge
- International Colleges
- Transfer Equivalency Database (Transfer or Dual Enrollment from colleges outside of Virginia community colleges) While many course equivalencies are located in our Transfer Equivalency Database (TED), we also realize students take classes that are not listed in our database and need to be evaluated. The College of Engineering Academic Affairs Office (Ryan Wagoner, rdw@vt.edu) will review the unofficial transcripts you provided on the General Engineering Pre-Orientation Form and work with the administrator in each of our departments on your behalf to have the courses evaluated. This process allows us to ensure everything is completed systematically. You may receive an email from Mr. Wagoner asking for course syllabi or additional details about your prior credit, it is critical that you reply to his messages as quickly as possible.
- Virginia Community College System (VCCS) Transfer Guide (use the guide for the year the course was taken)
    - 2017
    - 2018
    - 2019
    - 2020
    - 2021 (will be available summer 2021)

Information displayed in the equivalency charts, guides, and databases is believed to be correct. However, the university reserves the right to make corrections and revisions. Please be reminded that although courses may transfer to Virginia Tech, not all courses apply toward all degrees. Only courses in which the student receives a "C" or better will transfer to Virginia Tech. Typically, transfer credit is granted only from regionally accredited universities and colleges.

If you are expecting transfer credits, they may impact your course schedule. Schedule modifications are common in Engineering and we will provide you with all of the details necessary to make an informed decision. You will work with an academic advisor during the Engineering virtual orientation experience. This will include how to change your schedule based on the individual transfer credits you are expecting. If you want to work ahead independently to understand how prior credits may transfer to Virginia Tech and how those credits may count toward your graduation requirements, review the next section.

Transfer Credit Self-Evaluation

If you are expecting transfer credit, it is important to know what Virginia Tech credits you may receive. You should complete a self-evaluation of your expected transfer credits by completing our How to Self-Evaluate Your Transfer Credits document.

Transcripts

Official transcripts from high school, prior colleges and universities should be sent to the Office of Undergraduate Admissions, Virginia Tech, 925 Prices Fork Road, Blacksburg, VA 24061. Only courses in which a "C" or better is earned will transfer to Virginia Tech. C or better = A, A-, B+, B, B- or C.

During the peak period (May - August), it can take the Registrar's Office more than 30 working days to process your transfer credit. You can verify when Virginia Tech has processed transcripts/score reports on Hokie Spa → Grades Menu → Transfer and Other Additional Credits.

If you completed dual enrollment classes while in high school, you must have your transcript sent directly from the college or university that the courses were taken through. Your high school transcript cannot be used to award transfer credit at VT. If you completed courses at multiple colleges or universities, you must send copies of the transcripts from each institution for credit to be awarded. Also, do not assume credit awarded at one institution for applicable credit will transfer as the same transferable credit to VT.

Students may need to send multiple transcripts for all information to be evaluated and updated on Hokie Spa. For example, you sent a transcript when you applied to VT, another during the fall semester, another after grades posted, and another after an Associate's Degree was awarded.

Physics Modules for Incomplete PHYS 2XXX Credit

Some students may have taken a dual enrollment class or transfer credit at another institution that transfers to Virginia Tech as PHYS 2XXX. Some of these courses may be missing key components of PHYS 2305 or PHYS 2306 at Virginia Tech, and it is possible that a Physics Module offered by the physics department may complete this and allow you to have credit for PHYS 2305 or PHYS 2306. The physics department offers three one-credit modules for students whose approved transfer physics courses are missing specific components of the course. These modules are only offered in the fall semester:

- PHYS 2324: Thermal Physics Modules → Applies to PHYS 2305
- PHYS 2334: Waves and Sound Module → Applies to PHYS 2306
- PHYS 2344: Optics Module → Applies to PHYS 2306

These modules are taught in the P/F grade mode which means the one hour will not count towards the GPA hours requirement to declare a degree-granting engineering major.

Sometimes taking a Physics Module will not turn your PHYS 2XXX credit into PHYS 2305 or PHYS 2306. To check to see if your PHYS 2XXX credit needs a module please review the Virginia Community College (VCCS) Site Equivalencies for PHYS 2305 and PHYS 2306 for Virginia Community College courses or the Transfer Equivalency Database for non-Virginia Community College physics courses.

Remember, you must earn credit for PHYS 2305 prior to declaring a degree-granting engineering major. If you need to complete a module to earn credit for PHYS 2305, please plan to complete the module in the fall semester.

PHY 241 or PHY 242 Equivalencies from VCCS

For students who completed PHY 241 or PHY 242 at a VCCS school, but not both, refer to this document to determine your equivalency. At many Virginia community colleges, PHY 241 alone is enough to award PHYS 2305 credit, however it will be articulated as PHYS 2XXX on your transcript. This means a force-add will be needed for any course you need to take in the future in which PHYS 2305 is a prerequisite.

ECE Course Equivalencies from VCCS

The Electrical and Computer Engineering (ECE) department has reviewed EGR courses from VCCS sites which previously equated to ECE courses, and has determined groupings for equivalencies to the new curriculum. The most current approved groupings are located at: https://enge.vt.edu/content/dam/enge_vt_edu/undergraduate/ece_vccs.pdf.

Transfer Credit Policies

1. Courses will be transferred as equivalent Virginia Tech courses as determined by the appropriate department. If there is no equivalent Virginia Tech course, transfer credit may be awarded as a Free Elective.
2. Courses in which a grade of a C or higher is earned are considered for transfer (Pass/Fail courses will not transfer). Only the credits will transfer, grades do not.
3. Courses taken as Credit-by-Exam or as Advanced Standing at another institution do not transfer.
4. Home study or correspondence courses do not transfer.
5. A course passed at Virginia Tech takes priority over an equivalent transfer course, regardless of when the transfer course is taken or the grade earned. Courses that duplicate previously studied material will not transfer.
6. Students may transfer up to one-half of the credits required for their degree program from any combination of 2-year schools.
7. There is no limit to the number of credits transferred from a 4-year school, however a minimum of one-fourth of the credit for the respective degree must be earned at Virginia Tech.
8. Of the last 45 semester hours before graduation, a maximum of 18 semester hours may be transfer hours.
9. Courses taken elsewhere during periods of academic suspension will not transfer to Virginia Tech.

Course Registration

Basics of Course Registration

Fall and spring course registration is a two-phase process at Virginia Tech. Phase 1 is known as **Course Request** and happens in March and October each year. This is your opportunity to inform the university of the courses you intend to take the following fall or spring semester. This phase is designed to ensure the departments are planning to offer enough seats in their courses to accommodate student demand.

The second phase is known as **Drop/Add** and opens about a month after course request each semester. During drop/add, you will be able to build on the courses you receive through the request process to finalize your next semester's class schedule.

Course registration for summer and winter courses is completed in one-phase, Drop/Add. Enrollment in summer and winter courses are optional. The only exception: Chemical Engineering requires the completion of CHE 4014: CHE Laboratory during the summer prior to the fourth year.

Important course registration dates and deadlines at Virginia Tech are on the Virginia Tech 2021-2022 Academic Calendar.

Course Modalities

Courses at Virginia Tech may be taught in one of four different modalities:

- face-to-face
- hybrid (mixture of face-to-face and online)
- online synchronous
- online asynchronous

Online synchronous courses require students to log in to real-time, online class sessions, while online asynchronous courses can be finished with no real-time meetings.

Not all courses are taught in all modalities. Go to Timetable of Classes → search for classes in the semester of choice to view course modality options.

Your First Semester Course Schedule

Your first semester at Virginia Tech will focus on the course requirements necessary to declare an engineering major, Pathways to General Education courses, and major-specific classes.

When developing your course schedule while in General Engineering, please prioritize the following requirements in this order:
1. Completing Engineering change of major course requirements.
2. Completing a minimum of 12 GPA hours. You should enroll in 15 - 17 credit hours to allow the option of dropping/withdrawing from a course and still meeting the 12 GPA hour policy.
3. Earning a minimum of a 2.0 overall VT GPA with a goal of 3.0 overall VT GPA.
4. Making progress towards your intended major curriculum.

Major and Course Restrictions

ENGINEERING COURSES
Some Engineering courses are major-restricted, meaning only students officially enrolled within the major can take those courses. You can view course restrictions by visiting:

- Timetable of Classes → search for a course in the semester of choice → click the Course Request Number (CRN) or
- Hokie Spa → Registration (Add/Drop) and Schedule → [Drop/Add] Register for Classes → search for a course in the semester of choice → click Class Title → click Restrictions

If a course is major-restricted, you will be able to add the course to your schedule after you are officially admitted to your degree-granting major.

OTHER COURSES
Some sections of courses outside of Engineering, like Chemistry and Physics, may also be restricted to students within those majors. There can be multiple sections of a course (e.g. PHYS 2305: Foundations of Physics and CHEM 1045: General Chemistry Lab), where some sections are restricted to only students within that major, while other sections are not restricted. If a course you want to enroll in is restricted, check other sections of that course to see if they are also restricted. To verify if a course is restricted, go to:

- [Timetable of Classes](#) → search for a course in the semester of choice → click the Course Request Number (CRN) or
- [Hokie Spa](#) → Registration (Add/Drop) and Schedule → [Drop/Add] Register for Classes → search for a course in the semester of choice → click Class Title → click Restrictions

Credit Hours

A credit hour is a unit of measurement for college courses. Courses will vary in credit hours based on the number of "contact" hours, or hours you spend in the classroom, each week. As an example, a three-credit hour class will typically meet for three hours per week. Courses typically range from one credit hour to four credit hours.

Full-time status at Virginia Tech is 12 credit hours. Full-time status is required for students who live on-campus, receive financial aid, are NCAA athletes, or are international students in the United States on a visa.

Engineering students typically take 15-17 credit hours each semester. This is necessary to complete our degrees in four years, as they range from 123-133 credit hours required for graduation. For students participating in the Corps of Cadets or ROTC students might typically take 17-19 credit hours each fall or spring semester.

19 credit hours is the maximum number of credits students can take in any fall or spring semester without prior permission.

Tuition

In the fall and spring semesters, tuition at Virginia Tech for full-time students (12 or more credits) is a flat rate; taking 12 credits has the same tuition cost of taking 18 credits. This is different from many colleges, where tuition is charged per credit. Please do not let this common misconception influence your decision to enroll in 12 or fewer GPA hours. https://www.bursar.vt.edu/tuition-fee-rates/tuition-fees.html.

In the summer and winter semesters, tuition at Virginia Tech is charged per credit hour.

International Students

Cranwell International Center will be able to address any questions you have regarding immigration status and visa details. Additional information is located at: https://international.vt.edu/. COVID-19 details are located at: https://international.vt.edu/index/faq.html#general. New incoming international students on a visa who are in the United States are required to be enrolled in at least one hybrid or in-person course.

Course Registration Frequently Asked Questions

HOW DO I ADD AND DROP COURSES IN HOKIE SPA?
Watch the How to Register for Classes video. This video provides a demonstration on how to make schedule adjustments in the class registration system.

WHAT ARE THE COURSE REGISTRATION DATES?
Important course registration dates and deadlines, including the deadlines to drop and add courses, at Virginia Tech are on the Virginia Tech 2021-2022 Academic Calendar.

WHAT IF MY TRANSFER CREDITS ARE NOT SHOWING IN HOKIE SPA?

All transcripts AND score reports need to be sent to the Office of Undergraduate Admissions, Virginia Tech, 925 Prices Fork Road, Blacksburg, VA 24061.

If you sent transcripts and/or scores to Virginia Tech and credits are not showing on Hokie Spa, please be patient. Processing time can take several weeks, and it is common for there to be a delay. If you are still completing coursework at a college or university, please send an **official transcript** from this school as soon as possible and a **second official transcript** once your in-progress work has been completed with final grades. If you expect to earn an Associate Degree from a Virginia Community College System (VCCS) institution, you will need to send a **third official transcript** once your degree is officially awarded. This will help speed up the official evaluation of your transfer credits.

You can verify receipt of AP, IB, CLEP, Cambridge, and other transfer credits on Hokie Spa → Grades Menu → Transfer and Other Additional Credits. Please continuously review to ensure all credit is displayed.

WHAT IS A CRN?

CRN is short for **C**ourse **R**equest **N**umber. This is the unique identifier number for each section of a course at Virginia Tech. The first digit of a CRN is associated with the semester: 8 or 9 for fall, 1 or 2 for spring. A common error during course request is requesting CRNs from the wrong semester. Make sure you are requesting CRNs for the appropriate semester.

HOW MANY CREDITS SHOULD I TAKE?

Full-time status during both fall and spring semesters is 12 credit hours. However, it is recommended you enroll in 15-17 credit hours and follow the guidelines on your intended Engineering major checksheet. The maximum number of credit hours you can take during a semester is 19 credit hours.

WHAT IF THE COURSE OR SECTION IS RESTRICTED?

There can be multiple sections of a course; some sections may be restricted while others are not. If a course you want is restricted, check other sections to see if they are also restricted. To verify if a course is restricted, go to:

- Timetable of Classes → search for a course in the semester of choice → click the Course Request Number (CRN) or
- Hokie Spa → Registration (Add/Drop) and Schedule → [Drop/Add] Register for Classes → search for a course in the semester of choice → click Class Title → click Restrictions

If all sections are restricted, you will not be able to request or register for that particular course.

WHAT IF I CANNOT REQUEST OR ADD A COURSE DUE TO A PREREQUISITE ERROR?

You must be currently enrolled in the prerequisites at Virginia Tech or have credit for the prerequisites showing on Hokie Spa → Transcripts and Certifications Menu → View Unofficial Transcript to request or add a course. If you are completing a prerequisite at another institution, you must wait until you have a final grade in the approved course equivalent on your transcript from your transfer institution to be added to the Virginia Tech courses you need. Contact your academic advisor to ask how to add courses to your Virginia Tech schedule if you receive a prerequisite error during course request or drop/add.

HOW MUCH TIME SHOULD I ALLOW BETWEEN EACH OF MY CLASSES?

Please allow at least 15 minutes between your scheduled classes. This is a sufficient amount of time to get to different campus locations and to transition between course sections. If you will be living off campus and have an in-person, face-to-face course, you may need to allocate more time before class to travel to campus.

MATH FREQUENTLY ASKED QUESTIONS:

If you have questions about MATH 1225 and your eligibility to take MATH 1225, please review the Math Department's Qualifying for MATH 1225 website.

PHYSICS FREQUENTLY ASKED QUESTIONS:

If enrolling in PHYS 2305, you must add two CRNs to your schedule - a 4-credit lecture and a 0-credit lab. Note the additional time listed for the 4-credit lecture is NOT the lab.

If enrolling in PHYS 2306, you must add two CRNs to your schedule - a 4-credit lecture and a 0-credit lab. Note the additional time listed for the 4-credit lecture is NOT the lab.

CHEMISTRY FREQUENTLY ASKED QUESTIONS:

CHEM 1035: General Chemistry and CHEM 1045: General Chemistry Lab can be taken separately. If you take CHEM 1035 in fall but are unable to find a seat in CHEM 1045, you must take CHEM 1045 in spring.

COMPUTER SCIENCE FREQUENTLY ASKED QUESTIONS:

If you are enrolling in CS 1114, you must add two CRNs to your schedule - a 3-credit lecture and a 0-credit lab.

If you are enrolling in CS 2114, you must add two CRNs to your schedule - a 3-credit lecture and a 0-credit lab.

ENGLISH FREQUENTLY ASKED QUESTIONS:

If your English Placement was ENGL 1106 and you are unable to take ENGL 1106 in fall, you should plan on taking ENGL 1106 in spring. As a reminder, you will need to earn a C- or better on your first attempt in ENGL 1106 to receive retroactive advanced standing credit for ENGL 1105. If your English Placement was ENGL 1106, you may skip ENGL 1105 in the fall. You may take ENGL 1106 in either the fall or the spring. You will need to earn a C- or better on your first attempt at ENGL 1106 to earn retroactive advanced standing credit for ENGL 1105. If you earn less than a C- or you withdraw from ENGL 1106, you may need to complete both ENGL 1105 and ENGL 1106.

If you have earned credit for both ENGL 1105 and ENGL 1106, you have completed the First Year Writing English requirement.

WHAT PATHWAYS SHOULD I TAKE?

Before selecting a Pathways to General Education course, you should determine which Pathways courses you have already completed and verify if the Engineering major(s) you are interested in have specific Pathways requirements. You can do both of these by completing our How to Check Pathways Progress document.

Additionally, if you are selecting Pathways to General Education Course(s), it is recommended that you select courses at the 1000 or 2000 level as these are most appropriate for new students.

HOW DO I FIND AND ADD A PATHWAYS TO GENERAL EDUCATION COURSES?

To find and add Pathways to General Education courses follow these steps in the Course Registration System:

- **Step 1: Enter the course registration system**
  Go to Hokie Spa → Registration (Add/Drop) and Schedule → [Drop/Add] Register for Classes → select the appropriate term from the menu → click Continue.

- **Step 2: Search for Pathways to General Education courses**
  You can search for Pathways to General Education courses using the search features within the registration system. Once you are in the course registration system, you will click on the "Advanced Search" icon at the bottom of the search criteria fields.

Selecting "Advanced Search" will generate more search fields. You need to scroll down and find the "CLE Area/Pathway" search field. Select the appropriate Pathway concept you would like to search for classes within. Note: Do not select CLE, you must search for Pathways concepts.

Once you select a Pathways concept to search within, you can scroll further down and select "Open Sections Only" if desired. This will typically help you search for only open sections of courses. Though sometimes it does not work correctly.

- **Step 3: Review the Pathways course options and descriptions**
  You have now generated a list of all Pathways courses within that particular concept. There will be multiple pages of Pathways courses generated. Please make sure you review all pages of Pathways courses.

  If you find a course that looks interesting you can click on the underlined course title to learn more. Once you click on the course title a pop-up box will appear. Click on "Description/Comments" to read a description of the course. On this same pop-up box you can also review the CLE Area/Pathway attributions for your course. Within the list the Pathways concepts will be listed by their name followed by their Pathways concept number. For example, Pathway 2: Critical Thinking in the Humanities appears in this pop-up box as "Critical Thinking Humanities G02."

- **Step 4: Add and submit**
  Once you decide which Pathways course you would like to take, you can click the "Add" button to the right. Make sure after you click "Add" that you click "Submit" at the bottom of the page. The Pathways course is not on your schedule unless you click "Submit."

MY CLASS HAS ADDITIONAL TIMES; WHAT ARE ADDITIONAL TIMES?

You may see "Additional Times" associated with some classes (e.g., MATH 1225, MATH 1226, PHYS 2305). These are additional required meeting times for the specified class, most often at a different time/location than other meeting times/locations for that particular class. These additional times are not optional; they are a part of the regular class requirement.

Navigating Your Semester

Academic and Personal Support

We are committed to providing academic and personal support to aid in your success at Virginia Tech. A summary of resources available, including information about tutoring resources and other campus support offices, is located at: https://enge.vt.edu/undergraduate/resources_and_help.html.

General Engineering Success Skills Virtual Workshop

The General Engineering Success Skills Virtual Workshop is designed to help students develop strong academic skills to be successful in their General Engineering program. This workshop covers five different academic areas students can complete which relate to key academic success areas of time management, improving reading and notetaking, using effective study strategies while completing practice problems, creating task lists and study spaces, and exploring campus resources. The General Engineering Success Skills Virtual Workshop is housed in Canvas; you can use this link to enroll in the workshop: https://canvas.vt.edu/enroll/WY38G4.

Time Management

Engineering recommends you spend at least two to three hours studying for every hour spent in class. Review our How to Practice Time Management document and enroll in the General Engineering Success Skills Virtual Workshop to help get you started on the right track.

CEED Peer Mentoring

The Virginia Tech Center for the Enhancement of Engineering Diversity (CEED) offers first-year Engineering students the opportunity to participate in a Peer Mentoring Program. Through the CEED Peer Mentoring Program, you are assigned to a small group of about 10 first-year students with one upper-class mentor. You meet to talk about typical first-year issues – finding campus resources, connecting with faculty, exploring undergraduate research – and ask any questions you have on being a Hokie. These students may become your friends and potential study partners. You will also have access to large social events for all the program participants so you can meet others outside of your small group. You can learn more about CEED Peer Mentoring and find out how to sign up by visiting their website at:
https://eng.vt.edu/ceed/ceed-undergraduate-programs/mentoring.html.

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