

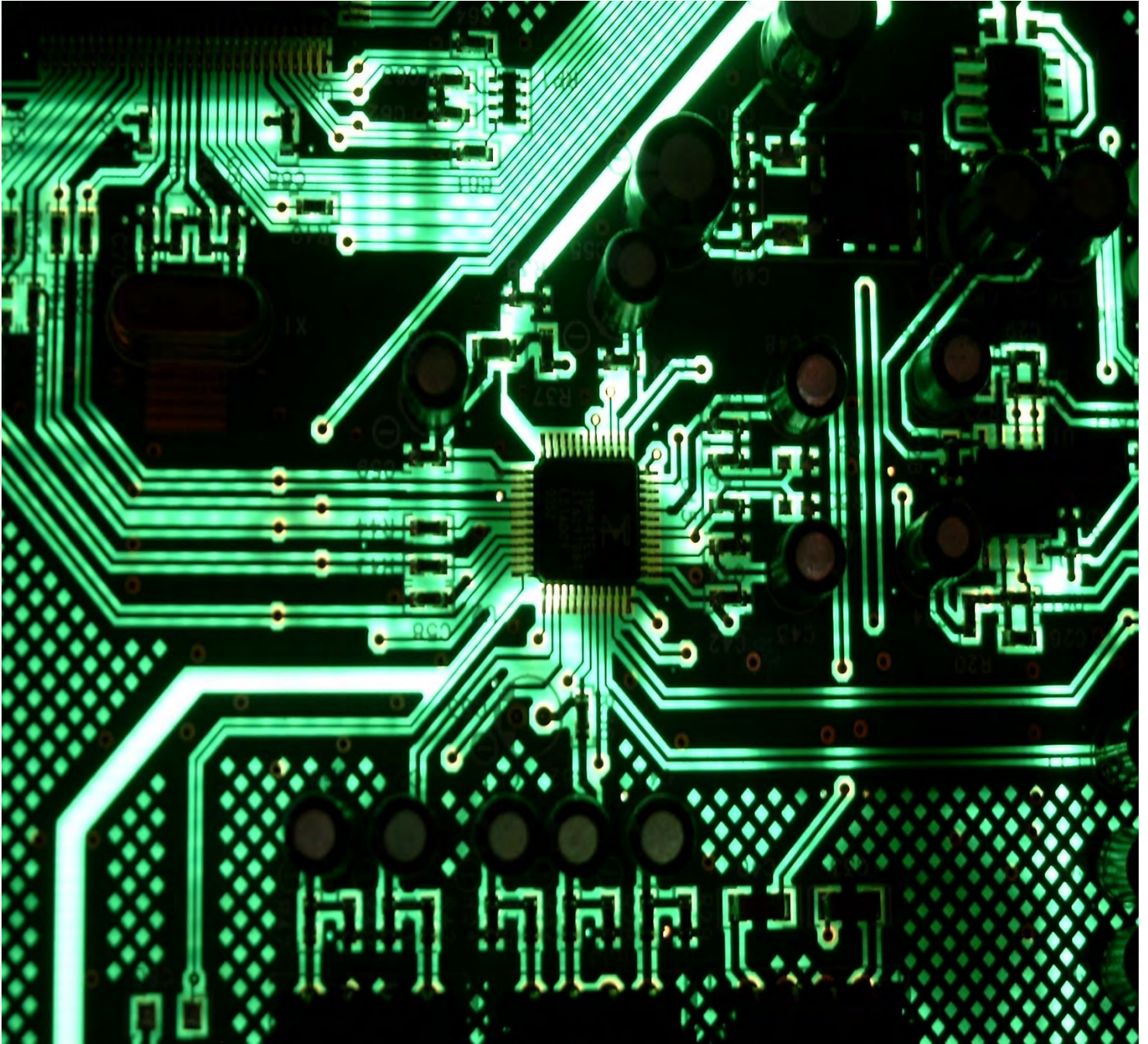
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# College of Engineering

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**Undergraduate Academic Guidebook**

**2020-2021**



### Engineering Admissions for Full-Major New Students: First Time in College/Freshman Applicants

In addition to meeting UNT admissions requirements, you must also meet *one* of the following criteria:

Top 25% of high school graduating class

- MATH SAT score of 590 or better and a total SAT score of 1140 or better
- MATH ACT score of 23 or better and a composite ACT score of 23 or better

Top 50% of high school graduating class or unranked (including GED and homeschooled)

- MATH SAT score of 620 or better and a total SAT score of 1170 or better
- MATH ACT score of 24 or better and a composite ACT score of 24 or better

51% or lower high school graduating class

- MATH SAT score of 650 or better and a total SAT score of 1250 or better
- MATH ACT score of 26 or better and a composite ACT score of 26 or better

*Construction Engineering Technology or Mechanical Engineering Technology can earn MATH SAT score of 570 or better or MATH ACT score of 22 or better regardless of rank*

### Engineering Admissions for Full-Major New Students: Transfer & 2<sup>nd</sup> Bachelor's Degree Applicants

In addition to meeting UNT admissions requirements, you must also meet *all* of the following criteria:

- Minimum 2.0 GPA based on all transfer coursework
- Minimum 2.0 GPA based on all transfer mathematics, science, engineering, & computing courses
- Eligibility to enter MATH 1710, Calculus I, via prerequisite completion or testing (see next page)

### Engineering Admissions for Pre-Major Students & Change of Major Applicants

If you did not meet the above criteria to be admitted as a full-major, you have been accepted into the pre-major. You will be eligible for admissions into the full-major once you meet *all* of the following criteria:

- Minimum 2.0 GPA based on all UNT coursework
- Minimum grade of "C" grade in the course below per your destination/desired engineering major

Biomedical Engineering: MATH 1710

Computer Engineering: CSCE 1030

Computer Science: CSCE 1030

Construction Engineering Technology: MATH 1710

Cybersecurity: CSCE 1035\*

Electrical Engineering: MATH 1710

Information Technology: CSCE 1030

Materials Science and Engineering: MATH 1710

Mechanical and Energy Engineering: MATH 1710

Mechanical Engineering Technology: MATH 1710

*Must fulfill criteria by the end of your 4<sup>th</sup> long semester or you will be removed from the Pre-Major Program*

*\*Can substitute with CSCE 1030 and CSCE 1040 with minimums grades of "C" in both based on advisor approval*

### Engineering Dismissal

You are required to conduct yourself in a professional manner at UNT while making successful progression toward graduation. Failure to do so may result in dismissal from the College of Engineering. Criteria for dismissal includes (but is not limited to):

- Violation of the Code of Student Conduct located at [deanofstudents.unt.edu/conduct](http://deanofstudents.unt.edu/conduct). This includes, (but is not limited to) dishonesty, cheating, disruptive behavior, theft, hazing, abuse, violence, etc.
- Failure to enroll in engineering required coursework and/or prerequisites each semester.
- Failure to reach or maintain grade and/or GPA criteria for engineering required courses and prerequisites.
- Being placed on academic suspension from UNT due to UNT semester and/or cumulative GPA.

## Mathematics

All engineering degree plans require completion of Calculus I (MATH 1710) in the 1<sup>st</sup> semester to attempt a timely graduation. Enrollment in MATH 1710 is contingent on (1) completion of placement tests, or (2) completion of college level math prerequisite courses, or (3) college level math credit earned via AP, IB, CLEP, DC, or transfer.

If you are TSI incomplete in math, you may have additional MATH courses to take. If you have earned credit for math via AP, IB, CLEP, DC, and/or transfer, please refer to page 30 for confirmation of UNT equivalent course(s).

### Prerequisite Course Sequence for Calculus I:

TSI MATH (if TSI required) -> MATH 1100, College Algebra → MATH 1650, Pre-Calculus → MATH 1710, Calculus I

### Pre-Placement for First Time in College/Freshmen:

If you are TSI complete and do have earned credit for math courses via AP, IB, CLEP, DC, or transfer; you must begin math courses based on your Math Group Level assigned by the Math Department:

- Math Level 1 or No Math Level: MATH 1100
- Math Level 2: MATH 1650
- Math Level 3: MATH 1710

### Placement Testing Options:

If you feel that you are capable of beginning your math course at a higher level than your Math Group Level or earned math credit, you can seek approval via 2 testing options:

- Canvas Math Placement – free online test. Must score a minimum of 70 to enter MATH 1710. Must score a minimum of 10 to enter MATH 1650. Must download a web browser called Respondus Lockdown Browser. Must have access to a webcam to take the test. If the test option is not posted in your Canvas account, e-mail Rita.Sears@unt.edu for access.
- ALEKS – online test which requires a small fee and completion of a 6 week long tutorial. Must score a minimum of 70 to enter MATH 1710. Must score a minimum of 50 to enter MATH 1650. Must download a web browser called Respondus Lockdown Browser. Must have access to a webcam to take the test.

*Please refer to the Mathematics Department at [math.unt.edu](http://math.unt.edu) for more testing information.*

## Course Types

UNT offers many course types and/or formats. Below are common ones:

- Prerequisite or "Prereq": course that must be completed to move onto another course in a sequence.
- Corequisite or "Coreq": course that must be taken in the same semester as another course.
- Recitation or "Rec": extra, required meeting time to cover homework, take tests, answer questions, etc.
- Laboratory or "Lab": required time that's an application of the information that you learn in class.
- Advanced course: high level courses as indicated by a 3\*\*\* or 4\*\*\* numbering.
- Online: course in which the majority of instruction, assignments, and work is online. Some international students are not allowed to take online courses due to VISA type.
- Restricted: course or section time limited to certain students such as Honors, Out of State, Dual Credit.
- Frisco Campus: course taught at the campus in Frisco, Texas.
- Collin Higher Education Center (CHEC): course taught at the center located in McKinney, Texas.
- NTDP: course taught at the North Texas Discovery Park campus.

## Course Offerings

### Fall semester/session offerings:

- Fall Regular: August to December
- Fall 8 Week I: August to October
- Fall 8 Week 2: October to December

### Spring semester/session offerings:

- Spring 3 Week (winter): December to January
- Spring Regular: January to May
- Spring 8 Week I: January to March
- Spring 8 Week 2: March to May

### Summer semester/session offerings:

- Summer 3 Week: May
- Summer 8 Week: May to July
- Summer 5 Week 1: June to July
- Summer 5 Week 2: July to August
- Summer 10 Week: June to August

*Not every course is offered every semester or session*

## Credit Hours

Number of units assigned to each course. Referred to as “credits”, “hours”, or “credit hours”. It indicates approximately how many hours per week you’ll be in class and how many hours per week that you will need to study for that course. It’s also used in the calculation of your GPA.

### How many hours do I earn for each course?

Depends on the course. Usually 3 – 4 hours but courses can range from 1 – 5 hours.

### How many credits is full-time?

12 hours (approximately 4 courses).

### How many hours can I take each semester?

19 hours in the fall/spring semesters and 18 hours in the summer. This applies to credits enrolled at UNT and another institution (concurrent enrollment). You can receive overload approval to take more hours if you have met the following criteria:

- At least a 3.0 GPA on a minimum 15 hour UNT residence load for the semester just completed.
- At least a 3.0 GPA on a minimum 12 hour UNT residence load for the summer terms just completed.
- At least a 3.0 GPA on all work completed at UNT and a minimum 24 hours of credit in residence.

### Do I have to be a full-time student?

No, not unless you are an international student, athlete, scholarship receipt or receiving maximum financial aid. To attempt a timely graduation, you should plan to take 15-16 hours unless you work. Your number of work hours will impact the number of credit hours you should attempt each semester/term. Please consult with your advisor to determine the proper balance of work and school.

## Classification

Your classification is based on the number of earned credit hours after semester grade posting; not the number of years you have been in school. Classification dictates your registration appointment time each semester and may impact your eligibility for scholarships, financial aid, internships, etc.

<i>Freshman:</i>	0 – 29 hours	<i>Junior:</i>	60 – 89 hours
<i>Sophomore:</i>	30 – 59 hours	<i>Senior:</i>	90+ hours

## Grade Point Average (GPA)

Grades have a point value and courses are worth an amount of credit hours. GPA is calculated by dividing grade points earned by the number of attempted hours. Grades of “CR” (AP, CLEP, IB credits) and “W” don’t count as attempted hours in GPA calculations. Grades of “F” are attempted hours and count heavily against your GPA.

### How do grades convert to grade points?

- A = 4 points x # of credit hours course is worth
- B = 3 points x # of credit hours course is worth
- C = 2 points x # of credit hours course is worth
- D = 1 points x # of credit hours course is worth
- F = 0 points x # of credit hours course is worth

### How to calculate your GPA:

- Determine grade points for each course using the conversion above
- Total your number of grade points and your number of attempted hours
- Divide total grade points by total attempted hours
- Number that results = your GPA

### Different types of GPAs:

- Semester or Term GPA: the GPA you earned for the semester/term just enrolled.
- UNT GPA: the cumulative GPA you earn in all UNT courses. A minimum 2.0 GPA is required.
- Overall GPA: GPA you earn in all courses (UNT and transfer). A minimum 2.0 GPA is required.
- Major GPA: the GPA you earn in courses in your major. A minimum 2.0 GPA is required

You can access a GPA calculator at [advising.unt.edu/about-your-gpa/calculate-your-gpa](http://advising.unt.edu/about-your-gpa/calculate-your-gpa)

### Grade Point Average (GPA): Academic Status

Your cumulative UNT grades are used to calculate academic status. Grades earned in transfer are considered in calculation of Graduation with Honors and fulfillment of degree requirements but are not considered with determination of academic status.

#### Academic Good Standing:

Standing if you earn at least a cumulative 2.0 UNT GPA. A 1.8 UNT GPA is acceptable during your 1<sup>st</sup> semester at UNT but it must be increased to at least a 2.0 after your 1<sup>st</sup> semester.

#### Academic Alert:

Standing if you are a freshman and your UNT GPA falls below 1.8 during the 1<sup>st</sup> semester or falls below 2.0 during the 2<sup>nd</sup> semester. You can only be placed on alert once. You will be required to participate in academic coaching sessions via the Learning Center during your alert semester. You must raise your UNT GPA to 2.0 or higher during your alert semester or you will be placed on probation.

#### Academic Probation:

Standing if you are not eligible for alert and your UNT GPA falls below 1.8 during the 1<sup>st</sup> semester or falls below 2.0 during any following semester. You must raise your UNT GPA to 2.0 to return to good standing or earn a semester GPA of at least 2.25 to remain on probation. You will be required to participate in academic coaching session via the Learning Center during your probation semester.

#### Academic Suspension:

Standing if you fail to raise your UNT GPA to a 2.0 or earn a 2.25 semester GPA while on probation. You are prohibited from attending UNT for 1 long semester for a 1<sup>st</sup> suspension or 2 long semester for a 2<sup>nd</sup> suspension. You must petition to re-enter the College of Engineering after completing the 1<sup>st</sup> or 2<sup>nd</sup> suspension period. You might be approved to return. You will be dismissed permanently from the College of Engineering if you are suspended a 3<sup>rd</sup> time.

### Grade Point Average (GPA): Honors

#### Semester Honors:

Semester honors is based on your fall or spring semester GPA and is documented on your UNT transcript. You must complete at least 12 hours to be recognized for honors. Summer GPA is not recognized for honors. Candidates for a 2<sup>nd</sup> bachelor's degree are not eligible for semester honors.

- *President's List: 4.000*
- *Dean's List: 3.500-3.999*

#### Graduation with Honors:

Graduation with honors is based on your overall (UNT and transfer) GPA and is documented on your UNT transcript. Candidates for a 2<sup>nd</sup> bachelor's degree are not eligible for graduation honors.

- *Cum laude: 3.500 – 3.699*
- *Magna cum laude: 3.700 – 3.899*
- *Summa cum laude: 3.900 – 4.000*

### Retaking Courses: Course Duplications

If your transcript(s) contains the same course with an earned grade more than once, the 1<sup>st</sup> grade will be treated as a duplication and will be deleted from your GPA. Any additional grades will be calculated into your GPA. This includes transfer courses/grades. Course duplication will impact your GPA, your academic status and excessive hours.

Engineering major required courses must be completed with a grade of C or better. Only the last grade will be used in fulfilling prerequisite, corequisite, and graduation eligibility. Contact your advisor to confirm how you will be affected if you take a course more than once.

## Dropping or Withdrawing

### Dropping:

Dropping refers to removing yourself from one or more courses for the semester (but you remain in at least one course for the semester). You can drop yourself via MyUNT before or shortly after the semester begins. The MyUNT drop functionality usually expires on the 1<sup>st</sup> day of summer semester and approximately 12 days into the fall/spring semesters. After the MyUNT drop functionality expires, you may drop via the procedures and deadlines listed online. Please note that if you are enrolled in only one course for a summer session and you need to remove that one course, it is considered a withdrawal and not a drop. Please see withdrawal information below. Only 6 drops are allowed during your academic career unless you began college before the fall semester of 2007. Once the 6 drop limit is reached, no additional drops are approved.

### Withdrawing:

Withdrawing refers to dropping all courses for the semester. You are not allowed to withdraw via MyUNT. You may withdraw via the procedures and deadlines listed online.

*Dropping or withdrawing may affect your financial aid and/or excessive hours.*

## Pass/No Pass Grading Option

You may elect to take courses which are not needed for your degree plan or graduation under the Pass/No Pass Grading Option. Certain criteria must be met and you must obtain approval from your advisor after you have enrolled in the course. A "grade" of "P" or "NP" will be recorded on your transcript. This "grade" is not calculated in your GPA.

## Incompletes

An "I" or "Incomplete" grade is a pending grade on your record which does not affect your GPA. An "I" may be granted by the professor if you meet all of the following conditions:

- The final drop and withdraw deadlines for the semester/term have passed.
- You experience an emergency situation that prohibits you from completing remaining work.
- You have been earning a passing grade to the point of the emergency situation.
- You can complete and submit outstanding work within 12 months after the grade of "I" is granted.

*Professors are not required to grant an "I" even if you meet the conditions. An automatic grade of "F" will be posted on your transcript if you do not complete the "I" within 12 months.*

## Taking Courses at another Institution: Concurrent Enrollment

Courses taken outside of UNT will not be applied to your degree audit unless you meet all of the following criteria:

- The course you plan to take has been pre-approved by your advisor.
- You do not violate the maximum semester/term credit hour limit or residency requirements at UNT.
- You are not attempting to graduate the same semester/term in which you are concurrently enrolled.
- You submit the official transcript for the course to the Registrar's Office within one month of completion.

*Please note that your department reserves the right to reject online courses and/or courses at certain institutions.*

***Please note that concurrent enrollment in your last semester/term will delay graduation and you will not you're your degree until the following semester/term.***

## Registration and Payment

You will use MyUNT to register for courses each semester/term. Information on registration enrollment periods, payment deadlines, etc. can be located at [registration.unt.edu](http://registration.unt.edu).

You must arrange payment prior to the payment deadline listed in MyUNT or online. Failure to pay by the deadline listed will result in the cancellation of your entire schedule of classes. You must elect a tuition plan before your 1<sup>st</sup> semester/term payment deadline. Information on plans is located at [sfs.unt.edu](http://sfs.unt.edu). You have numerous options available to pay. Refer to [registration.unt.edu/cost-funding](http://registration.unt.edu/cost-funding) for information. If you have been awarded financial aid, refer to [financialaid.unt.edu](http://financialaid.unt.edu) for information.

## Registration Tips

### Holds:

Holds are items that you need to complete prior to registration. Your holds are listed on your "Tasks" file in MyUNT. If you have an "Advising Required" hold, you must meet with an advisor before you can register for courses in the upcoming semester/term.

### Full Courses/Waitlist:

If a course is full, add yourself to the waitlist. Seats are allotted in position order as fully enrolled students vacate the course. The waitlist does not guarantee a seat in the course. You can waitlist for a maximum of 3 courses per semester/term. The waitlist option ends once add/drop closes for the semester/term.

### Visual Schedule Builder:

This tool in MyUNT will allow you to graphically view schedule options based on the course time offerings that works best for you. This tool can be problematic for numerous reasons. First, it will include courses that are full (closed/waitlisted). Second, it does not list course location which may not allow commute time between main campus, North Texas Discovery Park, Frisco Campus, and the Collin Higher Education Center in McKinney, Texas. Third, it does not always include lab times or recitations times.

### Error Messages:

Read the message to learn why you received it and to determine if you are eligible to enroll in the course. Common errors refer to prerequisite, corequisite, and restricted sections.

### Overrides:

Contact the department that teaches the course if you received an error message by mistake and you need to enroll in the open course. Below are department contacts for some common courses:

- BIOL: Contact Heather Tunnell at [heather.tunnell@unt.edu](mailto:heather.tunnell@unt.edu)
- BMEN: Contact Anna Phelan at [anna.phelan@unt.edu](mailto:anna.phelan@unt.edu)
- CHEM: Contact Heather Vidaurri at [heather.vidaurri@unt.edu](mailto:heather.vidaurri@unt.edu)
- CNET : Submit request at [mechanical.engineering.unt.edu/override-form](http://mechanical.engineering.unt.edu/override-form)
- CSCE: Submit request at [computerscience.engineering.unt.edu/overrides](http://computerscience.engineering.unt.edu/overrides)
- EENG: Contact Jason Mieritz at [jason.mieritz@unt.edu](mailto:jason.mieritz@unt.edu)
- ELET : Submit request at [mechanical.engineering.unt.edu/override-form](http://mechanical.engineering.unt.edu/override-form)
- ENGR: Submit request at [mechanical.engineering.unt.edu/override-form](http://mechanical.engineering.unt.edu/override-form)
- MATH: Contact Rita Sears at [rita.sears@unt.edu](mailto:rita.sears@unt.edu)
- MEEN: Submit request at [mechanical.engineering.unt.edu/override-form](http://mechanical.engineering.unt.edu/override-form)
- MEET: Submit request at [mechanical.engineering.unt.edu/override-form](http://mechanical.engineering.unt.edu/override-form)
- MFET: Submit request at [mechanical.engineering.unt.edu/override-form](http://mechanical.engineering.unt.edu/override-form)
- MTSE: Contact Lisa Dunlop at [Lisa.Dunlop@unt.edu](mailto:Lisa.Dunlop@unt.edu)
- PHYS: Submit request at [physics.unt.edu/forms/physics-course-override-request](http://physics.unt.edu/forms/physics-course-override-request)
- TECM: Contact [tcoffice@unt.edu](mailto:tcoffice@unt.edu)

Be prepared to provide your name, ID number, and the course/section you are wanting to enroll in.

## Tuition Increases

### Repeated Course Tuition Increase:

If you are a resident and you attempt courses for a 3<sup>rd</sup> time, you are subject to pay an additional tuition rate per semester credit hour for the repeated course. Refer to information at [sfs.unt.edu](http://sfs.unt.edu).

### Excessive Hours Regarding Tuition:

Texas code specifies that a resident may be subject to a higher tuition rate for attempting excessive hours at any public institution. You cannot exceed more than 30 credit hours (or 45 credit hours if you started school prior to fall 2006) of the number of hours required for the completion of your degree plan. Any additional hours are considered excessive and will result in additional tuition charges. Refer to information at [sfs.unt.edu](http://sfs.unt.edu).

### Maximum Hours Regarding Financial Aid:

If you receive financial aid and maintain Satisfactory Academic Progress (SAP) and Pace of Progression (POP), your aid eligibility continues until you attempt 150% of the minimum credit hours required for your degree plan. For most students, once they attempt approximately 180 credit hours, their aid is discontinued.

### Degree Audit (Plan)

The degree audit is the official document that lists all the requirements you need to complete to earn your degree. It tracks the application of completed requirements each semester/term. You can view your degree audit at [mydegreeaudit.unt.edu](http://mydegreeaudit.unt.edu). Please contact the Engineering Advising Office for any questions or concerns.

### Graduation

You must make an appointment with the Engineering Advising Office the semester/term before you plan to graduate to confirm that you are on track. Graduation can usually be achieved 4 years after you are enrolled in Calculus I (MATH 1710), enrolled in the entry level engineering course(s) for your major, follow the correct requisite sequencing, follow the correct semester scheduling path, earn passing grades each semester/term, and complete approximately 30 degree accountable credits per year. Please note that graduation often occurs within 5-6 years for most students.

You must apply for graduation at the beginning of your final semester via your Student Center in MyUNT. Refer to [registrar.unt.edu](http://registrar.unt.edu) for more information and the application deadline. Failure to apply by the deadline will result in your failure to graduate or earn your degree even if you complete all of your degree audit requirements. You cannot enroll in another institution during your final semester/term or else your graduation will be delayed.

### Commencement

Commencement is the name of the graduation ceremony. Commencement is offered in December for students who earn their degree in fall or May for students who earn their degree in spring. Students who earn their degree in summer can choose to attend the December or May commencement. In order to attend commencement, you must have applied for and been approved for graduation at the beginning of your final semester. Refer to [unt.edu/commencement](http://unt.edu/commencement) for more information.

### North Texas Discovery Park (NTDP)

North Texas Discovery Park (NTDP) is a 2<sup>nd</sup> campus located 4 miles north of the main campus. It is the location of all College of Engineering offices, classes, and labs. NTDP also offers a cafeteria, library, computer access labs, specialty engineering labs, engineering student organizations, an advising office, tutoring services, and a career services office.

Information on free bus transportation routes/times and available student parking passes/locations can be found at [unt.edu/transit](http://unt.edu/transit).

### Advising

#### Academic Advisors:

These advisors work with you to ensure that you are meeting academic goals and requirements in order to earn your degree. You should meet with your advisor each semester. You will be required to meet with your advisor if you are a freshman, first time in college student, pre-major, or if your GPA falls below good standing. Use [appointments.unt.edu](http://appointments.unt.edu) to schedule your appointment. Allow 3 weeks for an available appointment and note that you will lose your appointment if you arrive late. The office is located in NTDP-A101. The phone number is 940-565-4201. E-mail contact information for the advisors is located at [engineering.unt.edu/advising/advisors](http://engineering.unt.edu/advising/advisors).

#### Engineering Faculty Advisors:

These professors assist with advising. They can help you with choosing the proper elective, specialization, track, or supporting area courses to prepare you to enter industry after graduation. Contact information is located on the following curriculum pages. Below are the available faculty advisors.

#### Career Advisors:

Located in NTDP C-111, these advisors help you with career planning, major selection, resume writing, interviewing skills, internships, and full-time employment. You can schedule an appointment in person or via 940-565-2105.

#### International Advisors:

Located in Marquis Hall, these advisors help you if you are an international student to discuss policies, restrictions, and responsibilities based on your VISA type and/or sponsored scholarship type.



## Advising

Please see below for the academic and faculty advisors assigned to you based on your degree program/major or pre-major:

Degree Program/Major	Academic Advisors	Faculty Advisors
Pre-Biomedical Engineering	David Bekker Melissa Getty	Dr. Vijay Vaidyanathan
Pre-Computer Engineering	David Bekker Melissa Getty	Dr. Robin Pottathuparambil
Pre-Computer Science	David Bekker Melissa Getty	Dr. Mark Thompson
Pre-Construction Engineering Technology	David Bekker Melissa Getty	Mr. Al Attah
Pre-Cybersecurity	David Bekker Melissa Getty	Dr. Mark Thompson
Pre-Electrical Engineering	David Bekker Melissa Getty	Dr. Tom Derryberry
Pre-Information Technology	David Bekker Melissa Getty	Mr. David Keathly Dr. Ryan Garlick
Pre-Materials Science and Engineering	David Bekker Melissa Getty	Dr. Marcus Young
Pre-Mechanical and Energy Engineering	David Bekker Melissa Getty	Dr. Xiahoua Li
Pre-Mechanical Engineering Technology	David Bekker Melissa Getty	Dr. Leticia Anaya
Biomedical Engineering	Abdal Elkharoubi Errica Smith	Dr. Vijay Vaidyanathan
Computer Engineering	Abdal Elkharoubi Errica Smith	Dr. Robin Pottathuparambil
Computer Science	Heather Burrow Abdon Gonzalez Beverly Wilks	Dr. Mark Thompson
Construction Engineering Technology	Mia Dallas Rachel Smith Adrian Parks	Mr. Al Attah
Cybersecurity	Heather Burrow Abdon Gonzalez Beverly Wilks	Dr. Mark Thompson
Electrical Engineering	Abdal Elkharoubi Errica Smith	Dr. Tom Derryberry
Information Technology	Heather Burrow Abdon Gonzalez Beverly Wilks	Mr. David Keathly Dr. Ryan Garlick
Materials Science and Engineering	Nancy Van Hoy	Dr. Marcus Young
Mechanical and Energy Engineering	Mia Dallas Rachel Smith Adrian Parks	Dr. Xiahoua Li
Mechanical Engineering Technology	Mia Dallas Rachel Smith Adrian Parks	Dr. Leticia Anaya

# BIOMEDICAL ENGINEERING

Bachelor of Science (B.S.) degree with a major in Biomedical Engineering  
Biomedical Engineering Department, Discovery Park B-131; (940) 565-3338

## University Core

### COMMUNICATION

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

**Grade of “C” or better is required**

### AMERICAN HISTORY I

- ❑ 1 Course (3 Hours) chosen from HIST 2610 or HIST 2675

### AMERICAN HISTORY II

- ❑ 1 Course (3 Hours) chosen from HIST 2620 or HIST 2685

### FEDERAL GOVERNMENT/POLITICAL SCIENCE

- ❑ 1 Course (3 Hours) chosen from PSCI 2305 or PSCI 2315

### STATE GOVERNMENT/POLITICAL SCIENCE

- ❑ 1 Course (3 Hours) chosen from PSCI 2306 or PSCI 2316

### CREATIVE ARTS

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

### LANGUAGE, PHILOSOPHY, AND CULTURE

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

### SOCIAL AND BEHAVIORAL SCIENCES

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

## Major Requirements Minimum 2.0 GPA

### TECHNICAL COMMUNICATIONS

- ❑ TECM 2700, Technical Writing (3 Hours)

### MATHEMATICS

- ❑ MATH 1710, Calculus I (4 Hours)
- ❑ MATH 1720, Calculus II (3 Hours)
- ❑ MATH 2700, Linear Algebra (3 Hours)
- ❑ MATH 2730, Multivariable Calculus (3 Hours) or MATH 3350, Numerical Analysis (3 Hours)
- ❑ MATH 3410, Differential Equations (3 Hours)
- ❑ MATH 3680, Applied Statistics (3 Hours)

Completion of the above courses will earn a Mathematics minor.

### SCIENCES

- ❑ CHEM 1410, General Chemistry I (3 Hours) & CHEM 1430, General Chemistry I Lab (1 Hour)
- ❑ PHYS 1710, Mechanics (3 Hours) & PHYS 1730 Mechanics Lab (1 Hour)
- ❑ 1 Lab science and lab chosen from:  
BIOL 2301, Human Anatomy & Physiology (3 Hours) & BIOL 2311, Human Anatomy & Physiology Lab (1 Hour) or  
CHEM 1420, General Chemistry II (3 Hours) & CHEM 1440, General Chemistry II Lab (1 Hour) or  
PHYS 2220, Electricity & Magnetism (3 Hours) & PHYS 2240, Electricity & Magnetism Lab (1 Hour)

## Major Requirements Minimum 2.0 GPA

### BIOMEDICAL ENGINEERING

- ❑ BMEN 1300, Discover Biomedical Engineering (3 Hours)
- ❑ BMEN 1400, Software for Biomedical Engineers (4 Hours)
- ❑ BMEN 2210, DAQ Practices (3 Hours)
- ❑ BMEN 2320, Biomedical Instrumentation (3 Hours)
- ❑ BMEN 3310, Engr. Measurements from Human Systems (3 Hours)
- ❑ BMEN 3311, Biomedical Signal Analysis (3 Hours)
- ❑ BMEN 3312, Introduction to Biomechanics (3 Hours)
- ❑ BMEN 3321, Biomaterials (3 Hours)
- ❑ BMEN 3350, Biomedical Transport Phenomena (3 Hours)
- ❑ BMEN 4310, Biomedical Modeling (3 Hours)
- ❑ BMEN 4212, Senior Design I (1 Hour)
- ❑ BMEN 4222, Senior Design II (3 Hours)
- ❑ BMEN 4\*\*\*, Advanced Elective (3 Hours)
- ❑ BMEN 4\*\*\*, Advanced Elective (3 Hours)
- ❑ BMEN 4\*\*\*, Advanced Elective (3 Hours)

### BIOMEDICAL ENGINEERING ELECTIVE TRACK

Choose an elective track and complete a minimum of 6 courses (18 Hours) from the approved options below:

- ❑ Track Elective (3 Hours)
- ❑ Track Elective (3 Hours)
- ❑ Track Elective (3 Hours)
- ❑ Track Elective (3 Hours)
- ❑ Track Elective (3 Hours)
- ❑ Track Elective (3 Hours)

#### *Biomedical Instrumentation Elective Track:*

EENG 2610/2611, 2620/2621, 2710/2711, 3510, & 4\*\*\* level course.

*Completion of this track will earn an Electrical Engineering minor.*

#### *Biomechanics Elective Track:*

MEEN 2301, 2302, 2210, 2332, & two MEEN 3\*\*\* and/or 4\*\*\* level courses. See advisor for specific course choices.

*Completion of an additional MEEN 3\*\*\* and/or 4\*\*\* level specific course in addition to this track will earn a Mechanical and Energy Engineering minor.*

#### *Biocomputing Elective Track:*

CSCE 1030, 1040, 2100, 2110, & two CSCE 3\*\*\* and/or 4\*\*\* level courses.

*Completion of this track will earn a Computer Science and Engineering minor.*

#### *Biomaterials Elective Track:*

MTSE 3000, two courses from 3010, 3030, 3050, 3070, plus 3 MTSE 3\*\*\* or 4\*\*\* level courses. MTSE 3001 is strongly recommended.

*Completion of this track will earn a Materials Science and Engineering minor.*

#### *Pre-Medical Elective Track:*

BIOL 1710, 1720, 1760, 2041/2042, CHEM 2370/3210, BIOL 3451/3452, and 1 class/lab chosen from BIOL 3770/4580 or BIOC 3621/3622

*Completion of BIOL course in this track will earn a Biological Sciences minor. BIOC option will not earn the minor.*

*Additional courses are required for admissions into medical school.*

# Biomedical Engineering

2020-2021 Catalog: Sample Four-Year Schedule

	Fall Semester	Course Title	Credit Hours	Term(s) Offered	Spring Semester	Course Title	Credit Hours	Term(s) Offered
Year One	<b>*MATH 1710</b>	<b>Calculus I</b> <i>Pre-req: MATH 1650 or Test Placement</i>	4	F., Sp., Su.	<b>*MATH 1720</b>	<b>Calculus II</b> <i>Pre-req: MATH 1710</i>	3	F., Sp., Su.
	<b>*CHEM 1410</b>	<b>General Chemistry I</b> <i>Pre-req: MATH 1100 or higher</i>	3	F., Sp., Su.	<b>*Lab Science</b>	<b>Lab Science Lecture</b> <i>Must complete any necessary pre-reqs.</i>	3	F., Sp., Su.
	<b>*CHEM 1430</b>	<b>General Chemistry I Lab</b> <i>Co/Pre-req: CHEM 1410</i>	1	F., Sp., Su.	<b>*Lab Science</b>	<b>Lab Science Corresponding Lab</b> <i>Co/Pre-req: Lab Science Lecture</i>	1	F., Sp., Su.
	<b>*BMEN 1300</b>	<b>Discover BMEN</b>	3	F.	<b>*BMEN 1400</b>	<b>Software for BMEN</b> <i>Pre-req: MATH 1650 or higher</i>	4	Sp.
	<b>*Comm. Core</b>	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	<b>*TECM 2700</b>	<b>Technical Writing</b> <i>Pre-req: Communication Core</i>	3	F., Sp., Su.
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	Total Hours		14	
	Total Hours		17					

Year Two	MATH 2700	Linear Algebra <i>Pre-req: MATH 1720</i>	3	F., Sp., Su.	MATH 3410	Differential Equations <i>Pre-req: MATH 1720</i>	3	F., Sp., Su.
	<b>*PHYS 1710</b>	<b>Mechanics</b> <i>Pre-req: MATH 1710</i>	3	F., Sp., Su.	<b>*BMEN 2320</b>	<b>Biomedical Instrumentation</b> <i>Pre-reqs: BMEN 1300, 2210</i> <i>Co/Pre-req: BMEN 1400</i>	3	Sp.
	<b>*PHYS 1730</b>	<b>Mechanics Lab</b> <i>Co/Pre-req: PHYS 1710</i>	1	F., Sp., Su.	Elective Course	<b>Elective Track Course</b> <i>Must complete any necessary pre-reqs.</i>	3	Varies
	<b>*BMEN 2210</b>	<b>DAQ Practices</b> <i>Pre-req: MATH 1720</i>	3	F.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	Elective Course	<b>Elective Track Course</b> <i>Must complete any necessary pre-reqs.</i>	3	Varies	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	Total Hours		15	
	Total Hours		16					

Year Three	MATH 2730 or 3350	Multi. Calculus or Numerical Analysis <i>MATH 2730 Pre-req: MATH 1720</i> <i>MATH 3350 Pre-req: MATH 2700 and Prog.</i>	3	F., Sp., Su.	MATH 3680	Applied Statistics <i>Co/Pre-req: MATH 1720</i>	3	F., Sp., Su.
	BMEN 3310	Human Systems <i>Pre-reqs: BMEN 1300, 2320</i>	3	F.	BMEN 3312	Introduction to Biomechanics <i>Pre-reqs: BMEN 3310, PHYS 1710</i>	3	Sp.
	BMEN 3311	Signal Analysis <i>Pre-req: BMEN 2320</i>	3	F.	BMEN 3321	Biomaterials <i>Pre-reqs: BMEN 3310, PHYS 1710, CHEM 1410</i>	3	Sp.
	BMEN 3350	Transport Phenomena <i>Pre-reqs: BMEN 1300, MATH 3410, PHYS 1710, CHEM 1410</i>	3	F.	Elective Course	<b>Elective Track Course</b> <i>Must complete any necessary pre-reqs.</i>	3	Varies
	Elective Course	<b>Elective Track Course</b> <i>Must complete any necessary pre-reqs.</i>	3	Varies	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	Total Hours		15		Total Hours		15	

Year Four	BMEN 4310	Biomedical Modeling <i>Pre-reqs: BMEN 3321</i>	3	F.	BMEN 4222	Senior Design II <i>Pre-reqs: BMEN 4212</i>	3	Sp.
	BMEN 4212	Senior Design I <i>Pre-reqs: BMEN 3*** Requirements</i>	1	F.	BMEN 4***	BMEN Advanced Elective <i>Pre-reqs: BMEN 3*** Requirements</i>	3	Sp.
	BMEN 4***	BMEN Advanced Elective <i>Pre-reqs: BMEN 3*** Requirements</i>	3	F.	BMEN 4***	BMEN Advanced Elective <i>Pre-reqs: BMEN 3*** Requirements</i>	3	Sp.
	Elective Course	<b>Elective Track Course</b> <i>Must complete any necessary pre-reqs.</i>	3	Varies	Elective Course	<b>Elective Track Course</b> <i>Must complete any necessary pre-reqs.</i>	3	Varies
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	Total Hours		13		Total Hours		15	

Course in Bold = Destination course required to transition to a full-major. Minimum grade of "C" and 2.0 UNT GPA required for completion.  
 Courses with \* = Foundations courses required to progress to advanced level courses. Minimum grade of "C" required for completion.  
 Courses with subject abbreviations of ENGL, TECM, MATH, CHEM, PHYS, and BMEN require minimum grade of "C" for completion and/or prerequisite.

This is an unofficial sample schedule. Requirements, prerequisites, corequisites, and term offerings may change. You should check your degree audit at mydegreeaudit.unt.edu each term. You should meet with your advisor each term to discuss individual scheduling, program decisions, etc.

# Computer Engineering

Bachelor of Science (B.S.) degree with a major in Computer Engineering  
Department of Computer Science and Engineering, Discovery Park F-201; (940) 565-2767

## University Core

### COMMUNICATION

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

**Grade of “C” or better is required**

### AMERICAN HISTORY I

- ❑ 1 Course (3 Hours) chosen from HIST 2610 or HIST 2675

### AMERICAN HISTORY II

- ❑ 1 Course (3 Hours) chosen from HIST 2620 or HIST 2685

### FEDERAL GOVERNMENT/POLITICAL SCIENCE

- ❑ 1 Course (3 Hours) chosen from PSCI 2305 or PSCI 2315

### STATE GOVERNMENT/POLITICAL SCIENCE

- ❑ 1 Course (3 Hours) chosen from PSCI 2306 or PSCI 2316

### CREATIVE ARTS

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

### LANGUAGE, PHILOSOPHY, AND CULTURE

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

### SOCIAL AND BEHAVIORAL SCIENCES

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

## Major Requirements Grades of C or better

### TECHNICAL COMMUNICATIONS

- ❑ TECM 2700, Technical Writing (3 Hours)

### MATHEMATICS

- ❑ MATH 1710, Calculus I (4 Hours)
- ❑ MATH 1720, Calculus II (3 Hours)
- ❑ MATH 1780, Probability Models (3 Hours)
- ❑ MATH 2700, Linear Algebra (3 Hours)
- ❑ MATH 2730, Multivariable Calculus (3 Hours)

### SCIENCES

- ❑ CHEM 1410, General Chemistry I (3 Hours) & CHEM 1430, General Chemistry I Lab (1 Hour)
- ❑ PHYS 1710, Mechanics (3 Hours) & PHYS 1730 Mechanics Lab (1 Hour)
- ❑ PHYS 2220, Electricity & Magnetism (3 Hours) & PHYS 2240, Electricity & Magnetism Lab (1 Hour)

### ADVANCED MATHEMATICS OR SCIENCE ELECTIVE

- ❑ 1 advanced course (3 Hours) chosen from MATH 3\*\*\*, MATH 4\*\*\*, PHYS 3\*\*\*, CHEM 3\*\*\*, BIOL 3\*\*\*, BIOL 4\*\*\*, or GEOG 4\*\*\*. Check with your advisor for approved options.

## Major Requirements Grades of C or better

### ELECTRICAL ENGINEERING

- ❑ EENG 2610, Circuit Analysis (3 Hours) & EENG 2611, Circuit Analysis Lab (1 Hour)
- ❑ EENG 2710, Digital Logic Design (3 Hours) & EENG 2711, Digital Logic Lab (1 Hour)
- ❑ EENG 3510, Electronics I (3 Hours)

### COMPUTER SCIENCE AND ENGINEERING

- ❑ CSCE 1030, Computer Science I (4 Hours)
- ❑ CSCE 1040, Computer Science II (3 Hours)
- ❑ CSCE 2100, Foundations of Computing (3 Hours)
- ❑ CSCE 2110, Foundations of Data Structures (3 Hours)
- ❑ CSCE 2610, Assembly Lang. & Computer Organization (3 Hours)
- ❑ CSCE 3010, Signals & Systems (3 Hours)
- ❑ CSCE 3020, Communication Systems (3 Hours)
- ❑ CSCE 3600, Principles of Systems Programming (3 Hours)
- ❑ CSCE 3612, Embedded Systems Design (3 Hours)
- ❑ CSCE 3730, Reconfigurable Logic (3 Hours)
- ❑ CSCE 4011, Engineering Ethics (3 Hours)
- ❑ CSCE 4910, Senior Design I (3 Hours)
- ❑ CSCE 4915, Senior Design II (3 Hours)

### SPECIALTY AREA

Choose a specialty area and complete 3 courses from the approved options below:

- ❑ Specialty Elective (3 Hours)
- ❑ Specialty Elective (3 Hours)
- ❑ Specialty Elective (3 Hours)

*Real-time & Embedded Systems Specialty Area (Choose 3 courses):*

ELET 3750, CSCE 3444, 3610, 4440, 4600, 4610, 4620, 4730, 4890

*VLSI & Electronics Specialty Area (Choose 3 courses):*

ELET 3750, 4300, 4340, CSCE 3610, 4610, 4730, 4890, PHYS 4500

*Communications & Networks Specialty Area (Choose 3 courses):*

CSCE 3420, 3530, 3550, 4510, 4520, 4530, 4560, 4890

*Computer Systems Specialty Area (Choose 3 courses):*

CSCE 3030, 3610, 4050, 4240, 4600, 4610, 4620, 4650, 4730, 4890

*Maximum of 6 hours may be taken from CSCE 4890, 4920, 4930, 4940, or 4950.*

### ADVANCED LEVEL GENERAL ELECTIVE

- ❑ 1 advanced course (3 Hours) may be required to reach 42 total advanced hours.

*This is an unofficial simplified checklist effective fall 2020. Degree requirements may change. You may need elective courses to help reach a minimum of 121 Total Hours and 42 Advanced Hours. Check with an advisor.*

# Computer Engineering

2020-2021 Catalog: Sample Four-Year Schedule

	Fall Semester	Course Title	Credit Hours	Term(s) Offered	Spring Semester	Course Title	Credit Hours	Term(s) Offered
<b>Year One</b>	*MATH 1710	Calculus I <i>Pre-req: MATH 1650 or Test Placement</i>	4	F., Sp., Su.	MATH 1720	Calculus II <i>Pre-req: MATH 1710</i>	3	F., Sp., Su.
	CHEM 1410	General Chemistry I <i>Pre-req: MATH 1100 or higher</i> <i>Co-req: CHEM 1430</i>	3	F., Sp., Su.	*CSCE 1040	Computer Science II <i>Pre-req: CSCE 1030</i> <i>Co/Pre-req: MATH 1710</i>	3	F., Sp., Su.
	CHEM 1430	General Chemistry I Lab <i>Co/Pre-req: CHEM 1410</i>	1	F., Sp., Su.	*TECM 2700	Technical Writing <i>Pre-req: Communication Core</i>	3	F., Sp., Su.
	*CSCE 1030	<b>Computer Science I</b> <i>Co/Pre-req: MATH 1710</i>	4	F., Sp.	PHYS 1710	Mechanics <i>Pre-req: MATH 1710. Co-req: PHYS 1730</i>	3	F., Sp., Su.
	*Comm. Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	PHYS 1730	Mechanics Lab <i>Co/Pre-req: PHYS 1710</i>	1	F., Sp., Su.
	Total Hours		15		University Core	Options on mydegreeaudit.unt.edu	3	
					Total Hours		16	

<b>Year Two</b>	MATH 2730	Multivariable Calculus <i>Pre-req: MATH 1720</i>	3	F., Sp., Su.	MATH 1780	Probability Models <i>Pre-req: MATH 1710</i>	3	F., Sp., Su.
	PHYS 2220	Electricity & Magnetism <i>Pre-reqs: MATH 1720 &amp; PHYS 1710, 1730</i> <i>Co-req: PHYS 2240</i>	3	F., Sp., Su.	MATH 2700	Linear Algebra <i>Pre-req: MATH 1720</i>	3	F., Sp., Su.
	PHYS 2240	Electricity & Magnetism Lab <i>Co/Pre-req: PHYS 2220</i>	1	F., Sp., Su.	CSCE 2110	Foundations of Data Structures <i>Pre-req: CSCE 1040</i>	3	F., Sp., Su.
	*CSCE 2100	Foundations of Computing <i>Pre-req: CSCE 1040</i>	3	F., Sp., Su.	CSCE 2610	Assembly Lang. & Computer Org. <i>Pre-req: CSCE 2100</i> <i>Co/Pre-req: EENG 2710, 2711</i>	3	F., Sp., Su.
	EENG 2710	Digital Logic <i>Co-req: EENG 2711</i>	3	F., Sp.	EENG 2610	Circuit Analysis <i>Prereq: MATH 1720</i> <i>Co/prereq: PHYS 2220, 2240, ENGR 2415</i>	3	F., Sp., Su.
	EENG 2711	Digital Logic Lab <i>Co-req: EENG 2710</i>	1	F., Sp.	EENG 2611	Circuit Analysis Lab <i>Co/pre-req: EENG 2610</i>	1	F., Sp., Su.
	Total Hours		14		Total Hours		16	

<b>Year Three</b>	CSCE 3010	Signals and Systems <i>Pre-reqs: EENG 2610, 2611, MATH 2730 or 3410</i>	3	F.	CSCE 3020	Communications Systems <i>Pre-req: CSCE 3010</i>	3	Sp.
	CSCE 3600	Systems Programming <i>Pre-reqs: CSCE 2100</i>	3	F., Sp.	CSCE 3612	Embedded Systems <i>Pre-reqs: CSCE 2610, EENG 2710, 2711</i>	3	Sp.
	CSCE 3730	Reconfigurable Logic <i>Pre-req: CSCE 2610</i>	3	F.	CSCE Specialty	Options at mydegreeaudit.unt.edu <i>Must complete pre-reqs</i>	3	F., Sp.
	EENG 3510	Electronics I <i>Prereqs: EENG 2610, 2611</i>	3	F., Sp. Su.	Math or Science	3*** or 4*** level math or science. <i>Must complete necessary pre-reqs</i>	3	F., Sp.
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	Total Hours		15		Total Hours		15	

<b>Year Four</b>	CSCE 4910	SENIOR Design I <i>Pre-reqs: CSCE 3612, EENG 3510</i>	3	F.	CSCE 4915	Senior Design II <i>Pre-req: CSCE 4910</i>	3	Sp.
	CSCE Specialty	Options at mydegreeaudit.unt.edu <i>Must complete pre-reqs</i>	3	F., Sp.	CSCE 4011	Engineering Ethics <i>Pre-req: CSCE 3600</i>	3	F., Sp.
	CSCE Elective	Options at mydegreeaudit.unt.edu <i>Must complete pre-reqs</i>	3	F., Sp.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	Elective	3*** or 4*** level elective to reach 42 advanced hours (if needed)	3	F., Sp., Su.
	Total Hours		15		Total Hours		15	

Course in Bold = Destination course required to transition to a full-major. Minimum grade of "C" and 2.0 UNT GPA required for completion.  
 Courses with \* = Foundations courses required to progress to advanced level courses. Minimum grade of "C" required for completion.  
 Courses with subject abbreviations of ENGL, TECM, MATH, CHEM, PHYS, ENGR, EENG, and CSCE require minimum grade of "C" for completion and/or prerequisite.

**This is an unofficial sample schedule. Requirements, prerequisites, corequisites, and term offerings may change. You should check your degree audit at mydegreeaudit.unt.edu each term. You should meet with your advisor each term to discuss individual scheduling, program decisions, etc.**

# Computer Science

Bachelor of Science (B.S.) degree with a major in Computer Science

Department of Computer Science and Engineering, Discovery Park F-201; (940) 565-2767

## University Core

### COMMUNICATION

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu
- Grade of “C” or better is required**

### AMERICAN HISTORY I

- ❑ 1 Course (3 Hours) chosen from HIST 2610 or HIST 2675

### AMERICAN HISTORY II

- ❑ 1 Course (3 Hours) chosen from HIST 2620 or HIST 2685

### FEDERAL GOVERNMENT/POLITICAL SCIENCE

- ❑ 1 Course (3 Hours) chosen from PSCI 2305 or PSCI 2315

### STATE GOVERNMENT/POLITICAL SCIENCE

- ❑ 1 Course (3 Hours) chosen from PSCI 2306 or PSCI 2316

### CREATIVE ARTS

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

### LANGUAGE, PHILOSOPHY, AND CULTURE

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

### SOCIAL AND BEHAVIORAL SCIENCES

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

## Major Requirements Grades of C or better

### TECHNICAL COMMUNICATIONS

- ❑ TECM 2700, Technical Writing (3 Hours)
- ❑ 1 Advanced TECM course chosen from:
  - TECM 4180, Advanced Technical Writing (3 Hours)
  - TECM 4200, Research Methods (3 Hours)
  - TECM 4250, Writing Procedures and Manuals (3 Hours)
  - TECM 4700, Writing in the Sciences (3 Hours)

### MATHEMATICS

- ❑ MATH 1710, Calculus I (4 Hours)
- ❑ MATH 1720, Calculus II (3 Hours)
- ❑ MATH 1780, Probability Models (3 Hours)
- ❑ MATH 2700, Linear Algebra (3 Hours)

### SCIENCES

- ❑ PHYS 1710, Mechanics (3 Hours) & PHYS 1730 Mechanics Lab (1 Hour)
- ❑ PHYS 2220, Electricity & Magnetism (3 Hours) & PHYS 2240, Electricity & Magnetism Lab (1 Hour)

### SCIENCES (Continued)

- ❑ 1 Lab science and lab chosen from list options below
- ❑ 1 Lab science and lab chosen from list options below
  - CHEM 1410, General Chemistry I (3 Hours) and CHEM 1430, General Chemistry I Lab (1 Hour)
  - CHEM 1420, General Chemistry II (3 Hours) and CHEM 1440, General Chemistry II Lab (1 Hour)
  - BIOL 1710, Biology I (3 Hours)
  - BIOL 1720, Biology II (3 Hours)
  - BIOL 1760, Biology Lab (2 Hours)

## Major Requirements Grades of C or better

### ELECTRICAL ENGINEERING

- ❑ EENG 2710, Digital Logic Design (3 Hours)

### COMPUTER SCIENCE AND ENGINEERING

- ❑ CSCE 1030, Computer Science I (4 Hours)
- ❑ CSCE 1040, Computer Science II (3 Hours)
- ❑ CSCE 2100, Foundations of Computing (3 Hours)
- ❑ CSCE 2110, Foundations of Data Structures (3 Hours)
- ❑ CSCE 2610, Assembly Lang. & Computer Organization (3 Hours)
- ❑ CSCE 3110, Data Structures (3 Hours)
- ❑ CSCE 3444, Software Engineering (3 Hours)
- ❑ CSCE 3600, Principles of Systems Programming (3 Hours)
- ❑ CSCE 4010, Social Issues in Computing (3 Hours)
- ❑ CSCE 4110, Algorithms (3 Hours)
- ❑ CSCE 4901, Capstone I (3 Hours)\*
- ❑ CSCE 4902, Capstone II (3 Hours)\*

### COMPUTER SCIENCE AND ENGINEERING CORE ELECTIVES

- ❑ 1 CSCE Core course (3 Hours) chose from list options below
- ❑ 1 CSCE Core course (3 Hours) chose from list options below

CSCE 3530, Introduction to Computer Networks (3 Hours)  
CSCE 4115, Formal Lang., Automata and Compatibility (3 Hours)  
CSCE 4430, Programming Languages (3 Hours)  
CSCE 4600, Introduction to Operating Systems (3 Hours)  
CSCE 4650, Introduction to Compilation Techniques (3 Hours)

### COMPUTER SCIENCE AND ENGINEERING BREADTH ELECTIVES

- ❑ 1 CSCE Breadth course (3 Hours) chose from list options below
- ❑ 1 CSCE Breadth course (3 Hours) chose from list options below

CSCE 3550, Introduction to Computer Security (3 Hours)  
CSCE 4201, Introduction to Artificial Intelligence (3 Hours)  
CSCE 4210, Game Programming I (3 Hours)  
CSCE 4230, Introduction to Computer Graphics (3 Hours)  
CSCE 4240, Introduction to Digital Image Processing (3 Hours)  
CSCE 4290, Introduction to Natural Language Processing (3 Hours)  
CSCE 4350, Fundamentals of Database Systems (3 Hours)  
CSCE 4460, Software Testing and Empirical Methodologies (3 Hours)

### COMPUTER SCIENCE AND ENGINEERING FREE ELECTIVES:

- ❑ CSCE 3\*\*\* or 4\*\*\* (3 Hours) course not already applied above
- ❑ CSCE 3\*\*\* or 4\*\*\* (3 Hours) course not already applied above

Maximum of 6 hours may be taken from CSCE 4890, 4920, 4930, 4940, and 4950.

\*CSCE 4999, Senior Thesis (3 Hours) may replace Capstones with addition of a CSCE 3\*\*\* or 4\*\*\* (3 Hours) elective course

# Computer Science

2020-2021 Catalog: Sample Four-Year Schedule

	Fall Semester	Course Title	Credit Hours	Term(s) Offered	Spring Semester	Course Title	Credit Hours	Term(s) Offered
Year One	*MATH 1710	Calculus I <i>Pre-req: MATH 1650 or Test Placement</i>	4	F., Sp., Su.	MATH 1720	Calculus II <i>Pre-req: MATH 1710</i>	3	F., Sp., Su.
	CHEM 1410	General Chemistry I <i>Pre-req: MATH 1100 or higher</i>	3	F., Sp., Su.	*CSCE 1040	Computer Science II <i>Pre-req: CSCE 1030, Co/Pre-req: MATH 1710</i>	3	F., Sp., Su.
	CHEM 1430	General Chemistry I Lab <i>Co/Pre-req: CHEM 1410</i>	1	F., Sp., Su.	*TECM 2700	Technical Writing <i>Pre-req: Communication Core</i>	3	F., Sp., Su.
	*CSCE 1030	<b>Computer Science I</b> <i>Co/Pre-req: MATH 1710</i>	4	F., Sp.	BIOL 1710	Biology I	3	F., Sp., Su.
	*Comm. Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	BIOL 1760	BIOL Lab <i>Co/Pre-req: BIOL 1710</i>	2	F., Sp., Su.
	Total Hours		15		Total Hours		14	

Year Two	MATH 2700	Linear Algebra <i>Pre-req: MATH 1720</i>	3	F., Sp., Su.	+MATH 1780	Probability Models <i>Pre-req: MATH 1710</i>	3	F., Sp., Su.
	PHYS 1710	Mechanics <i>Pre-req: MATH 1710</i>	3	F., Sp., Su.	PHYS 2220	Electricity & Magnetism <i>Pre-reqs: MATH 1720 &amp; PHYS 1710/1730</i>	3	F., Sp., Su.
	PHYS 1730	Mechanics Lab <i>Co/Pre-req: PHYS 1710</i>	1	F., Sp., Su.	PHYS 2240	Electricity & Magnetism Lab <i>Co/Pre-req: PHYS 2220</i>	1	F., Sp., Su.
	*CSCE 2100	Foundations of Computing <i>Pre-req: CSCE 1040</i>	3	F., Sp., Su.	*CSCE 2110	Foundations of Data Structures <i>Pre-req: CSCE 1040</i>	3	F., Sp., Su.
	+EENG 2710	Digital Logic Design	3	F., Sp., Su.	CSCE 2610	Assembly Lang. & Computer Org. <i>Pre-reqs: CSCE 2100, Co/Pre-req: EENG 2710</i>	3	F., Sp., Su.
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	Total Hours		16		Total Hours		16	

Year Three	+CSCE 3110	Data Structures <i>Pre-req: CSCE 2100, 2110</i>	3	F., Sp., Su.	+CSCE 3444	Software Engineering <i>Pre-reqs: CSCE 3110</i>	3	F., Sp., Su.
	+CSCE 3600	Systems Programming <i>Pre-reqs: CSCE 2100</i>	3	F., Sp.	+CSCE 4110	Analysis of Algorithms <i>Pre-reqs: CSCE 3110</i>	3	F., Sp., Su.
	CSCE Elective	Options at mydegreeaudit.unt.edu Must complete pre-reqs	3	F., Sp., Su.	CSCE Elective	Options at mydegreeaudit.unt.edu Must complete pre-reqs	3	F., Sp., Su.
	TECM 4***	Options at mydegreeaudit.unt.edu Must complete pre-reqs	3	F., Sp.	CSCE Elective	Options at mydegreeaudit.unt.edu Must complete pre-reqs	3	F., Sp.
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	Total Hours		15		Total Hours		15	

Year Four	+CSCE 4010	Social Issues <i>Pre-reqs: CSCE 3600</i>	3	F., Sp., Su.	+CSCE 4902	Capstone II <i>Pre-req: CSCE 4901</i>	3	F., Sp.
	+CSCE 4901	Capstone I <i>Pre-reqs: TECM 2700, CSCE 3444 Co/Pre-req: CSCE 4110</i>	3	F., Sp., Su.	CSCE Elective	Options at mydegreeaudit.unt.edu Must complete pre-reqs	3	F., Sp.
	CSCE Elective	Options at mydegreeaudit.unt.edu Must complete pre-reqs	3	F., Sp.	CSCE Elective	Options at mydegreeaudit.unt.edu Must complete pre-reqs	3	F., Sp., Su.
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp.
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	Misc. Elective	Misc. Elective to reach 120 hours (if needed)	3	F., Sp., Su.
	Total Hours		15		Total Hours		15	

Course in Bold = Destination course required to transition to a full-major. Minimum grade of "C" and 2.0 UNT GPA required for completion.

Courses with \* = Foundations courses required to progress to advanced level courses. Minimum grade of "C" required for completion.

Courses with + = Courses offered at Collin Higher Education Center (CHEC) in McKinney, TX during opposite term than Denton.

Courses with subject abbreviations of ENGL, TECM, MATH, CHEM, PHYS, BIOL, EENG, and CSCE require minimum grade of "C" for completion and/or prerequisite.

**This is an unofficial sample schedule. Requirements, prerequisites, corequisites, and term offerings may change. You should check your degree audit at mydegreeaudit.unt.edu each term. You should meet with your advisor each term to discuss individual scheduling, program decisions, etc.**

# Construction Engineering Technology

Bachelor of Science in Engineering Technology (B.S.E.T) degree with a major in Construction Engineering Technology  
Department of Mechanical Engineering, Discovery Park F-115; (940) 565-2400

## University Core

### COMMUNICATION

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

**Grade of “C” or better is required**

### AMERICAN HISTORY I

- ❑ 1 Course (3 Hours) chosen from HIST 2610 or HIST 2675

### AMERICAN HISTORY II

- ❑ 1 Course (3 Hours) chosen from HIST 2620 or HIST 2685

### FEDERAL GOVERNMENT/POLITICAL SCIENCE

- ❑ 1 Course (3 Hours) chosen from PSCI 2305 or PSCI 2315

### STATE GOVERNMENT/POLITICAL SCIENCE

- ❑ 1 Course (3 Hours) chosen from PSCI 2306 or PSCI 2316

### CREATIVE ARTS

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

### LANGUAGE, PHILOSOPHY, AND CULTURE

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

### SOCIAL AND BEHAVIORAL SCIENCES

- ❑ ECON 1100 (3 Hours) – see mydegreeaudit.unt.edu

## Major Requirements Grades of C or better

### TECHNICAL COMMUNICATIONS

- ❑ TECM 2700, Technical Writing (3 Hours)

### MATHEMATICS

- ❑ MATH 1710, Calculus I (4 Hours)
- ❑ MATH 1720, Calculus II (3 Hours)

### SCIENCES

- ❑ PHYS 1710, Mechanics (3 Hours) & PHYS 1730 Mechanics Lab (1 Hour)
- ❑ PHYS 2220, Electricity & Magnetism (3 Hours) & PHYS 2240, Electricity & Magnetism Lab (1 Hour)
- ❑ CHEM 1410, General Chemistry I (3 Hours) & CHEM 1430, General Chemistry I Lab (1 Hour)

### MISC. Elective

- ❑ 1 course (3 Hours) may be required to reach 124 total hours (check with advisor)

## Major Requirements Grades of C or better

### CONSTRUCTION ENGINEERING TECHNOLOGY

- ❑ CNET 1160, Construction Methods and Materials (3 Hours)
- ❑ CNET 2180, Building Construction Techniques (3 Hours)
- ❑ CNET 2300, Construction Graphics and Modeling (3 Hours)
- ❑ CNET 3150, Construction Contract Documents (3 Hours)
- ❑ CNET 3160, Construction Cost Estimating (3 Hours)
- ❑ CNET 3190, Construction Scheduling (3 Hours)
- ❑ CNET 3410, Occupational Safety and Liability (3 Hours)
- ❑ CNET 3430, Structural Analysis (3 Hours)
- ❑ CNET 3440, Steel Structures (3 Hours)
- ❑ CNET 3460, Soils and Foundations (3 Hours)
- ❑ CNET 3480, Structural Design with Concrete, Timber, etc. (3 Hours)
- ❑ CNET 4170, Construction Management (3 Hours)
- ❑ CNET 4180, Problems in Project Management (3 Hours)
- ❑ CNET 4620, Adv. Design in Cold-Formed Steel Structures (3 Hours)
- ❑ CNET 4780, Senior Design I (1 Hour)
- ❑ CNET 4790, Senior Design II (3 Hours)

- ❑ ENGR 1030, Technical Systems (3 Hours)
- ❑ ENGR 2301, Statics (3 Hours)
- ❑ ENGR 2332, Mechanics of Materials (4 Hours)

### BUSINESS

- ❑ ACCT 2010, Accounting Principles I (3 Hours)
- ❑ BCIS 3610, Basic Information Systems (3 Hours)
- ❑ BLAW 3430, Legal and Ethical Environment of Business (3 Hours)
- ❑ BLAW 4770, Real Estate Law and Contracts (3 Hours)
- ❑ ECON 1100, Microeconomics (3 Hours)
- ❑ OPSM 3830, Operations Management (3 Hours)

### TECHNICAL ELECTIVES

- ❑ Any level course chosen from appropriate elective options (3 Hours)

*Electives must be chosen from the subjects of business, engineering, mathematics, and science. Check with an advisor for appropriate technical elective course options. Suggestions include, but are not limited to:*

MATH 1600	CNET 3450	ACCT 2020	CHEM 1420
MATH 1610	CNET 4190	LSCM 3960	PHYS 3010
MATH 1650	CNET 4230	MKTG 3010	
MATH 2700	CSCE 1030	MKTG 3651	
MATH 2730	ENGR 1304	MGMT 3330	
MATH 3410	ENGR 2302	MGMT 3721	
MATH 3680	ENGR 3450	MGMT 3820	
	MFET 3110	MGMT 3850	
		MGMT 4470	



# Construction Engineering Technology

2020-2021 Catalog: Sample Four-Year Schedule

Year One	Fall Semester	Course Title	Credit Hours	Term(s) Offered	Spring Semester	Course Title	Credit Hours	Term(s) Offered
	<b>*MATH 1710</b>	<b>Calculus I</b> <i>Pre-req: MATH 1650 or Test Placement</i>	4	F., Sp., Su.	MATH 1720	Calculus II <i>Pre-req: MATH 1710</i>	3	F., Sp., Su.
	CHEM 1410	General Chemistry I <i>Pre-req: MATH 1100 or higher</i>	3	F., Sp., Su.	*PHYS 1710	Mechanics <i>Pre-req: MATH 1710</i>	3	F., Sp., Su.
	CHEM 1430	General Chemistry I Lab <i>Co/Pre-req: CHEM 1410</i>	1	F., Sp., Su.	*PHYS 1730	Mechanics Lab <i>Co/Pre-req: PHYS 1710</i>	1	F., Sp., Su.
	*CNET 1160	Construction Methods and Materials	3	F.	*CNET 2180	Building Construction Techniques <i>Pre-req: CNET 1160</i>	3	Sp.
	*ENGR 1030	Technological Systems	3	F., Sp.	*TECM 2700	Technical Writing <i>Pre-req: Communication Core</i>	3	F., Sp., Su.
	*Comm. Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp.
	Total Hours		17		Total Hours		16	

Year Two	PHYS 2220	Electricity and Magnetism <i>Pre-reqs: MATH 1720, PHYS 1710, 1730</i>	3	F., Sp., Su.	ACCT 2010	Accounting Principles I <i>Pre-req: ECON 1100</i>	3	F., Sp., Su.
	PHYS 2240	Electricity and Magnetism Lab <i>Co-req/pre-req: PHYS 2220</i>	1	F., Sp., Su.	BCIS 3610	Basic Information Systems	3	F., Sp.
	*CNET 2300	Construction Graphics and Modeling	3	F.	ENGR 2332	Mechanics and Materials <i>Pre-req: ENGR 2301</i>	4	F., Sp., Su.
	ENGR 2301	Statics <i>Pre-reqs: PHYS 1710, 1730</i>	3	F., Sp., Su.	OPSM 3830	Operations Management	3	F., Sp., Su.
	ECON 1100	Microeconomics	3	F., Sp., Su.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	Total Hours		16	
	Total Hours		16					

Year Three	CNET 3150	Construction Contract Documents <i>Pre-req: CNET 2180</i>	3	F.	CNET 3190	Construction Scheduling <i>Pre-req: CNET 3160</i>	3	Sp.
	CNET 3160	Construction Cost Estimating <i>Pre-req: CNET 2180</i>	3	F.	CNET 3440	Steel Structures <i>Pre-req: CNET 3430</i>	3	Sp.
	CNET 3430	Structural Analysis <i>Pre-req: ENGR 2332</i>	3	F.	CNET 3460	Soils and Foundations <i>Pre-req: CNET 2180, ENGR 2332</i>	3	Sp.
	BLAW 3430	Legal and Ethical Environment of BUSI <i>Pre-req: PSCI 2305, 2306</i>	3	F., Sp., Su.	CNET 3410	Occupational Safety and Liability	3	Sp.
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	Total Hours		15		Total Hours		15	

Year Four	CNET 3480	Structural Design with Concrete, Timber, etc. <i>Pre-req: CNET 2180, 3430</i>	3	F.	CNET 4180	Problems in Project Management <i>Pre-req: CNET 4170</i>	3	Sp.
	CNET 4170	Construction Management <i>Pre-req: CNET 3160</i>	3	F.	CNET 4620	Adv. Design in Cold-Formed Steel Struc. <i>Pre-req: CNET 3430</i>	3	F., Sp.
	CNET 4780	Senior Design I <i>Pre-req: Senior Class., CNET 3190, 3440, 3460</i>	1	F.	CNET 4790	Senior Design II <i>Pre-req: CNET 4780</i>	3	F., Sp.
	BLAW 4770	Real Estate Law and Contracts	3	F., Sp.	Technical Elective	Options at mydegreeaudit.unt.edu Must complete pre-reqs	4	Varies
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	MISC Elective	MISC. Elective to reach 124 Hours (If needed)	3	F., Sp., Su.
	Total Hours		13		Total Hours		16	

Course in Bold = Destination course required to transition to a full-major. Minimum grade of "C" and 2.0 UNT GPA required for completion.  
 Courses with \* = Foundations courses required to progress to advanced level courses. Minimum grade of "C" required for completion.  
 Courses with subject abbreviations of ENGL, TECM, MATH, CHEM, PHYS, ENGR, ECON, ACCT, OPSM, BCIS, BLAW, and CNET require minimum grade of "C" for completion and/or prerequisite.

**This is an unofficial sample schedule. Requirements, prerequisites, corequisites, and term offerings may change. You should check your degree audit at mydegreeaudit.unt.edu each term. You should meet with your advisor each term to discuss individual scheduling, program decisions, etc.**

# Cybersecurity

Bachelor of Science (B.S.) degree with a major in Cybersecurity

Department of Computer Science and Engineering, Discovery Park F-201; (940) 565-2767

University Core

Major Requirements  
Grades of C or better

## COMMUNICATION

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

**Grade of “C” or better is required**

## AMERICAN HISTORY I

- ❑ 1 Course (3 Hours) chosen from HIST 2610 or HIST 2675

## AMERICAN HISTORY II

- ❑ 1 Course (3 Hours) chosen from HIST 2620 or HIST 2685

## FEDERAL GOVERNMENT/POLITICAL SCIENCE

- ❑ 1 Course (3 Hours) chosen from PSCI 2305 or PSCI 2315

## STATE GOVERNMENT/POLITICAL SCIENCE

- ❑ 1 Course (3 Hours) chosen from PSCI 2306 or PSCI 2316

## CREATIVE ARTS

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

## LANGUAGE, PHILOSOPHY, AND CULTURE

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

## SOCIAL AND BEHAVIORAL SCIENCES

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

Major Requirements  
Grades of C or better

## TECHNICAL COMMUNICATIONS

- ❑ TECM 2700, Technical Writing (3 Hours)

## MATHEMATICS

- ❑ MATH 1710, Calculus I (4 Hours)
- ❑ MATH 1720, Calculus II (3 Hours)
- ❑ MATH 2700, Linear Algebra (3 Hours)
- ❑ MATH 3680, Applied Statistics (3 Hours)

## SCIENCES

- ❑ PHYS 1710, Mechanics (3 Hours) & PHYS 1730 Mechanics Lab (1 Hour)
- ❑ PHYS 2220, Electricity & Magnetism (3 Hours) & PHYS 2240, Electricity & Magnetism Lab (1 Hour)

## SCIENCES (Continued)

- ❑ 1 Lab science and lab chosen from list options below
- ❑ 1 Lab science and lab chosen from list options below
  - CHEM 1410, General Chemistry I (3 Hours) and CHEM 1430, General Chemistry I Lab (1 Hour)
  - CHEM 1420, General Chemistry II (3 Hours) and CHEM 1440, General Chemistry II Lab (1 Hour)
  - BIOL 1710, Biology I (3 Hours)
  - BIOL 1720, Biology II (3 Hours)
  - BIOL 1760, Biology Lab (2 Hours)

## COMPUTER SCIENCE AND ENGINEERING

- ❑ CSCE 1035, Computer Programming I (4 Hours)
- ❑ CSCE 1045, Computer Programming II (3 Hours)
- ❑ CSCE 2100, Foundations of Computing (3 Hours)
- ❑ CSCE 2110, Foundations of Data Structures (3 Hours)
- ❑ CSCE 2550, Foundations of Cybersecurity (3 Hours)
- ❑ CSCE 3530, Introduction to Computer Networks (3 Hours)
- ❑ CSCE 3550, Introduction to Computer Security (3 Hours)
- ❑ CSCE 3600, Principles of Systems Programming (3 Hours)
- ❑ CSCE 4010, Social Issues in Computing (3 Hours)
- ❑ CSCE 4357, Database Systems Security (3 Hours)
- ❑ CSCE 4535, Introduction to Network Administration (3 Hours)
- ❑ CSCE 4560, Secure Electronic Commerce (3 Hours)
- ❑ CSCE 4565, Secure Software Systems (3 Hours)
- ❑ CSCE 4570, Information Privacy (3 Hours)
- ❑ CSCE 4907, Cybersecurity Capstone I (3 Hours)
- ❑ CSCE 4927, Cybersecurity Capstone II (3 Hours)

## ADVANCED SUPPORTING ELECTIVES

- ❑ CSCE 3\*\*\* or 4\*\*\* (3 Hours) course chosen from list options below
- ❑ CSCE 3\*\*\* or 4\*\*\* (3 Hours) course chosen from list options below
- ❑ CSCE 3\*\*\* or 4\*\*\* (3 Hours) course chosen from list options below
- ❑ CSCE 3\*\*\* or 4\*\*\* (3 Hours) course chosen from list options below

CSCE 4050, Applications of Cryptography (3 Hours)  
CSCE 4520, Wireless Networks and Protocols (3 Hours)  
CSCE 4555, Computer Forensics (3 Hours)  
CSCE 4575, Blockchain and Applications (3 Hours)  
INFO 4670, Data Analysis and Knowledge Discovery (3 Hours)  
INFO 4710, Information Technology Management (3 Hours)  
INFO 4745, Information Architecture (3 Hours)  
CJUS 3320, Corporate Security and Loss Prevention (3 Hours)  
CJUS 3340, Computer Crime (3 Hours)  
CJUS 4330, Domestic and International Terrorism (3 Hours)  
BCIS 4630, Fundamentals of Info. Technology Security (3 Hours)  
BCIS 4720, Web-Based Information Technologies (3 Hours)  
BCIS 4740, Administration and Policy in Info. Security (3 Hours)

## MISC. Elective

- ❑ 1 course (3 Hours) may be required to reach 120 total hours (check with advisor)

*This is an unofficial simplified checklist effective fall 2020. Degree requirements may change. You may need elective courses to help reach a minimum of 120 Total Hours and 42 Advanced Hours. Check with an advisor.*

# Cybersecurity

2020-2021 Catalog: Sample Four-Year Schedule

	Fall Semester	Course Title	Credit Hours	Term(s) Offered	Spring Semester	Course Title	Credit Hours	Term(s) Offered
<b>Year One</b>	*MATH 1710	Calculus I <i>Pre-req: MATH 1650 or Test Placement</i>	4	F., Sp., Su.	MATH 1720	Calculus II <i>Pre-req: MATH 1710</i>	3	F., Sp., Su.
	CHEM 1410	General Chemistry I <i>Pre-req: MATH 1100 or higher</i>	3	F., Sp., Su.	*CSCE 1045	Computer Programming II <i>Pre-req: CSCE 1035, Co/Pre-req: MATH 1710</i>	3	F., Sp.
	CHEM 1430	General Chemistry I Lab <i>Co/Pre-req: CHEM 1410</i>	1	F., Sp., Su.	TECM 2700	Technical Writing <i>Pre-req: Communication Core</i>	3	F., Sp., Su.
	*CSCE 1035	Computer Programming I <i>Co/Pre-req: MATH 1710</i>	4	F., Sp.	BIOL 1710	Biology I	3	F., Sp., Su.
	*Comm. Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	BIOL 1760	Biology I Lab <i>Co/Pre-req: BIOL 1710</i>	2	F., Sp., Su.
	Total Hours		15		Total Hours		14	

	Fall Semester	Course Title	Credit Hours	Term(s) Offered	Spring Semester	Course Title	Credit Hours	Term(s) Offered
<b>Year Two</b>	MATH 2700	Linear Algebra <i>Pre-req: MATH 1720</i>	3	F., Sp., Su.	MATH 3680	Applied Statistics <i>Co/Pre-req: MATH 1720</i>	3	F., Sp., Su.
	PHYS 1710	Mechanics <i>Pre-req: MATH 1710</i>	3	F., Sp., Su.	PHYS 2220	Electricity & Magnetism <i>Pre-reqs: MATH 1720 &amp; PHYS 1710/1730</i>	3	F., Sp., Su.
	PHYS 1730	Mechanics Lab <i>Co/Pre-req: PHYS 1710</i>	1	F., Sp., Su.	PHYS 2240	Electricity & Magnetism Lab <i>Co/Pre-req: PHYS 2220</i>	1	F., Sp., Su.
	*CSCE 2100	Foundations of Computing <i>Pre-req: CSCE 1045</i>	3	F., Sp., Su.	*CSCE 2550	Foundations of Cybersecurity <i>Pre-req: CSCE 1045</i>	3	F., Sp.
	CSCE 2110	Foundations of Data Structures <i>Pre-req: CSCE 1045</i>	3	F., Sp., Su.	+CSCE 3600	Systems Programming <i>Pre-reqs: CSCE 2100 &amp; CSCE 2110</i>	3	F., Sp.
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	Total Hours		16		Total Hours		16	

	Fall Semester	Course Title	Credit Hours	Term(s) Offered	Spring Semester	Course Title	Credit Hours	Term(s) Offered
<b>Year Three</b>	+CSCE 3530	Introduction to Computer Networks <i>Pre-req: CSCE 3600</i>	3	F., Sp.	CSCE 4357	Database Systems Security <i>Pre-req: CSCE 3550</i>	3	Sp.
	+CSCE 3550	Introduction to Computer Security <i>Pre-req: CSCE 3600</i>	3	F.	CSCE 4560	Secure Electronic Commerce <i>Pre-req: CSCE 2100</i>	3	Sp.
	+CSCE 4010	Social Issues in Computing <i>Pre-req: CSCE 3600</i>	3	F., Sp.	CSCE 4570	Information Privacy <i>Pre-req: CSCE 3550</i>	3	Sp.
	Supporting Elective	Options at mydegreeaudit.unt.edu Must complete pre-reqs	3	Varies	Supporting Elective	Options at mydegreeaudit.unt.edu Must complete pre-reqs	3	Varies
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	Total Hours		15		Total Hours		15	

	Fall Semester	Course Title	Credit Hours	Term(s) Offered	Spring Semester	Course Title	Credit Hours	Term(s) Offered
<b>Year Four</b>	CSCE 4907	Cybersecurity Capstone I <i>Co-req: CSCE 4565</i>	3	F.	CSCE 4927	Cybersecurity Capstone II <i>Pre-req: CSCE 4907</i>	3	Sp.
	CSCE 4565	Secure Software Systems <i>Pre-req: CSCE 3550</i>	3	F.	Supporting Elective	Options at mydegreeaudit.unt.edu Must complete pre-reqs	3	Varies
	+CSCE 4535	Introduction to Network Admin. <i>Pre-req: CSCE 3530</i>	3	F.	Supporting Elective	Options at mydegreeaudit.unt.edu Must complete pre-reqs	3	Varies
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	MISC Elective	MISC. Elective to reach 120 Hours (If needed)	3	F., Sp., Su.
	Total Hours		15		Total Hours		15	

Course in Bold = Destination course required to transition to a full-major. Minimum grade of "C" and 2.0 UNT GPA required for completion. Per advisor approval, completion of CSCE 1030 and CSCE 1040 with minimum grades of "C" may substitute for CSCE 1035.  
 Courses with \* = Foundations courses required to progress to advanced level courses. Minimum grade of "C" required for completion.  
 Courses with + = Courses offered at Collin Higher Education Center (CHEC) in McKinney, TX during opposite term than Denton.  
 Courses with subject abbreviations of ENGL, TECM, MATH, CHEM, PHYS, BIOL, and CSCE require minimum grade of "C" for completion and/or prerequisite.

# Electrical Engineering

Bachelor of Science (B.S.) degree with a major in Electrical Engineering  
Department of Electrical Engineering, Discovery Park B-270; (940) 891-6872

## University Core

### COMMUNICATION

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

**Grade of “C” or better is required**

### AMERICAN HISTORY I

- ❑ 1 Course (3 Hours) chosen from HIST 2610 or HIST 2675

### AMERICAN HISTORY II

- ❑ 1 Course (3 Hours) chosen from HIST 2620 or HIST 2685

### FEDERAL GOVERNMENT/POLITICAL SCIENCE

- ❑ 1 Course (3 Hours) chosen from PSCI 2305 or PSCI 2315

### STATE GOVERNMENT/POLITICAL SCIENCE

- ❑ 1 Course (3 Hours) chosen from PSCI 2306 or PSCI 2316

### CREATIVE ARTS

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

### LANGUAGE, PHILOSOPHY, AND CULTURE

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

### SOCIAL AND BEHAVIORAL SCIENCES

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

## Major Requirements Grades of C or better

### TECHNICAL COMMUNICATIONS

- ❑ TECM 2700, Technical Writing (3 Hours)

### MATHEMATICS

- ❑ MATH 1710, Calculus I (4 Hours)
- ❑ MATH 1720, Calculus II (3 Hours)
- ❑ MATH 2730, Multivariable Calculus (3 Hours)
- ❑ MATH 2700, Linear Algebra (3 Hours)
- ❑ MATH 3410, Differential Equations (3 Hours)
- ❑ MATH 3680, Applied Statistics (3 Hours)

Completion of the above courses will earn a Mathematics minor.

### SCIENCES

- ❑ PHYS 1710, Mechanics (3 Hours) & PHYS 1730 Mechanics Lab (1 Hour)
- ❑ PHYS 2220, Electricity & Magnetism (3 Hours) & PHYS 2240, Electricity & Magnetism Lab (1 Hour)
- ❑ CHEM 1410, General Chemistry I (3 Hours) & CHEM 1430, General Chemistry I Lab (1 Hour)

## Major Requirements Grades of C or better

### ELECTRICAL ENGINEERING

- ❑ EENG 1910, Introduction to Electrical Engineering (3 Hours)
- ❑ EENG 2610, Circuit Analysis, (3 Hours) & EENG 2611, Circuit Analysis Lab (1 Hour)
- ❑ EENG 2620, Signals and Systems (3 Hours) & EENG 2621, Signals and Systems Lab (1 Hour)
- ❑ EENG 2710, Digital Logic Design (3 Hours) & EENG 2711, Digital Logic Design Lab (1 Hour)
- ❑ EENG 2920, Analog and Digital Circuit Design (3 Hours)
- ❑ EENG 3410, Engineering Electromagnetics (3 Hours) & EENG 3411, Engineering Electromagnetics Lab (1 Hour)
- ❑ EENG 3510, Electronics I (3 Hours) & EENG 3511, Electronics I Lab (1 Hour)
- ❑ EENG 3520, Electronics II (3 Hours)
- ❑ EENG 3710, Computer Organization (3 Hours)
- ❑ EENG 3810, Communications Systems (3 Hours) & EENG 3811, Communication Systems Lab (1 Hour)
- ❑ EENG 3910, DSP System Design (3 Hours)
- ❑ EENG 3920, Modern Comm. System Design (3 Hours)
- ❑ EENG 4910, Senior Design I (3 Hours)
- ❑ EENG 4990, Senior Design II (3 Hours)
- ❑ EENG 4\*\*\* Elective (3 Hours)
- ❑ EENG 4\*\*\* Elective (3 Hours)
- ❑ EENG 4\*\*\* Elective (3 Hours)
- ❑ EENG 4\*\*\* Elective (3 Hours)

EENG 4\*\*\* level elective can be chose from: EENG 4010, 4310, 4330, 4340, 4350, 4410, 4710, 4760, 4810, 4850, and 4900.

EENG 4010 is a topics course and the content of 4010 varies for each semester. EENG 4010 may be repeated for credit if you do not re-take the exact same topic the 2<sup>nd</sup> time.

EENG 4920 and 4951 cannot be taken as electives.

### COMPUTER PROGRAMMING

- ❑ CSCE 1030, Computer Science I (4 Hours)

### MANAGEMENT

- ❑ OPSM 3830, Operations Management (3 Hours)
- ❑ MGMT 3850, Entrepreneurship (3 Hours)

A Business Foundations minor will fulfill the management requirement.

*This is an unofficial simplified checklist effective fall 2020. Degree requirements may change. You may need elective courses to help reach a minimum of 128 Total Hours and 42 Advanced Hours. Check with an advisor.*

# Electrical Engineering

2020-2021 Catalog: Sample Four-Year Schedule

Year One	Fall Semester	Course Title	Credit Hours	Term(s) Offered	Spring Semester	Course Title	Credit Hours	Term(s) Offered
	*MATH 1710	<b>Calculus I</b> <i>Pre-req: MATH 1650 or Test Placement</i>	4	F., Sp., Su.	*MATH 1720	Calculus II <i>Pre-req: MATH 1710</i>	3	F., Sp., Su.
	CHEM 1410	General Chemistry I <i>Pre-req: MATH 1100 or higher</i>	3	F., Sp., Su.	*PHYS 1710	Mechanics <i>Pre-req: MATH 1710</i>	3	F., Sp., Su.
	CHEM 1430	General Chemistry I Lab <i>Co/Pre-req: CHEM 1410</i>	1	F., Sp., Su.	*PHYS 1730	Mechanics Lab <i>Co/Pre-req: PHYS 1710</i>	1	F., Sp., Su.
	*EENG 1910	Learning to Learn	3	F., Sp.	EENG 2710	Digital Logic Design	3	F., Sp., Su.
	CSCE 1030	Computer Science I <i>Co/Pre-req: MATH 1710</i>	4	F., Sp., Su.	EENG 2711	Digital Logic Design Lab <i>Co/Pre-req: EENG 2710</i>	1	F., Sp., Su.
	*Comm. Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	*TECM 2700	Technical Writing <i>Pre-req: Communication Core</i>	3	F., Sp., Su.
	Total Hours		18		University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
					Total Hours		17	

Year Two	MATH 2700	Linear Algebra <i>Pre-req: MATH 1720</i>	3	F., Sp., Su.	MATH 2730	Multivariable Calculus <i>Pre-req: MATH 1720</i>	3	F., Sp., Su.
	MATH 3410	Differential Equations <i>Pre-req: MATH 1720</i>	3	F., Sp., Su.	EENG 2620	Signals and Systems <i>Pre-reqs: EENG 2610/2611</i> <i>Co/Pre-req: MATH 2730 or 3410</i>	3	F., Sp.
	PHYS 2220	Electricity & Magnetism <i>Pre-reqs: MATH 1720 &amp; PHYS 1710/1730</i>	3	F., Sp., Su.	EENG 2621	Signals and Systems Lab <i>Co/Pre-req: EENG 2620</i>	1	F., Sp.
	PHYS 2240	Electricity & Magnetism Lab <i>Co/Pre-req: PHYS 2220</i>	1	F., Sp., Su.	EENG 2920	Analog Circuit Design <i>Pre-reqs: EENG 1910, EENG 2610/2611, and EENG 2710/2711</i>	3	F., Sp.
	*EENG 2610	Circuit Analysis <i>Co/Pre-reqs: PHYS 2220/2240, MATH 3410</i>	3	F., Sp., Su.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	EENG 2611	Circuit Analysis Lab <i>Co/Pre-reqs: EENG 2610</i>	1	F., Sp., Su.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	Total Hours		14		Total Hours		16	

Year Three	MATH 3680	Applied Statistics <i>Pre-req: MATH 1710, Co/Pre-req: MATH 1720</i>	3	F., Sp., Su.	EENG 3520	Electronics II <i>Pre-reqs: EENG 3510/3511</i>	3	F., Sp.
	EENG 3410	Electromagnetics <i>Pre-reqs: EENG 2610/2611</i>	3	F., Sp.	EENG 3710	Computer Organization <i>Pre-reqs: EENG 2710/2711, CSCE 1030</i>	3	F., Sp.
	EENG 3411	Electromagnetics Lab <i>Co/Pre-req: EENG 3410</i>	1	F., Sp.	EENG 3810	Communications Systems <i>Pre-reqs: EENG 2620, 3510, MATH 3680</i>	3	F., Sp.
	EENG 3510	Electronics I <i>Pre-reqs: EENG 2610/2611</i>	3	F., Sp., Su.	EENG 3811	Communications Systems Lab <i>Co/Pre-req: EENG 3810</i>	1	F., Sp.
	EENG 3511	Electronics I Lab <i>Co/Pre-req: EENG 3510</i>	1	F., Sp., Su.	EENG 3920	Modern Communications System Design <i>Co/Pre-req: EENG 3520</i>	3	F., Sp.
	EENG 3910	DSP System Design <i>Pre-reqs: EENG 2620/2621 and EENG 2920</i>	3	F., Sp.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	Total Hours		16	
	Total Hours		17					

Year Four	EENG Elective	Options at mydegreeaudit.unt.edu Must complete pre-reqs	3	F., Sp.	EENG Elective	Options at mydegreeaudit.unt.edu Must complete pre-reqs	3	F., Sp.
	EENG Elective	Options at mydegreeaudit.unt.edu Must complete pre-reqs	3	F., Sp.	EENG Elective	Options at mydegreeaudit.unt.edu Must complete pre-reqs	3	F., Sp.
	EENG 4910	Senior Design I <i>Pre-reqs: EENG 3810/3811, 3910, 3920</i>	3	F., Sp.	EENG 4990	Senior Design II <i>Pre-reqs: EENG 4910</i>	3	F., Sp.
	OPSM 3830	Operations Management	3	F., Sp.	MGMT 3850	Entrepreneurship	3	F., Sp., Su.
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	Total Hours		15		Total Hours		15	

Course in Bold = Destination course required to transition to a full-major. Minimum grade of "C" and 2.0 UNT GPA required for completion.

Courses with \* = Foundations courses required to progress to advanced level courses. Minimum grade of "C" required for completion.

Courses with subject abbreviations of ENGL, TECM, MATH, CSCE, CHEM, PHYS, EENG, OPSM, and MGMT require minimum grade of "C" for completion and/or prereq.

**This is an unofficial sample schedule. Requirements, prerequisites, corequisites, and term offerings may change. You should check your degree audit at mydegreeaudit.unt.edu each term. You should meet with your advisor each term to discuss individual scheduling, program decisions, etc.**

# Information Technology

Bachelor of Arts (B.A.) degree with a major in Information Technology  
Department of Computer Science and Engineering, Discovery Park F-201; (940) 565-2767

## University Core

### COMMUNICATION

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

**Grade of “C” or better is required**

### AMERICAN HISTORY I

- ❑ 1 Course (3 Hours) chosen from HIST 2610 or HIST 2675

### AMERICAN HISTORY II

- ❑ 1 Course (3 Hours) chosen from HIST 2620 or HIST 2685

### FEDERAL GOVERNMENT/POLITICAL SCIENCE

- ❑ 1 Course (3 Hours) chosen from PSCI 2305 or PSCI 2315

### STATE GOVERNMENT/POLITICAL SCIENCE

- ❑ 1 Course (3 Hours) chosen from PSCI 2306 or PSCI 2316

### CREATIVE ARTS

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

### LANGUAGE, PHILOSOPHY, AND CULTURE

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

### SOCIAL AND BEHAVIORAL SCIENCES

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

## Major Requirements Grades of C or better

### TECHNICAL COMMUNICATIONS

- ❑ TECM 2700, Technical Writing (3 Hours)

### MATHEMATICS

- ❑ MATH 1710, Calculus I (4 Hours)
- ❑ MATH 1680 or MATH 1780, Probability (3 Hours)

### SCIENCES

- ❑ PHYS 1710, Mechanics (3 Hours) & PHYS 1730 Mechanics Lab (1 Hour)
- ❑ CHEM 1410, General Chemistry I (3 Hours) & CHEM 1430, General Chemistry I Lab (1 Hour)  
Or  
BIOL 1710, Biology I (3 hours) & BIOL 1760, Biology Lab (2 Hours)

## Major Requirements Grades of C or better

### COMPUTER SCIENCE AND ENGINEERING

- ❑ CSCE 1030, Computer Science I (4 Hours)
- ❑ CSCE 1040, Computer Science II (3 Hours)
- ❑ CSCE 2100, Foundations of Computing (3 Hours)
- ❑ CSCE 2110, Foundations of Data Structures (3 Hours)
- ❑ CSCE 3055, IT Project Management (3 Hours)
- ❑ CSCE 3220, Human Computer Interfaces (3 Hours)
- ❑ CSCE 3420, Internet Programming (3 Hours)
- ❑ CSCE 3530, Introduction to Computer Networks (3 Hours)
- ❑ CSCE 3550, Introduction to Computer Security (3 Hours)
- ❑ CSCE 3600, Principles of Systems Programming (3 Hours)
- ❑ CSCE 3605, Systems Administration (3 Hours)
- ❑ CSCE 3615, Enterprise Systems Arch., Analysis and Design (3 Hours)
- ❑ CSCE 4010, Social Issues in Computing (3 Hours)
- ❑ CSCE 4350, Fundamentals of Database Systems (3 Hours)
- ❑ CSCE 4355, Database Administration (3 Hours)
- ❑ CSCE 4535, Network Administration (3 Hours)
- ❑ CSCE 4905, Information Technology Capstone I (3 Hours)
- ❑ CSCE 4925, Information Technology Capstone II (3 Hours)

### SUPPORTING AREA

- ❑ Course approved by an advisor (3 Hours)
- ❑ Course approved by an advisor (3 Hours)
- ❑ Course approved by an advisor (3 Hours)
- ❑ Course approved by an advisor (3 Hours)
- ❑ Course approved by an advisor (3 Hours)
- ❑ Course approved by an advisor (3 Hours)
- ❑ Course approved by an advisor (3 Hours)

You must choose a supporting area (21 Hours) and complete approved courses. Check with your advisor concerning approved classes. Suggestions include, but are not limited to:

Security	Health Professions
Networking	Pre-Med/Pre-Vet/Pre-Dental
Information Systems	Pre-Law
Data Science	Education/Teach North Texas
Web Development	Pre-MBA Business
Game Development	General Business
Project Management	Management
Technical Communications	Marketing
Microsoft/Oracle/Cisco Cert.	Logistics/Decision Sciences
Information Science	
Graphic/Communications Design	
Geographic Information Systems (GIS)	

Completion of CSCE 2610, CSCE 4560, & CSCE 4600 toward a Supporting Area in Security and/or Networking also earns a Security Certificate from the National Security Agency and Department of Homeland Security. CSCE 2610 requires EENG 2710/2711 as prerequisite.

A maximum of 6 hours may be taken for the Supporting Area from CSCE 4890, 4920, 4930, 4940, or 4950.

# Information Technology

2020-2021 Catalog: Sample Four-Year Schedule

	Fall Semester	Course Title	Credit Hours	Term(s) Offered	Spring Semester	Course Title	Credit Hours	Term(s) Offered
<b>Year One</b>	<b>*MATH 1710</b>	<b>Calculus I</b> <i>Pre-req: MATH 1650 or Test Placement</i>	4	F., Sp., Su.	<b>*CSCE 1040</b>	<b>Computer Science II</b> <i>Pre-req: CSCE 1030</i> <i>Co/Pre-req: MATH 1710</i>	3	F., Sp., Su.
	CHEM 1410 or BIOL 1710	General Chemistry I or Biology I <i>Pre-req for CHEM 1410: MATH 1100 or higher</i> <i>Pre-req for BIOL 1710: none</i>	3	F., Sp., Su.	MATH 1680 or MATH 1780	Statistics or Probability Models <i>Pre-req for MATH 1680: none</i> <i>Pre-req for MATH 1780: MATH 1710</i>	3	F., Sp., Su.
	CHEM 1430 or BIOL 1760	General Chemistry I Lab or Biology I Lab <i>Co/Pre-req for CHEM 1430: CHEM 1410</i> <i>Co/Pre-req for BIOL 1760: BIOL 1710</i>	1-2	F., Sp., Su.	<b>*TECM 2700</b>	Technical Writing <i>Pre-req: Communication Core</i>	3	F., Sp., Su.
	<b>*CSCE 1030</b>	<b>Computer Science I</b> <i>Co/Pre-req: MATH 1710</i>	4	F., Sp.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	<b>*Comm. Core</b>	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	Total Hours		15-16		Total Hours		15	

<b>Year Two</b>	<b>*CSCE 2100</b>	Foundations of Computing <i>Pre-req: CSCE 1040</i>	3	F., Sp., Su.	<b>*CSCE 2110</b>	Foundations of Data Structures <i>Pre-req: CSCE 1040</i>	3	F., Sp., Su.
	PHYS 1710	Mechanics <i>Pre-req: MATH 1710</i>	3	F., Sp., Su.	<b>+CSCE 3600</b>	Systems Programming <i>Pre-req: CSCE 2100</i>	3	F., Sp.
	PHYS 1730	Mechanics Lab <i>Co/Pre-req: PHYS 1710</i>	1	F., Sp., Su.	Supporting Area	Options via mydegreeaudit.unt.edu or your advisor	3	F., Sp.
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	Total Hours		15	
	Total Hours		16					

<b>Year Three</b>	<b>+CSCE 3055</b>	IT Project Management <i>Pre-req: CSCE 2100</i>	3	F.	<b>+CSCE 3605</b>	Systems Administration <i>Pre-reqs: CSCE 3600</i>	3	Sp.
	<b>+CSCE 3220</b>	Human Computer Interfaces <i>Pre-req: CSCE 2100, 2110</i>	3	F.	<b>+CSCE 3615</b>	Enterprise Systems Architecture <i>Pre-reqs: CSCE 2100</i>	3	Sp.
	<b>+CSCE 3420</b>	Internet Programming <i>Pre-req: CSCE 2100, 2110</i>	3	F.	<b>+CSCE 4010</b>	Social Issues <i>Pre-reqs: CSCE 3600</i>	3	F., Sp., Su.
	<b>+CSCE 3530</b>	Introduction to Computer Networks <i>Pre-req: CSCE 3600</i>	3	F.	<b>+CSCE 4350</b>	Database Systems <i>Pre-req: CSCE 2100, 2110</i>	3	Sp.
	Supporting Area	Options via mydegreeaudit.unt.edu or your advisor	3	F., Sp.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	Total Hours		15		Total Hours		15	

<b>Year Four</b>	<b>+CSCE 3550</b>	Introduction to Computer Security <i>Pre-req: CSCE 3600</i>	3	F.	<b>+CSCE 4925</b>	Capstone II <i>Pre-req: CSCE 4905</i>	3	Sp.
	<b>+CSCE 4355</b>	Database Administration <i>Pre-req: CSCE 4350</i>	3	F.	Supporting Area	Options via mydegreeaudit.unt.edu or your advisor	3	F., Sp.
	<b>+CSCE 4535</b>	Network Administration <i>Pre-req: CSCE 3530</i>	3	F.	Supporting Area	Options via mydegreeaudit.unt.edu or your advisor	3	F., Sp.
	<b>+CSCE 4905</b>	Capstone I <i>Pre-reqs: CSCE 3055, 3615</i>	3	F.	Supporting Area	Options via mydegreeaudit.unt.edu or your advisor	3	F., Sp.
	Supporting Area	Options via mydegreeaudit.unt.edu or your advisor	3	F., Sp.	Supporting Area	Options via mydegreeaudit.unt.edu or your advisor	3	F., Sp.
	Total Hours		15		Total Hours		15	

Course in Bold = Destination course required to transition to a full-major. Minimum grade of "C" and 2.0 UNT GPA required for completion. Courses with \* = Foundations courses required to progress to advanced level courses. Minimum grade of "C" required for completion. Courses with + = Courses offered at Collin Higher Education Center (CHEC) in McKinney, TX. during opposite term than Denton. Courses with subject abbreviations of ENGL, TECM, MATH, CHEM, PHYS, BIOL, and CSCE require minimum grade of "C" for completion and/or prerequisite. Supporting area courses require minimum grade of "C" for completion and/or prerequisite.

**This is an unofficial sample schedule. Requirements, prerequisites, corequisites, and term offerings may change. You should check your degree audit at mydegreeaudit.unt.edu each term. You should meet with your advisor each term to discuss individual scheduling, program decisions, etc.**

# Materials Science and Engineering

Bachelor of Science (B.S.) degree with a major in Materials Science and Engineering  
Department of Materials Science and Engineering, Discovery Park E-132; (940) 565-3260

## University Core

### COMMUNICATION

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

**Grade of “C” or better is required**

### AMERICAN HISTORY I

- ❑ 1 Course (3 Hours) chosen from HIST 2610 or HIST 2675

### AMERICAN HISTORY II

- ❑ 1 Course (3 Hours) chosen from HIST 2620 or HIST 2685

### FEDERAL GOVERNMENT/POLITICAL SCIENCE

- ❑ 1 Course (3 Hours) chosen from PSCI 2305 or PSCI 2315

### STATE GOVERNMENT/POLITICAL SCIENCE

- ❑ 1 Course (3 Hours) chosen from PSCI 2306 or PSCI 2316

### CREATIVE ARTS

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

### LANGUAGE, PHILOSOPHY, AND CULTURE

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

### SOCIAL AND BEHAVIORAL SCIENCES

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

## Major Requirements Grades of C or better

### TECHNICAL COMMUNICATIONS

- ❑ TECM 2700, Technical Writing (3 Hours)

### MATHEMATICS

- ❑ MATH 1710, Calculus I (4 Hours)
- ❑ MATH 1720, Calculus II (3 Hours)
- ❑ MATH 2730, Multivariable Calculus (3 Hours)
- ❑ MATH 3410, Differential Equations (3 Hours)

## Major Requirements Grades of C or better

### SCIENCES

- ❑ CHEM 1410, General Chemistry I (3 Hours) & CHEM 1430, General Chemistry I Lab (1 Hour)
- ❑ CHEM 1420, General Chemistry II (3 Hours)
- ❑ PHYS 1710, Mechanics (3 Hours) & PHYS 1730 Mechanics Lab (1 Hour)
- ❑ PHYS 2220, Electricity & Magnetism (3 Hours) & PHYS 2240, Electricity & Magnetism Lab (1 Hour)
- ❑ PHYS 3010, Modern Physics (3 Hours)

### MATERIALS SCIENCE AND ENGINEERING

- ❑ ENGR 2301, Statics (3 Hours)
- ❑ MTSE 1100, Discover How and Why Materials Matter (3 Hours)
- ❑ MTSE 3000, Fundamentals of Materials Science and Engr. I (3 Hours)
- ❑ MTSE 3001, Fundamentals of Materials Science and Engr. II (3 Hours)
- ❑ MTSE 3010, Bonding and Structure (3 Hours)
- ❑ MTSE 3020, Microstructure and Characterization (3 Hours)
- ❑ MTSE 3030, Thermodynamics and Phase Diagrams (3 Hours)
- ❑ MTSE 3040, Transport Phenomena (3 Hours)
- ❑ MTSE 3050, Mechanical Properties (3 Hours)
- ❑ MTSE 3060, Phase Transformations (3 Hours)
- ❑ MTSE 3070, Electrical, Optical, and Magnetic Properties (3 Hours)
- ❑ MTSE 3080, Materials Processing (3 Hours)
- ❑ MTSE 3090, Laboratory I (1 Hour)
- ❑ MTSE 3100, Laboratory II (1 Hour)
- ❑ MTSE 4010, Physical Metallurgy Principles (3 Hours)
- ❑ MTSE 4030, Ceramic Science and Engineering (3 Hours)
- ❑ MTSE 4050, Polymer Science and Engineering (3 Hours)
- ❑ MTSE 4060, Materials Selection and Performance (3 Hours)
- ❑ MTSE 4090, Senior Design I (3 Hours)
- ❑ MTSE 4100, Senior Design II (3 Hours)

### MATERIALS SCIENCE AND ENGINEERING ELECTIVES

- ❑ 1 MTSE 4\*\*\* elective (3 Hours) chosen from list options below
- ❑ 1 MTSE 4\*\*\* elective (3 Hours) chosen from list options below

MTSE 4020, Materials in Medicine (3 Hours)  
MTSE 4040, Computational Materials Science (3 Hours)  
MTSE 4070, Electronic Materials (3 Hours)

*This is an unofficial simplified checklist effective fall 2020. Degree requirements may change. You may need elective courses to help reach a minimum of 120 Total Hours and 42 Advanced Hours. Check with an advisor.*



# Materials Science and Engineering

2020-2021 Catalog: Sample Four-Year Schedule

	Fall Semester	Course Title	Credit Hours	Term(s) Offered	Spring Semester	Course Title	Credit Hours	Term(s) Offered
<b>Year One</b>	<b>*MATH 1710</b>	<b>Calculus I</b> <i>Pre-req: MATH 1650 or Test Placement</i>	4	F., Sp., Su.	<b>*MATH 1720</b>	<b>Calculus II</b> <i>Pre-req: MATH 1710</i>	3	F., Sp., Su.
	<b>*CHEM 1410</b>	<b>General Chemistry I</b> <i>Pre-req: MATH 1100 or higher</i>	3	F., Sp., Su.	<b>*PHYS 1710</b>	<b>Mechanics</b> <i>Pre-req: MATH 1710</i>	3	F., Sp., Su.
	<b>*CHEM 1430</b>	<b>General Chemistry I Lab</b> <i>Co/Pre-req: CHEM 1410</i>	1	F., Sp., Su.	<b>*PHYS 1730</b>	<b>Mechanics Lab</b> <i>Co/Pre-req: PHYS 1710</i>	1	F., Sp., Su.
	<b>*MTSE 1100</b>	<b>Discover How and Why Materials Matter</b>	3	F.	<b>*CHEM 1420</b>	<b>General Chemistry II</b> <i>Pre-req: CHEM 1410, 1430</i>	3	F., Sp.
	Comm. Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	<b>*TECM 2700</b>	<b>Technical Writing</b> <i>Pre-req: Communication Core</i>	3	F., Sp., Su.
	Total Hours		14		University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
					Total Hours		16	

<b>Year Two</b>	MATH 2730	Multivariable Calculus <i>Pre-req: MATH 1720</i>	3	F., Sp., Su.	MATH 3410	Differential Equations <i>Pre-req: MATH 1720</i>	3	F., Sp., Su.
	PHYS 2220	Electricity & Magnetism <i>Pre-reqs: MATH 1720 &amp; PHYS 1710/1730</i>	3	F., Sp., Su.	PHYS 3010	Modern Physics <i>Pre-reqs: PHYS 2220, 2240</i>	3	F., Sp.
	PHYS 2240	Electricity & Magnetism Lab <i>Co/Pre-req: PHYS 2220</i>	1	F., Sp., Su.	MTSE 3001	Fundamentals II <i>Co/Pre-req: MTSE 3000</i>	3	Sp.
	<b>*MTSE 3000</b>	<b>Fundamentals I</b> <i>Pre-req: CHEM 1410, 1430</i>	3	F., Sp.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	ENGR 2301	Statics <i>Pre-reqs: MATH 1710, PHYS 1710, 1730</i>	3	F., Sp., Su.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	Total Hours		15	
	Total Hours		16					

<b>Year Three</b>	MTSE 3010	Bonding and Structure <i>Pre-req: MTSE 3000</i>	3	F.	MTSE 3050	Mechanical Properties <i>Pre-req: MTSE 3000</i>	3	Sp.
	MTSE 3020	Microstructure and Characterization <i>Pre-req: MTSE 3000</i>	3	F.	MTSE 3060	Phase Transformations <i>Pre-req: MTSE 3010, 3030, 3040</i>	3	Sp.
	MTSE 3030	Thermodynamics and Phase Diagrams <i>Pre-req: MTSE 3000</i>	3	F.	MTSE 3070	Elect., Optical, Magnetic Properties <i>Pre-req: MTSE 3000</i>	3	Sp.
	MTSE 3040	Transport Phenomena <i>Pre-req: MTSE 3000, MATH 3410</i>	3	F.	MTSE 3080	Materials Processing <i>Pre-req: MTSE 3040</i>	3	Sp.
	MTSE 3090	Laboratory I <i>Pre-req: MTSE 3000</i>	1	F.	MTSE 3100	Laboratory II <i>Pre-req: MTSE 3090</i>	1	Sp.
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	Total Hours		16		Total Hours		16	

<b>Year Four</b>	MTSE 4010	Physical Metallurgy Principles <i>Pre-reqs: MTSE 3010, 3030, 3040</i>	3	F.	MTSE 4050	Polymer Science and Engineering <i>Pre-req: MTSE 3000</i>	3	Sp.
	MTSE 4030	Ceramic Science and Engineering <i>Pre-reqs: MTSE 3010, 3020, 3040</i>	3	F.	MTSE 4100	Senior Design II <i>Pre-req: MTSE 4090</i>	3	Sp.
	MTSE 4060	Selection and Performance <i>Pre-reqs: MTSE 3030, 3040, 3050</i>	3	F.	MTSE Elective	MTSE 4020 or MTSE 4040 or MTSE 4070. Must complete pre-reqs.	3	Sp.
	MTSE 4090	Senior Design I <i>Pre-reqs: MTSE 3010, 3020, 3030, 3040, 3050, 3070, 3080</i>	3	F.	MTSE Elective	MTSE 4020 or MTSE 4040 or MTSE 4070. Must complete pre-reqs.	3	Sp.
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	Total Hours		12	
	Total Hours		15					

Course in Bold = Destination course required to transition to a full-major. Minimum grade of "C" and 2.0 UNT GPA required for completion.  
 Courses with \* = Foundations courses required to progress to advanced level courses. Minimum grade of "C" required for completion.  
 Courses with subject abbreviations of ENGL, TECM, MATH, CHEM, PHYS, ENGR, and MTSE require minimum grade of "C" for completion and/or prerequisite.

**This is an unofficial sample schedule. Requirements, prerequisites, corequisites, and term offerings may change. You should check your degree audit at mydegreeaudit.unt.edu each term. You should meet with your advisor each term to discuss individual scheduling, program decisions, etc.**

# Mechanical and Energy Engineering

Bachelor of Science (B.S.) degree with a major in Mechanical and Energy Engineering  
Department of Mechanical Engineering, Discovery Park F-101; (940) 565-2400

## University Core

### COMMUNICATION

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

**Grade of “C” or better is required**

### AMERICAN HISTORY I

- ❑ 1 Course (3 Hours) chosen from HIST 2610 or HIST 2675

### AMERICAN HISTORY II

- ❑ 1 Course (3 Hours) chosen from HIST 2620 or HIST 2685

### FEDERAL GOVERNMENT/POLITICAL SCIENCE

- ❑ 1 Course (3 Hours) chosen from PSCI 2305 or PSCI 2315

### STATE GOVERNMENT/POLITICAL SCIENCE

- ❑ 1 Course (3 Hours) chosen from PSCI 2306 or PSCI 2316

### CREATIVE ARTS

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

### LANGUAGE, PHILOSOPHY, AND CULTURE

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

### SOCIAL AND BEHAVIORAL SCIENCES

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

## Major Requirements Grades of C or better

### TECHNICAL COMMUNICATIONS

- ❑ TECM 2700, Technical Writing (3 Hours)

### MATHEMATICS

- ❑ MATH 1710, Calculus I (4 Hours)
- ❑ MATH 1720, Calculus II (3 Hours)
- ❑ MATH 2700, Linear Algebra (3 Hours)
- ❑ MATH 2730, Multivariable Calculus (3 Hours)
- ❑ MATH 3410, Differential Equations (3 Hours)

### SCIENCES

- ❑ PHYS 1710, Mechanics (3 Hours) & PHYS 1730 Mechanics Lab (1 Hour)
- ❑ PHYS 2220, Electricity & Magnetism (3 Hours) & PHYS 2240, Electricity & Magnetism Lab (1 Hour)
- ❑ CHEM 1410, General Chemistry I (3 Hours) & CHEM 1430, General Chemistry I Lab (1 Hour)

## Major Requirements Grades of C or better

### MECHANICAL AND ENERGY ENGINEERING

- ❑ MEEN 1000, Discover Mechanical and Energy (2 Hours)
- ❑ MEEN 2110, Engineering Data Analysis (3 Hours)
- ❑ MEEN 2210, Thermodynamics I (3 Hours)
- ❑ MEEN 2240, Programming for Mechanical Engr. (3 Hours)
- ❑ MEEN 2301, Mechanics I (3 Hours)
- ❑ MEEN 2302, Mechanics II (3 Hours)
- ❑ MEEN 2332, Mechanics III (3 Hours)
- ❑ MEEN 3100, Manufacturing Processes (3 Hours)
- ❑ MEEN 3110, Thermodynamics II (3 Hours)
- ❑ MEEN 3120, Fluid Mechanics (3 Hours)
- ❑ MEEN 3130, Machine Elements (3 Hours)
- ❑ MEEN 3210, Heat Transfer (3 Hours)
- ❑ MEEN 3230, System Dynamics and Controls (3 Hours)
- ❑ MEEN 3240, Laboratory I (2 Hours)
- ❑ MEEN 3242, Laboratory II (1 Hour)
- ❑ MEEN 3250, Analytical Methods (3 Hours)
- ❑ MEEN 4150, Design I (3 Hours)
- ❑ MEEN 4250, Capstone Design (3 Hours)
  
- ❑ ENGR 1304, Engineering Graphics (3 Hours)
- ❑ EENG 2610, Circuit Analysis (3 Hours)
- ❑ MTSE 3000, Fundamentals of Materials Sci. & Engr. (3 Hours) & MTSE 3003, Fundamentals I Lab (1 Hour)

### ENERGY ELECTIVES

- ❑ 1 Energy Elective course (3 Hours) chosen from list below
- ❑ 1 Energy Elective course (3 Hours) chosen from list below

MEEN 3125	MEEN 4310	MEEN 4332	MEEN 4410
MEEN 4110	MEEN 4315	MEEN 4335	MEEN 4810
MEEN 4112	MEEN 4320	MEEN 4340	
MEEN 4300	MEEN 4330	MEEN 4350	

### TECHNICAL ELECTIVES

- ❑ 1 Technical Elective course (3 Hours) chosen from list below
- ❑ 1 Technical Elective course (3 Hours) chosen from list below

MEEN 4120	MEEN 4151	MEEN 4415	MEEN 4800
MEEN 4130	MEEN 4152	MEEN 4488	MEEN 4930
MEEN 4140	MEEN 4160	MEEN 4510	MFET 4190

*This is an unofficial simplified checklist effective fall 2020. Degree requirements may change. You may need elective courses to help reach a minimum of 127 Total Hours and 42 Advanced Hours. Check with an advisor.*

# Mechanical and Energy Engineering

2020-2021 Catalog: Sample Four-Year Schedule

	Fall Semester	Course Title	Credit Hours	Term(s) Offered	Spring Semester	Course Title	Credit Hours	Term(s) Offered
Year One	<b>*MATH 1710</b>	<b>Calculus I</b> <i>Pre-req: MATH 1650 or Test Placement</i>	4	F., Sp., Su.	MATH 1720	Calculus II <i>Pre-req: MATH 1710</i>	3	F., Sp., Su.
	CHEM 1410	General Chemistry I <i>Pre-req: MATH 1100 or higher</i>	3	F., Sp., Su.	*PHYS 1710	Mechanics <i>Pre-req: MATH 1710</i>	3	F., Sp., Su.
	CHEM 1430	General Chemistry I Lab <i>Co/Pre-req: CHEM 1410</i>	1	F., Sp., Su.	*PHYS 1730	Mechanics Lab <i>Co/Pre-req: PHYS 1710</i>	1	F., Sp., Su.
	*MEEN 1000	Discover Mechanical & Energy <i>Pre-req: MATH 1650</i>	2	F., Sp.	ENGR 1304	Engineering Graphics	3	F., Sp.
	*Comm. Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	TECM 2700	Technical Writing <i>Pre-req: Communication Core</i>	3	F., Sp., Su.
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	Total Hours		16				16	

Year Two	MATH 2730	Multivariable Calculus <i>Pre-req: MATH 1720</i>	3	F., Sp., Su.	MATH 3410	Differential Equations <i>Pre-req: MATH 1720</i>	3	F., Sp., Su.
	PHYS 2220	Electricity & Magnetism <i>Pre-reqs: MATH 1720 &amp; PHYS 1710/1730</i>	3	F., Sp., Su.	*MEEN 2210	Thermodynamics I <i>Pre-reqs: MEEN 1000, MATH 1720, &amp; PHYS 1710</i>	3	F., Sp., Su.
	PHYS 2240	Electricity & Magnetism Lab <i>Co/Pre-req: PHYS 2220</i>	1	F., Sp., Su.	*MEEN 2302	Mechanics II <i>Pre-reqs: MEEN 2301 &amp; MATH 1720</i>	3	F., Sp., Su.
	*MEEN 2301	Mechanics I <i>Pre-req: PHYS 1710/1730, MEEN 1000</i>	3	F., Sp., Su.	MEEN 2332	Mechanics III <i>Pre-req: MEEN 2301</i>	3	F., Sp., Su.
	MEEN 2240	Programming for Mechanical Engineers <i>Pre-req: MEEN 1000, Co-req MATH 2700</i>	3	F., Sp.	EENG 2610	Circuit Analysis <i>Pre-reqs: MATH 1720</i> <i>Co/Pre-req: PHYS 2220/2240</i>	3	F., Sp., Su.
	MATH 2700	Linear Algebra <i>Pre-req: MATH 1720</i>	3	F., Sp., Su.	MEEN 2110	Engineering Data Analysis <i>Pre-reqs: MATH 2700 &amp; MEEN 1000</i>	3	F., Sp., Su.
	Total Hours		16				18	

Year Three	MEEN 3110	Thermodynamics II <i>Pre-req: MEEN 2210</i>	3	F., Sp., Su.	MEEN 3130	Machine Elements <i>Pre-reqs: MEEN 2332 &amp; ENGR 1304</i>	3	F., Sp., Su.
	MEEN 3120	Fluid Mechanics <i>Pre-reqs: MATH 2730, 3410, MEEN 2210, 2332</i>	3	F., Sp., Su.	MEEN 3210	Heat Transfer <i>Pre-reqs: MEEN 3110, 3120, 3250</i>	3	F., Sp., Su.
	MEEN 3240	Laboratory I <i>Pre-reqs: MEEN 2110, 2210, &amp; MATH 3410</i>	2	F., Sp.	MEEN 3230	Dynamics and Controls <i>Pre-reqs: MEEN 2302, MATH 2700, 3410</i>	3	F., Sp., Su.
	MEEN 3250	Analytical Methods <i>Pre-reqs: MEEN 2240 &amp; MATH 3410</i>	3	F., Sp., Su.	MEEN 3242	Laboratory II <i>Pre-reqs: MEEN 3240 &amp; 3120, Co/Pre-req: MEEN 3210</i>	1	F., Sp.
	MTSE 3000	Materials Fundamentals <i>Pre-req: CHEM reqt.</i>	3	F., Sp.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	MTSE 3003	Materials Lab <i>Pre-req: CHEM reqt.</i>	1	F., Sp.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	Total Hours		15				16	

Year Four	MEEN 3100	Manufacturing Processes <i>Pre-reqs: MEEN 2332, &amp; MTSE 3000/3003</i>	3	F., Sp.	MEEN 4250	Capstone Design <i>Pre-req: MEEN 3100 &amp; 4150</i>	3	F., Sp.
	MEEN 4150	Design I <i>Pre-reqs: EENG 2610, MEEN 3130, 3210, 3230, &amp; 3242 Co/Pre-req: MEEN 3100</i>	3	F., Sp.	Energy Elective	Options at mydegreeaudit.unt.edu Must complete pre-reqs	3	F., Sp.
	Energy Elective	Options at mydegreeaudit.unt.edu Must complete pre-reqs	3	F., Sp.	Technical Elective	Options at mydegreeaudit.unt.edu Must complete pre-reqs	3	F., Sp., Su.
	Technical Elective	Options at mydegreeaudit.unt.edu Must complete pre-reqs	3	F., Sp.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp.
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	Total Hours		15				15	

Course in Bold = Destination course required to transition to a full-major. Minimum grade of "C" and 2.0 GPA required for completion.  
 Courses with \* = Foundations courses required to progress to advanced level courses. Minimum grade of "C" required for completion.  
 Courses with subject abbreviations of ENGL, TECM, MATH, CHEM, PHYS, ENGR, EENG, MEEN, and MTSE require minimum grade of "C" for completion and/or prerequisite.

**This is an unofficial sample schedule. Requirements, prerequisites, corequisites, and term offerings may change. You should check your degree audit at mydegreeaudit.unt.edu each term. You should meet with your advisor each term to discuss individual scheduling, program decisions, etc.**

# Mechanical Engineering Technology

Bachelor of Science in Engineering Technology (B.S.E.T) degree with a major in Mechanical Engineering Technology  
Department of Mechanical Engineering, Discovery Park F-115; (940) 565-2400

## University Core

### COMMUNICATION

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu  
**Grade of “C” or better** is required

### AMERICAN HISTORY I

- ❑ 1 Course (3 Hours) chosen from HIST 2610 or HIST 2675

### AMERICAN HISTORY II

- ❑ 1 Course (3 Hours) chosen from HIST 2620 or HIST 2685

### FEDERAL GOVERNMENT/POLITICAL SCIENCE

- ❑ 1 Course (3 Hours) chosen from PSCI 2305 or PSCI 2315

### STATE GOVERNMENT/POLITICAL SCIENCE

- ❑ 1 Course (3 Hours) chosen from PSCI 2306 or PSCI 2316

### CREATIVE ARTS

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

### LANGUAGE, PHILOSOPHY, AND CULTURE

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

### SOCIAL AND BEHAVIORAL SCIENCES

- ❑ 1 Course (3 Hours) – see mydegreeaudit.unt.edu

## Major Requirements Grades of C or better

### TECHNICAL COMMUNICATIONS

- ❑ TECM 2700, Technical Writing (3 Hours)

### MATHEMATICS

- ❑ MATH 1710, Calculus I (4 Hours)
- ❑ MATH 1720, Calculus II (3 Hours)

### SCIENCES

- ❑ PHYS 1710, Mechanics (3 Hours) & PHYS 1730 Mechanics Lab (1 Hour)
- ❑ PHYS 2220, Electricity & Magnetism (3 Hours) & PHYS 2240, Electricity & Magnetism Lab (1 Hour)
- ❑ CHEM 1410, General Chemistry I (3 Hours) & CHEM 1430, General Chemistry I Lab (1 Hour)

### COMPUTER PROGRAMMING

- ❑ CSCE 1030, Computer Science I (4 Hours)

## Major Requirements Grades of C or better

### MECHANICAL ENGINEERING TECHNOLOGY

- ❑ ENGR 1030, Technological Systems (3 Hours)
- ❑ ENGR 1304, Engineering Graphics (3 Hours)
- ❑ ENGR 2301, Statics (3 Hours)
- ❑ ENGR 2302, Dynamics (3 Hours)
- ❑ ENGR 2332, Mechanics and Materials (4 Hours)
- ❑ EENG 2610, Circuit Analysis (3 Hours) & EENG 2611, Circuit Analysis Lab (1 Hour)
- ❑ ENGR 3450, Engineering Materials (4 Hours)
  
- ❑ ELET 3980, Digital Control of Industrial Processes (3 Hours)
  
- ❑ MEET 3550, Geometrical Dimensions & Tolerancing (3 hours)
- ❑ MEET 3650, Design of Mechanical Components (3 Hours)
- ❑ MEET 3940, Fluid Mechanics Applications (3 Hours)
- ❑ MEET 3990, Applied Thermodynamics (3 Hours)
- ❑ MEET 4050, Mechanical Design (3 Hours)
- ❑ MEET 4350, Heat Transfer Applications (3 Hours)
- ❑ MEET 4360, Experimental Thermal Sciences (3 Hours)
- ❑ MEET 4780, Senior Design I (1 Hour)
- ❑ MEET 4790, Senior Design II (3 Hours)
  
- ❑ MFET 3110, Machining Principles and Processes (3 Hours)
- ❑ MFET 4190, Quality Assurance (3 Hours)
- ❑ MFET 4200, Engineering Cost Analysis (3 Hours)
- ❑ MFET 4210, CAD/CAM System Operations (3 Hours)

### TECHNICAL ELECTIVES

- ❑ Advanced level (3\*\*\* or 4\*\*\* level) course chose from appropriate elective options (3 Hours)
- ❑ Advanced level (3\*\*\* or 4\*\*\* level) course chose from appropriate elective options (3 Hours)
- ❑ Any level course chosen from appropriate elective options (3 Hours)

*Recommended elective options are below:*

MFET 4220	NUET 3910	CNET 3410
MEET 3550	NUET 3930	ELET 3220
MEET 3750	NUET 4950	ELET 4720
MEET 4100	NUET 4800 (Human Performance)	

*Completion of MEET 3550 or MEET 3750 or MEET 4100 or MFET 4220 for an advanced technical elective earns a Certificate in Manufacturing Engineering Technology.*

*Completion of NUET 3910, NUET 3930, NUET 4950, and NUET 4900 for advanced technical electives earns a Certificate in Nuclear Power Technology from the Nuclear Power institute at Texas A&M University.*

*This is an unofficial simplified checklist effective fall 2020. Degree requirements may change. You may need elective courses to help reach a minimum of 123 Total Hours and 42 Advanced Hours. Check with an advisor.*

# Mechanical Engineering Technology

2020-2021 Catalog: Sample Four-Year Schedule

	Fall Semester	Course Title	Credit Hours	Term(s) Offered	Spring Semester	Course Title	Credit Hours	Term(s) Offered
Year One	<b>*MATH 1710</b>	<b>Calculus I</b> <i>Pre-req: MATH 1650 or Test Placement</i>	4	F., Sp., Su.	MATH 1720	Calculus II <i>Pre-req: MATH 1710</i>	3	F., Sp., Su.
	CHEM 1410	General Chemistry I <i>Pre-req: MATH 1100 or higher</i>	3	F., Sp., Su.	*PHYS 1710	Mechanics <i>Pre-req: MATH 1710</i>	3	F., Sp., Su.
	CHEM 1430	General Chemistry I Lab <i>Co/Pre-req: CHEM 1410</i>	1	F., Sp., Su.	*PHYS 1730	Mechanics Lab <i>Co/Pre-req: PHYS 1710</i>	1	F., Sp., Su.
	ENGR 1030	Technological Systems	3	F., Sp.	*TECM 2700	Technical Writing <i>Pre-req: Communication Core</i>	3	F., Sp., Su.
	*ENGR 1304	Engineering Graphics	3	F., Sp.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	*Comm. Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	Total Hours		17		Total Hours		16	

Year Two	PHYS 2220	Electricity and Magnetism <i>Pre-reqs: MATH 1720, PHYS 1710, 1730</i>	3	F., Sp., Su.	ENGR 2302	Dynamics <i>Pre-reqs: ENGR 2301, MATH 1720</i>	3	Sp.
	PHYS 2240	Electricity and Magnetism Lab <i>Co-req/pre-req: PHYS 2220</i>	1	F., Sp., Su.	ENGR 2332	Mechanics of Materials <i>Pre-reqs: ENGR 2301</i>	4	F., Sp., Su.
	*ENGR 2301	Statics <i>Pre-reqs: PHYS 1710, 1730</i>	3	F., Sp., Su.	EENG 2610	Circuit Analysis <i>Pre-req: MATH 1720</i> <i>Co/Pre-req: PHYS 2220/2240</i>	3	F., Sp., Su.
	CSCE 1030	Computer Science I <i>Co/Pre-req: MATH 1710</i>	4	F., Sp.	ENGR 2611	Circuit Analysis Lab <i>Co/Pre-req: EENG 2610</i>	1	F., Sp.
	Technical Elective	Options at mydegreeaudit.unt.edu Must complete pre-reqs	3	Varies	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
					University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	Total Hours		14		Total Hours		17	

Year Three	ENGR 3450	Engineering Materials <i>Pre-req: PHYS 1710, CHEM 1410/1430</i>	4	F., Sp.	ELET 3980	Digital Controls of Industrial Processes <i>Pre-req: MATH 1650 or higher</i>	3	Sp.
	MEET 3940	Fluid Mechanics <i>Pre-req: ENGR 2302, MATH 1720</i>	3	F.	MEET 3650	Design of Mechanical Components <i>Pre-req: ENGR 2332</i>	3	Sp.
	MEET 3990	Applied Thermodynamics <i>Pre-req: ENGR 2332, CHEM 1410/1430</i>	3	F.	MFET 4190	Quality Assurance <i>Pre-req: MATH 1720</i>	3	Sp.
	MFET 3110	Machining Principles and Processes <i>Pre-req: MATH 1650</i>	3	F., Sp.	MFET 4210	CAD/CAM System Operation <i>Pre-req: MFET 3110, ENGR 1304, and MATH/PHYS/CHEM requirements</i>	3	F., Sp.
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.	MEET 3550	Geometric Dimens. and Tolerancing <i>Pre-reqs: MFET 3110, ENGR 1304</i>	3	Sp.
	Total Hours		16		Total Hours		15	

Year Four	MEET 4050	Mechanical Design <i>Pre-req: MEET 3650</i>	3	F.	MEET 4790	Senior Design II <i>Pre-req: MEET 4780</i>	3	Sp.
	MEET 4350	Heat Transfer Applications <i>Pre-req: MEET 3940, 3990</i>	3	F.	MEET 4360	Experimental Thermal Sciences <i>Pre-req: MEET 3940, 3990, 4350</i>	3	Sp.
	MEET 4780	Senior Design I <i>Co/Pre-req: MFET 4210, MEET 4050, 4350</i>	1	F.	Advanced Elective	Options at mydegreeaudit.unt.edu Must complete pre-reqs	3	Varies
	MFET 4200	Engineering Cost Analysis <i>Pre-req: MATH 1720</i>	3	F.	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.
	Advanced Elective	Options at mydegreeaudit.unt.edu Must complete pre-reqs	3	Varies				
	University Core	Options on mydegreeaudit.unt.edu	3	F., Sp., Su.				
	Total Hours		16		Total Hours		12	

Course in Bold = Destination course required to transition to a full-major. Minimum grade of "C" and 2.0 UNT GPA required for completion. Courses with \* = Foundations courses required to progress to advanced level courses. Minimum grade of "C" required for completion. Courses with subject abbreviations of ENGL, TECM, MATH, CHEM, PHYS, ENGR, ELET, CSCE, MEET, and MFET require minimum grade of "C" for completion and/or prerequisite.

This is an unofficial sample schedule. Requirements, prerequisites, corequisites, and term offerings may change. You should check your degree audit at mydegreeaudit.unt.edu each term. You should meet with your advisor each term to discuss individual scheduling, program decisions, etc.

# Minor/Certificate Information

## ADDITIVE AND DIGITAL MANUFACTURING CERTIFICATE (12 Hours)

- ❑ TECM 2700, Technical Writing (3 Hours)
- ❑ ENGR 299Z or MTSE 299Z or MEEN 299Z (0 Hours)
- ❑ 9 hours (3 Courses) chosen from ENGR 1304, MTSE 3000, 4900 (Additive Manufacturing), 4040, 4060, MEEN 4800 (CAD/CAE), 3100, MEET 3550, 3750, 4100, ENGR 3450, MGMT 4850, DSCI 2710, OPSM 3830

## BIOMEDICAL ENGINEERING MINOR (18 Hours)

- ❑ BMEN 2210, DAQ Practices (3 Hours)
- ❑ BMEN 2320, Biomedical Instrumentation I (3 Hours)
- ❑ BMEN 3350, Biomedical Transport Phenomena (3 Hours)
- ❑ 6 advanced hours (2 courses) chosen from:
  - BMEN 3311, Biomedical Signal Analysis (3 Hours)
  - BMEN 3312, Intro to Biomechanics (3 Hours)
  - BMEN 3321, Biomaterials (3 Hours)
- ❑ Plus 3 advanced hours (1 course) chosen from BMEN 4\*\*\*

## COMPUTER SCIENCE AND ENGINEERING MINOR (19 Hours)

- ❑ CSCE 1030, Computer Science I (4 Hours)
- ❑ CSCE 1040, Computer Science II (3 Hours)
- ❑ CSCE 2100, Foundations of Computing (3 Hours)
- ❑ CSCE 2110, Foundations of Data Structures (3 Hours)
- ❑ CSCE 3\*\*\* or 4\*\*\*, CSCE advanced level course (3 Hours)
- ❑ CSCE 3\*\*\* or 4\*\*\*, CSCE advanced level course (3 Hours)

## ELECTRICAL ENGINEERING MINOR (18 Hours)

- ❑ EENG 2610, Circuit Analysis, (3 Hours) & EENG 2611, Circuit Analysis Lab (1 Hour)
- ❑ EENG 2620, Signals and Systems (3 Hours) & EENG 2621, Signals and Systems Lab (1 Hour)
- ❑ EENG 2710, Digital Logic Design (3 Hours) & EENG 2711, Digital Logic Design Lab (1 Hour)
- ❑ EENG 3510, Electronics I (3 Hours)
- ❑ EENG 4\*\*\*, EENG advanced level course (3 Hours)

## ELECTROMECHANICAL SYSTEMS AND MECHATRONICS CERTIFICATE (12 Hours)

- ❑ 12 hours (4 courses) chosen from EENG 2620, EENG 3510, EENG 3520, EENG 4310, MEEN 2302, MEEN 3130, MEEN 3230, MEEN 4760

## ENERGY ASSESSMENT OF BUILDINGS CERTIFICATE (18 Hours)

- ❑ MEEN 3220, Thermal Fluid Science for Buildings (3 Hours)
- ❑ MEEN 4320, Building Energy Systems (3 Hours)
- ❑ MEEN 4335, Comp. Sim. Of Building Energy Systems (3 Hours)
- ❑ MEEN 4340, Energy Efficiencies & Green Building Design for Commercial Buildings (3 Hours)
- ❑ MEEN 4350, Energy Efficiencies and Green Building Design for Residential Buildings (3 Hours)

## GAME PROGRAMMING CERTIFICATE (12 Hours)

- ❑ CSCE 4210, Game Programming I (3 Hours)
- ❑ CSCE 4220, Game Programming II (3 Hours)
- ❑ CSCE 4250, Topics in Game Development (3 Hours)
- ❑ CSCE 4255, Programming Math & Physics for Games (3 Hours)

## GENERAL ENGINEERING TECHNOLOGY MINOR (18 Hours)

- ❑ 12 hours (4 courses) chosen from CNET, ELET, ENGR, MEET, MFET, or NUET 1\*\*\*, 2\*\*\*, 3\*\*\*, and/or 4\*\*\* level
- ❑ 6 advanced hours (2 courses) chosen from CNET, ELET, ENGR, MEET, MFET, or NUET 3\*\*\* or 4\*\*\* level

## MANUFACTURING ENGINEERING TECHNOLOGY CERTIFICATE (15 Hours)

- ❑ MFET 3110, Machining Principles and Processes (4 Hours)
- ❑ MFET 4190, Quality Assurance (3 Hours)
- ❑ MFET 4200, Engineering Cost Analysis (2 Hours)
- ❑ MFET 4210, CAD/CAM System Operations (3 Hours)
- ❑ 3 Hours (1 course) chosen from:
  - MEET 3550, Geometric Dimensioning & Tolerancing (3 Hours)
  - MEET 3750, Digital Marketing (3 Hours)
  - MEET 4100, Fund. of Product/Process Design & Develop. (3 Hours)
  - MFET 4220, CNC Programming and Operation (3 Hours)

## MATERIALS SCIENCE AND ENGINEERING MINOR (18 Hours)

- ❑ MTSE 3000, Fundamentals of Materials Sci. & Engr. I (3 Hours)
- ❑ 6 advanced hours (2 courses) chosen from:
  - MTSE 3010, Bonding and Structure (3 Hours)
  - MTSE 3030, Thermodynamics & Phase Diagrams (3 Hours)
  - MTSE 3050, Mechanical Properties of Materials (3 Hours)
  - MTSE 3070, Elect., Optic, & Magnetic Properties (3 Hours)
- ❑ 9 advanced hours (3 courses) chosen from options above or from any MTSE 3\*\*\* or MTSE 4\*\*\* level courses. MTSE 3001 is recommended.

## MECHANICAL AND ENERGY ENGINEERING MINOR (18 Hours)

- ❑ MEEN 2210, Thermodynamics I (3 Hours)
- ❑ MEEN 2302, Mechanics II (3 Hours)
- ❑ MEEN 2332, Mechanics III (3 Hours)
- ❑ 9 advanced hours chosen from:
  - MEEN 3100, Manufacturing Processes (3 Hours)
  - MEEN 3110, Thermodynamics II (3 Hours)
  - MEEN 3120, Fluid Mechanics (3 Hours)
  - MEEN 3130, Machine Elements (3 Hours)
  - MEEN 3210, Heat Transfer (3 Hours)
  - MEEN 3230, Systems Dynamics and Controls (3 Hours)
  - MEEN 3240, MEE Lab I (2 Hours)
  - MEEN 3242, MEE Lab II (1 Hour)
  - MEEN 4110, Alternative Energy (3 Hours)
  - MEEN 4140, Finite Element Analysis (3 Hours)
  - MEEN 4160, Mechanical Vibrations (3 Hours)

## NUCLEAR POWER TECHNOLOGY CERTIFICATE (12 Hours)

Completion of 12 hours (4 courses) of NUET courses at UNT will earn this certificate from the Nuclear Power Institute at Texas A&M University.

- ❑ NUET 3910, Principles of Nuclear Technology (3 Hours)
- ❑ NUET 3930, Radiation Biology and Safety (3 Hours)
- ❑ NUET 4950, Nuclear Plant Systems (3 Hours)
- ❑ NUET 4900, Special Topic: Human Performance (3 Hours)

## SECURITY CERTIFICATE (18 Hours)

- ❑ CSCE 2610, Assembly Lang. and Comp. Organization (3 Hours)
- ❑ CSCE 3530, Intro. To Computer Networks (3 Hours)
- ❑ CSCE 3550, Intro. To Computer Security (3 Hours)
- ❑ CSCE 4350, Intro. To Database Systems Design (3 Hours)
- ❑ CSCE 4560, Secure Electronic Commerce (3 Hours)
- ❑ CSCE 4600, Operating Systems (3 Hours)

Completion of a minor and/or a certificate is not required in order to graduate.

Must complete appropriate prerequisites for minor or certificate courses.  
Grades of "C" required for most minor or certificate courses.

Information on additional minor and/or certificate options and requirements can be found in the UNT catalog located at [catalog.unt.edu](http://catalog.unt.edu).

# University Core Options

COMMUNICATION (1 Course)  
 ENGL 1310, College Writing I  
 ENGL 1311, Honors College Writing I  
 ENGL 1315, Writing about Literature I  
 LING 1312, Writing for International Students  
 TECM 1700, Intro. To Technical Writing

AMERICAN HISTORY I (1 Course)  
 HIST 2610, U.S. History to 1865  
 HIST 2675, Honors U.S. History to 1865

AMERICAN HISTORY II (1 Course)  
 HIST 2620, U.S. History from 1865  
 HIST 2685, Honors U.S. History from 1865

FEDERAL GOVT/POLI. SCIENCE (1 Course)  
 PSCI 2305, U.S. Political Behavior & Policy  
 PSCI 2315, Honors U.S. Political Behav. & Policy

STATE GOVT/POLI. SCIENCE (1 Course)  
 PSCI 2306, U.S. and Texas  
 PSCI 2316, Honors U.S. and Texas

CREATIVE ARTS (1 Course)  
 ART 1300, Art Appreciation  
 ART 1301, Honors Art Appreciation  
 ART 2360, Art History Survey II  
 ART 2370, Art History Survey III  
 COMM 2060, Performance of Literature  
 DANC 1200, Appreciation of Dance  
 DANC 2800, Survey of Dance  
 MUJS 3400, Understanding Jazz  
 MUMH 1610, Music as Communication\*\*  
 MUMH 2040, Music Appreciation  
 MUMH 2050, Sounds and Cinema  
 MUMH 2060, History of Rock  
 MUMH 3000, Nineteenth-Century Music  
 MUMH 3010, Twentieth-Century Music  
 MUMH 3100, Music, Gender, Sexuality  
 MUMH 3200, Music as Politics  
 MUMH 3500, Music History and Lit to 1750  
 MUMH 3510, Music History and Lit from 1750

CREATIVE ARTS Cont'd (1 Course)  
 THEA 1340, Aesthetics of the Theatre  
 THEA 2340, Theater Appreciation  
 THEA 3030, World Theatre to 1700  
 THEA 3040, World Theatre from 1700

LANGUAGE, PHILOSOPHY, & CULTURE (1 Course)  
 Ager 2250, Aging in Film and Lit  
 ANTH 3101, American Culture and Society  
 ANTH 3110, Indigenous People of N. Am.  
 ANTH 3120, Indigenous Cultures of S.W.  
 ANTH 3140, Latinos in the U.S.  
 ANTH 3200, Latin American Cultures  
 ANTH 3210, Mesoamerica  
 ANTH 3220, Mayan Culture  
 ANTH 3300, Peoples of the Pacific  
 ANTH 3400, Peoples of Africa  
 ANTH 3500, Peoples of the Middle East  
 ANTH 3700, Peoples of South Asia  
 ART 2350, Art History Survey I  
 ENGL 2210, World Literature to 1700  
 ENGL 2220, World Literature from 1700  
 ENGL 2321 British Literature\*\*  
 ENGL 2326 American Literature\*\*  
 ENGL 2331 World Literature\*\*  
 ENGL 2351 Mexican American Literature\*\*  
 ENGL 3450, Short Story  
 FREN 3040, France Today  
 FREN 4060, Studies in French Literature  
 FREN 4310, Contemp. French Civilization  
 GERM 3040, Topics in German Culture  
 GERM 3050, Topics in German Culture  
 HDFS 2313, Courtship and Marriage  
 HIST 1050, World History to 16<sup>th</sup> Century  
 HIST 1060, World History from 16<sup>th</sup> Century  
 ITAL 3040, Topics in Italian Culture  
 ITAL 3050, Comp. Italian Culture Through Film  
 ITAL 3070, Intro. To Italian Literature  
 JAPN 3020, Advanced Japanese I  
 MUET 2000, Global Perspectives  
 MUET 3030, Music Cultures of the World

LANGUAGE, PHILOSOPHY, & CULTURE Cont'd (1 Course)  
 PHIL 1050, Introduction to Philosophy  
 PHIL 1400, Contemporary Moral Issues  
 PHIL 2050, Introduction to Logic  
 PHIL 2070, Great Religions  
 PHIL 2100, Intro. To Judaism  
 PHIL 2310, Intro. To Ancient Philosophy  
 PHIL 2600, Ethics in Science  
 WLLC 3810, Russian Popular Culture

SOCIAL AND BEHAVIORAL SCIENCES (1 Course)  
 AGER 4560, Minority Aging  
 AGER 4800, Social Context of Aging  
 ANTH 1010, Intro. To Anthropology  
 ANTH 2300, Culture and Society  
 BEHV 2300, Behavior Principles I  
 CJUS 2100, Crime and Justice in the U.S.  
 COMM 2020, Interpersonal Comm.  
 EADP 4050, Special Pop. In Disasters  
 ECON 1100, Microeconomics  
 ECON 1110, Macroeconomics  
 GEOG 1200, Global Societies  
 HDFS 1013, Human Development  
 HLTH 2200, Family Life and Human Sexuality  
 JOUR 1210, Mass Comm. And Society  
 MDSE 2750, Consumers in Global Market  
 PADM 2100, Cultural Competency  
 PSYC 1630, General Psychology I  
 PSYC 1650, General Psychology II  
 PSYC 3620, Developmental Psychology  
 RHAB 3100, Disability and Society  
 SOCI 1510, Intro to Sociology  
 SOCI 2100, Crime and Justice in the U.S.  
 SOWK 1450, Intro to Social Work

\*\*Pending State of Texas Approval

## AP, IB, CLEP, DC, Transfer – University Core Credits

COMMUNICATION  
 AP English Lang. And Comp. Score of 3 or  
 IB English A: Lang. and Lit. Score of 5  
 Community College: ENGL 1301  
 Community College: ENGL 1302

AMERICAN HISTORY I  
 AP U.S. History score of 3  
 CLEP History of United States I  
 Community College: HIST 1301

AMERICAN HISTORY II  
 AP U.S. History score of 3  
 CLEP History of United States II  
 Community College: HIST 1302

FEDERAL GOVT/POLI SCIENCE  
 AP U.S. Government score of 3  
 CLEP American Government  
 Community College: GOVT 2305

STATE GOVT/POLI SCIENCE  
 Community College: GOVT 2306

CREATIVE ARTS  
 AP Art History score of 3  
 IB Dance score of 4\*  
 Community College: ARTS 1301  
 Community College: ARTS 1304  
 Community College: MUSI 1306  
 Community College: DRAM 1310

LANGUAGE, PHILOSOPHY, AND CULTURE  
 AP English Literature and Comp. score of 3  
 AP World History score of 3  
 IB History score of 4\*  
 IB Philosophy score of 5  
 IB English Language A: Lit. Score of 5  
 Community College: ENGL 2332  
 Community College: ENGL 2333  
 Community College: HIST 2321  
 Community College: HIST 2322  
 Community College: PHIL 1301  
 Community College: PHIL 1304  
 Community College: PHIL 2303  
 Community College: PHIL 2306

SOCIAL AND BEHAVIORAL SCIENCES  
 AP Macroeconomics score of 3  
 AP Microeconomics score of 3  
 AP Psychology score of 3  
 IB Economics score of 4\*  
 IB Geography score of 4\*  
 IB Psychology score of 4\*  
 CLEP Macroeconomics  
 CLEP Microeconomics  
 CLEP Human Growth and Development  
 CLEP Introductory Psychology  
 CLEP Introductory Sociology  
 Community College: ANTH 2346  
 Community College: ANTH 2351  
 Community College: SPCH 1318  
 Community College: ECON 2301  
 Community College: ECON 2302  
 Community College: GEOG 1303  
 Community College: TECA 1354  
 Community College: COMM 1307  
 Community College: PSYC 2301  
 Community College: PSYC 2302  
 Community College: SOCI 1301

\*Completion of IB program, earned IB Diploma, & minimum score of 4 or completion of IB program without the earned diploma & minimum score of 5, 6, or 7.  
 Other community college or university courses may fulfill requirements. Please confirm with your advisor.

## AP, IB, CLEP, DC, Transfer – University Core Credits

### TECHNICAL WRITING

- ❑ Community College ENGL 2311: TECM 2700

### COMPUTING/PROGRAMMING

- ❑ AP Computer Science A score of 3: CSCE 1010
- ❑ AP Computer Science A score of 4: CSCE 1030
- ❑ AP Computer Science Principles score of 3: CSCE 1010
- ❑ IB Computer Science: CSCE 1030, 1040
- ❑ Community College COSC 1336: CSCE 1030
- ❑ Community College COSC 1337: CSCE 1040
- ❑ Community College COSC 1436: CSCE 1030
- ❑ Community College COSC 1437: CSCE 1040
- ❑ Community College COSC 2325: CSCE 2610
- ❑ Community College COSC 2425: CSCE 2610

### ENGINEERING

- ❑ Community College ENGR 1201: May substitute for EENG 1910, ENGR 1030, MEEN 1000, or MTSE 1100 depending on student's intended major
- ❑ Community College ENGR 1204: ENGR 1304
- ❑ Community College ENGR 1304: ENGR 1304
- ❑ Community College ENGR 2105: ENGR 2415
- ❑ Community College ENGR 2107: ENGR 2415
- ❑ Community College ENGR 2301: ENGR 2301
- ❑ Community College ENGR 2302: ENGR 2302
- ❑ Community College ENGR 2332: ENGR 2332
- ❑ Community College ENGR 2305: ENGR 2305
- ❑ Community College ENGR 2307: ENGR 2405
- ❑ Community College ENGR 2405: ENGR 2405

### BIOLOGY

- ❑ AP Biology score of 3: BIOL 1112, 1122
- ❑ AP Biology score of 4, 5: BIOL 1710, 1720, 1760
- ❑ IB Biology: BIOL 1710, 1720, 1760
- ❑ CLEP Biology: BIOL 1710, 1720
- ❑ Community College BIOL 1108: BIOL 1\*\*\*
- ❑ Community College BIOL 1109: BIOL 1\*\*\*
- ❑ Community College BIOL 1306: BIOL 1710
- ❑ Community College BIOL 1307, BIOL 1720
- ❑ Community College BIOL 1308: BIOL 1\*\*\*
- ❑ Community College BIOL 1309: BIOL 1\*\*\*
- ❑ Community College BIOL 1406: BIOL 1710, 1760
- ❑ Community College BIOL 1407: BIOL 1720, 1760
- ❑ Community College BIOL 1408: BIOL 1\*\*\*
- ❑ Community College BIOL 1409: BIOL 1\*\*\*
- ❑ Community College BIOL 2101: BIOL 2311
- ❑ Community College BIOL 2301: BIOL 2301
- ❑ Community College BIOL 2401: BIOL 2301, 2311

### CHEMISTRY

- ❑ AP Chemistry score of 3: CHEM 1360
- ❑ AP Chemistry score of 4: CHEM 1410, 1430
- ❑ AP Chemistry score of 5: CHEM 1410, 1430, and 1420, 1440
- ❑ CLEP General Chemistry: CHEM 1410, 1420
- ❑ IB Chemistry: CHEM 1410, 1430, and 1420, 1440
- ❑ Community College CHEM 1111: CHEM 1430
- ❑ Community College CHEM 1112: CHEM 1440
- ❑ Community College CHEM 1305: CHEM 1\*\*\*
- ❑ Community College CHEM 1307: CHEM 1\*\*\*
- ❑ Community College CHEM 1311: CHEM 1410
- ❑ Community College CHEM 1312: CHEM 1420
- ❑ Community College CHEM 1405: CHEM 1\*\*\*
- ❑ Community College CHEM 1407: CHEM 1\*\*\*
- ❑ Community College CHEM 1411: CHEM 1410, 1430
- ❑ Community College CHEM 1412: CHEM 1420, 1440

### PHYSICS

- ❑ AP Physics 1 score of 3: PHYS 1210
- ❑ AP Physics 1 score of 4: PHYS 1410, 1430
- ❑ AP Physics 2 score of 3: PHYS 1315
- ❑ AP Physics 2 score of 4: PHYS 1420, 1440
- ❑ AP Physics C (Mechanics) score of 3: PHYS 1410, 1430
- ❑ AP Physics C (Mechanics) score of 4: PHYS 1710, 1730
- ❑ PHYS Physics C (Electricity and Magnetism) score of 3: PHYS 1420, 1440
- ❑ PHYS Physics C (Electricity and Magnetism) score of 4: PHYS 2220, 2240
- ❑ Community College PHYS 1101: PHYS 1430
- ❑ Community College PHYS 1102: PHYS 1440
- ❑ Community College PHYS 1301: PHYS 1410
- ❑ Community College PHYS 1302: PHYS 1420
- ❑ Community College PHYS 1401: PHYS 1410, 1430
- ❑ Community College PHYS 1402: PHYS 1420, 1440
- ❑ Community College PHYS 2125: PHYS 1730
- ❑ Community College PHYS 2126: PHYS 2240
- ❑ Community College PHYS 2325: PHYS 1710
- ❑ Community College PHYS 2326: PHYS 2220
- ❑ Community College PHYS 2425: PHYS 1710, 1730
- ❑ Community College PHYS 2426: PHYS 2220, 2240

### MATHEMATICS

- ❑ AP Statistics score of 3: MATH 1680
- ❑ AP Calculus AB score of 3: MATH 1710
- ❑ AP Calculus BC score of 3: MATH 1710, 1720
- ❑ AP Calculus AB sub score of BC Exam score 3: MATH 1710
- ❑ CLEP Mathematics: Elective
- ❑ CLEP College Algebra: MATH 1100
- ❑ CLEP Pre-calculus: MATH 1650
- ❑ CLEP Calculus: MATH 1710
- ❑ IB Mathematic Studies: Elective
- ❑ IB Mathematics – Calculus: MATH 1710
- ❑ IB Mathematics Unspecified: MATH 1\*\*\*
- ❑ Community College MATH 1314: MATH 1100
- ❑ Community College MATH 1316, MATH 1600, Prerequisite for Pre-Calculus
- ❑ Community College MATH 1325, MATH 1190, Prerequisite for Pre-Calculus
- ❑ Community College MATH 1425: MATH 1190, Prerequisite for Pre-Calculus
- ❑ Community College MATH 1342: MATH 1680
- ❑ Community College MATH 1414: MATH 1100
- ❑ Community College MATH 1442: MATH 1680
- ❑ Community College MATH 2312: MATH 1650
- ❑ Community College MATH 2412: MATH 1650
- ❑ Community College MATH 2313: MATH 1710
- ❑ Community College MATH 2314: MATH 1720
- ❑ Community College MATH 2315: MATH 2730
- ❑ Community College MATH 2318: MATH 2700
- ❑ Community College MATH 2320: May substitute for MATH 3410
- ❑ Community College MATH 2342: MATH 1680
- ❑ Community College MATH 2413: MATH 1710
- ❑ Community College MATH 2414: MATH 1720
- ❑ Community College MATH 2415: MATH 2730
- ❑ Community College MATH 2418: MATH 2700
- ❑ Community College MATH 2420: May substitute for MATH 3410
- ❑ Community College MATH 2442: MATH 1680
- ❑ Community College MATH 2513: MATH 1710



# Preparation You Need to Secure a Full-Time Job

## Get an Internship

Your Career Center advisor can assist you with applying for paid internships prior to graduation. Internships provide you with the hands-on experience that all employers want when considering you for a full-time position after you have graduated. The Career Center hosts 2 career fairs each year and offers services in resume writing, cover letter writing, interviewing skills, and printing free business cards.

## Assist with Research

Research opportunities exist within engineering departments as well as national and international team competitions mentored by organizations or industry. Enrollment in zero credit research course(s) reflect your research experience but require no cost or grade documentation.

## Earn a Graduate Degree

UNT offers graduate degrees in most engineering disciplines. You can pursue the Grad Track program while completing your bachelor's degree to accelerate the time required to earn a Master of Science (MS) or a Doctor of Philosophy (PhD) degree. Students are allowed to count courses toward both their bachelor's and master's degrees or doctorate degrees, saving both time and money.

Eligibility: Students should apply for the Grad Track Program the semester before their Senior Design or Capstone rotation begins. Successful applications typically have a GPA of 3.5 or better. Students may only earn an MS or PhD in the same program for which they have earned a bachelor's degree. For example, a student who earns a BS in Computer Science degree is only eligible for the Grad Track Program if he/she applies for the MS in Computer Science program.

Additionally, students have to enroll full-time in the MS or PhD program in the first long semester after completing their BS degree in order for the completed graduate-level classes to count toward the graduate degree.

To Apply: Each department has its own application for Grad Track. You may also have to submit unofficial transcripts and letters of recommendation. Please visit your department's website and/or contact your department for more information.

Masters of Science (MS) Programs	Total Hours Required (MS)	Hours Earned During BS	Total Hours Required (PhD)	Hours Earned During BS
Biomedical Engineering	Thesis: 30 Non-Thesis: 33	9	Concentration Available – See Department for Information	12
Computer Engineering	Thesis: 30 Non-Thesis: 36	9	Approximately 72	12
Computer Science	Thesis: 30 Non-Thesis: 36	9	Approximately 72	12
Cybersecurity	Thesis: 30 Non-Thesis: 36	9	N/A	N/A
Electrical Engineering	Thesis: 30 Non-Thesis: 33	9	Approximately 72	12
Engineering Technology	Thesis: 30 Non-Thesis: 33	9	N/A	N/A
Mechanical and Energy Engineering	Thesis: 30 Non-Thesis: 33	9	Approximately 72	12
Materials Science and Engineering	Thesis: 30 Non-Thesis: 35	9	Approximately 72	12

## Get Licensed:

Fundamentals of Engineering (FE) Exam: is not required in order to earn your engineering degree but it is generally your first step in the process of becoming a professionally licensed engineer. It is designed for recent graduates and students who are close to finishing an undergraduate engineering degree. Passing this exam legally certifies the candidate as an “engineer in training” (EIT) or an “engineer intern” (EI). UNT tutoring options for the exam can be found at [engineering.unt.edu/engineering-exam](http://engineering.unt.edu/engineering-exam).

Principles and Practices of Engineering (PE) exam: PE licensure is the engineering profession's highest standard of competence. EITs and EIs are permitted to attempt the exam after completing a minimum of 4 years of professional work experience under the supervisor of a PE. Passing the PE exam qualifies the candidate as a licensed professional engineer.

## Resource Information

Catalog	Catalog.unt.edu
Computer Access Labs	Computerlabs.unt.edu
Counseling, Health, Testing Services:	
Child and Family Resource Clinic	Coe.unt.edu/child-and-family-resource-clinic
Counseling and Human Development Center	Coe.unt.edu/counseling-and-human-development
Counseling and Testing Service	Unt.edu/cat
Health and Wellness Center	Healthcenter.unt.edu
Psychology Clinic	Psychology.unt.edu/clinic
WELL Clinic (personal and career counseling)	Untwell.unt.edu
Deadlines (Registration, Drop, Withdrawal, Payment, etc.)	Registrar.unt.edu/registration-guides-by-semester
Dean of Students (Withdrawal Process, Complaints, etc.)	Deanofstudents.unt.edu
Email Account (EagleConnect)	It.unt.edu/eagleconnect
Engineering Student Organizations and Honor Societies	Engineering.unt.edu/students/organizations
Employment, Internships, and Job Skills:	
Career Center	Careercenter.unt.edu
InRoads Internships	Inroads.org
InternMatch	Internmatch.com
Texas Internships	Texasinternships.jobs
Financial Assistance:	
Financial Aid and Scholarships Office	Financialaid.unt.edu
Financial Services (Student Accounting)	Sfs.unt.edu
Money Management Center	Moneymanagement.unt.edu
Housing	Housing.unt.edu
Libraries	Library.unt.edu
Office of Disability Access	Disability.unt.edu
Registrar (Drops, Excessive Hours, Registration, Transcripts Verification of Enrollment)	Essc.unt.edu/registrar
Registration	Registration.unt.edu
Scholarships	Engineering.unt.edu/students/scholarships Financialaid.unt.edu
Student Activities and Organizations	Studentactivities.unt.edu
Student Government Association	Sga.unt.edu
Student Legal Services	Studentlegal.unt.edu
Texas Success Initiative (TSI): Learning Center	Learningcenter.unt.edu
Tutoring and Academic Improvement Services:	
Business Labs (ACCT, BCIS, etc.)	Cob.unt.edu/lab
Chemistry Resource Center	Chemistry.unt.edu
Chegg (online)	Chegg.com
Code Academy	Codeacademy.com
Computer Class Help Lab	Cse.unt.edu
Coursera (online)	Coursera.org
Economics Help Center	Economics.unt.edu/undergraduate/help-center
Educator (online)	Educator.com
Edx (online)	Edx.org
Khan Academy (online)	Khanacademy.org
Learning Center (numerous courses)	Learningcenter.unt.edu
LinkedIn Learning (online)	Linkedin.com/learning
Math Lab	Math.unt.edu/mathlab
Mathway (online)	Mathway.com
Physics Instructional Center	Phys.unt.edu/PIC
Quizlet (online)	Quizlet.com
Thinkwell (online)	Thinkwell.com
Wolf Ram Alpha (online)	Wolframalpha.com
Writing Lab	Ltc.unt.edu/labs
Veteran Center and Services	Veteranscenter.unt.edu or unt.edu/veterans and registrar.unt.edu