College of Engineering
Undergraduate Academic Guidebook
2013-2014

Updated Nov. 4, 2013
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Admissions Requirements

In addition to UNT admissions requirements, you must also meet requirements for admission into your desired degree program (major) within the College of Engineering.

**Freshman Applicants:**
Must have a Math SAT score of 540 (or higher) or a Math ACT score of 22 (or higher).

**Transfer Applicants:**
Must be eligible to enroll in Math 1710 (Calculus I) by completion of MATH 1650 (Pre-Calculus) with a grade of “C” or better or equivalent; or in a math course at a higher level than MATH 1710.

**Pre-Engineering Admission:**
If you do not meet the above requirements, admission will be granted to the pre-engineering program. You will be eligible to be admitted into your desired degree program (major) after you complete Math 1650 (Pre-Calculus) with a grade of “C” or better & if you are also in Academic Good Standing (UNT cumulative 2.0 GPA or higher).

**Major Admission:**
If you do meet the above requirements, admission will be granted into your desired degree program (major). A degree audit must be created for you in order to progress toward graduation. The degree audit is an official document that lists all the courses & requirements you need to complete your degree. It also shows the application of completed courses, credits, & requirements toward graduation. Please check with an advisor (listed above) for any questions or concerns regarding your degree audit.
Degree Requirements

The structure of engineering bachelor’s degrees consists of 3 categories of requirements:

- University Core Curriculum: set of general education requirements common to all degrees at UNT.
- Engineering Foundations: set of requirements unique to engineering degrees.
- Major: set of requirements common to a primary area of study.

You may choose to pursue a Minor or a Certificate in addition to your degree requirements. A Minor or a Certificate is an optional set of requirements for a secondary area of study. It is similar to a “mini-major”.

Courses

All UNT courses are documented using a four letter subject abbreviation & four digit number.

Abbreviations: ENGL for English  Numbers: Freshman 1000
HIST for History  Sophomore 2000
MATH for Mathematics  Junior 3000

Different types of courses at UNT:

- 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, answer questions, etc..
- Laboratory or “Lab”: required time that’s an application of the information that you learn in class.
- Advanced course: junior or senior level course.
- Internet course or “INET”: course in which the majority of instruction, assignments, & work is online.
- Blended course: course in which a portion of the instruction, assignments, & work is online.

Credit Hours

Number of units assigned to each class. Tells you approximately how many hours per week you’ll be in class & approximately how many hours per week you’ll need to study for that course.

How many hours do I earn for each class?

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

How many credits is full-time?

12 hours (approximately 4 courses). UNT bills the same tuition for 12 – 15 hours. Fees vary based on credits & course type.

How many hours can I take each semester?

19 hours in the fall/spring semesters & 18 hours in the summer. 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 & a minimum 24 hours of credit in residence.

Do I have to be a full-time student?

No, UNT doesn’t require you to be a full-time student but if you are an international student, an athlete, receiving financial aid, scholarships, or insurance coverage from your parents, then yes.
Classification
Your classification is based on the number of earned credit hours after semester/term grade/credit posting; not the number of semesters or years you have been attending university.

Classification dictates your registration appointment each semester & may impact your eligibility for scholarships, financial aid, etc.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>0 - 29</td>
</tr>
<tr>
<td>Sophomore</td>
<td>30 - 59</td>
</tr>
<tr>
<td>Junior</td>
<td>60 - 89</td>
</tr>
<tr>
<td>Senior</td>
<td>90+</td>
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</tbody>
</table>

Grade Point Average (GPA)
Grades have a point value & courses are worth a certain amount of credit hours. GPA is calculated by dividing the number of grade points earned by the number of attempted hours. Attempted credit hours are used in calculating GPA. Credit hours earned by AP, CLEP, or IB & courses dropped “W” don’t count as attempted hours & don’t average into your GPA.

Careful! Grades of “F” & “WF” are still 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
- Total 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 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 & transfer). A minimum 2.0 GPA is required.
- Engineering Foundations GPA: GPA you earn in foundations courses. A minimum 2.5 GPA is required.
- Major GPA: the GPA you earn in courses in your major. See the requirement checklist page for your major.

You can access a GPA calculator at back2college.com/gpa. You should meet with an advisor with any questions or concerns regarding GPA calculations.
Grade Point Average (GPA): Honors

Semester Honors:
Semester honors is determined from your fall or spring semester GPA & 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 2nd 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 determined by your overall (UNT & transfer) GPA & is documented on your UNT transcript. Candidates for a 2nd 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

Grade Point Average (GPA): Academic Status

Academic Good Standing:
Standing if you earn at least a cumulative 2.0 UNT GPA.

Academic Alert:
Standing if you are a freshmen & your UNT GPA falls below 1.8 during the 1st semester or falls below 2.0 during the 2nd semester. You can only be placed on alert once. You must raise your UNT GPA to 2.0 or higher during the alert semester or you will be placed on probation.

Academic Probation:
Standing if you are not eligible for alert & your UNT GPA falls below 1.8 during the 1st 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.

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. A 1st suspension is for 1 long semester, a 2nd suspension is for 2 long semesters, & a 3rd suspension is for 4 long semesters. You may be allowed to return to UNT after completing your suspension period.

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 the following conditions:

- The final drop & 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 & submit outstanding work within one year after the grade of “I” is granted.

Professors are not required to grant an “I” even if you meet the conditions. Each professor may use his or her discretion when deciding whether or not to grant an “I”. Incompletes must be completed within 12 months or an automatic grade of “F” will be posted on your transcript.
**Pass/No Pass Grading Option**

You may elect to take a course under the Pass/No Pass Grading Option. Certain criteria must be met & 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 into your GPA so your “grade” performance will not have a positive or negative impact on your GPA.

Refer to [catalog.unf.edu](http://catalog.unf.edu) for more information & [unt.edu/registration](http://unt.edu/registration) for deadlines.

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**Retaking Courses: Course Duplications**

If your transcript(s) contains the same course with an earned grade more than once, the 1st course/grade will be treated as a duplication & deleted from your GPA. Any additional courses/grades will be calculated into the GPA. This includes transfer courses/grades.

Course duplication will impact your GPA & your academic status (alert, probation, suspension, or good standing).

Please note that only the last attempt/grade will be used in certifying eligibility for graduation. Contact your advisor to confirm how your GPA or graduation eligibility will be affected if you take a course more than once.

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**Dropping or Withdrawing**

**Dropping** refers to removing yourself from one or more course(s) for the semester/term (but you remain in at least one course for the semester/term). You must follow the procedures & deadlines listed at [unt.edu/registration](http://unt.edu/registration). A “W” or “WF” may be recorded on your transcript.

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** refers to dropping all courses for the semester/term. You must follow the procedures & deadlines listed at [unt.edu/registration](http://unt.edu/registration). A “W” or “WF” may be recorded on your transcript.

Remember that a “WF” is calculated as a “F” grade on your GPA.

Dropping or withdrawing may affect your financial aid. Check with the Financial Aid Office!

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**Taking Courses at Another Institution: Concurrent Enrollment**

You may take courses at another institution to apply at UNT if you meet the following conditions:

- You have been preapproved by your advisor.
- The course(s) you plan to enroll in may been preapproved by an advisor.
- You meet course load approval & residency requirements at UNT.
- You are not graduating the same semester/term in which you will be concurrently enrolled.

Enrollment in course(s) at another institution during your last/graduating semester will result in postponement of your graduation. This applies to summer enrollment as well as fall or spring enrollment.
Registration

You will be using MyUNT located at my.unt.edu to register for classes each semester/term. MyUNT is your personal database for all your information connected with UNT. You will need your EUID & password to log on. Instructional guides for using MyUNT are available on the login page under the myHelp link. MyUNT contains your:

- UNT transcript (shows your grades)
- Degree audit (degree plan which shows all requirements to earn your degree)
- Current Schedule
- Account Balance
- Financial Aid
- Registration/enrollment dates & holds
- Contact information registered with UNT

The ultimate information resource to UNT is the University Catalog. You can locate it at catalog.unt.edu. The catalog contains information on:

- Majors, Minors, Certificates offered
- Course descriptions (including prerequisites and corequisites)
- Options for core categories
- University policies (academic, financial, registration, behavior, etc.)
- Resources & contact information

Information on registration issues, problems, or concerns can be located at the following: unt.edu/registration.

You must register during open enrollment periods & pay by the deadline listed in MyUNT or unt.edu/registration. Failure to pay will result in the cancellation of your entire schedule of classes.

If you are having difficulty adding a course to your schedule, contact the department that teaches the course. Common difficulties include full course sections, prerequisite errors, corequisite errors & restricted section errors. Below are department contacts for some common course subject abbreviations:

- **BIOL** Biological Sciences Department: BIOL 210 or (940) 565-2011
- **CHEM** Chemistry Department: CHEM 101 or (940) 565-2713
- **CNET** Engineering Technology Department: DP F-115 or (940) 565-2022
- **CSCE** Computer Science & Engineering Department: DP F-201 or (940) 565-2767
- **EENG** Electrical Engineering Department: DP B-270 or (940) 891-6872
- **ELET** Engineering Technology Department: DP F-115 or (940) 565-2022
- **ENGR** Engineering Technology Department: DP F-115 or (940) 565-2022
- **MATH** Mathematics Department: GAB 435 or (940) 565-2155
- **MEEN** Mechanical & Energy Engineering Department: DP F-101 or (940) 565-2400
- **MEET** Engineering Technology Department: DP F-115 or (940) 565-2022
- **MFET** Engineering Technology Department: DP F-115 or (940) 565-2022
- **MGMT** Management Department: BLB 207 or (940) 565-4234
- **MTSE** Materials Science & Engineering Department: DP E-132 or (940) 565-3260
- **PHYS** Physics Department: PHYS 110 or (940) 565-2626
- **Any other courses** UNT Directory: (940) 565-2022 & ask to be transferred to the appropriate department that teaches the course in question.
**Graduation**

You must make an appointment with the Advising Office the semester before you plan to graduate to confirm that you are on track for graduation.

Also, you must obtain & complete a graduation application at the beginning of your final semester. Refer to [essc.unt.edu/registrar/graduation](essc.unt.edu/registrar/graduation) for more information & the application deadline.

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**Tuition Increases**

**Repeated Course Tuition Increase:**
If you are a Texas resident & you attempt certain courses more than twice, you are subject to pay an additional tuition rate per semester credit hour for the repeated course. Refer information at [essc.unt.edu/registrar/repeated](essc.unt.edu/registrar/repeated).

**Excessive Hours Regarding Tuition:**
Texas code specifies that resident undergraduates may be subject to a higher tuition rate for attempting excessive hours at any public institution.

If you initially enrolled in the fall 1999 semester (or later), you cannot exceed more than 45 credit hours of the number of hours required for the completion of your degree plan. Any hours beyond 45 are considered excessive & will result in additional tuition charges.

If you initially enrolled in the fall 2006 semester (or later), you cannot exceed more than 30 credit hours of the number of hours required for the completion of your degree plan. Any hours beyond 30 are considered excessive & will result in additional tuition charges.

Refer to information at [essc.unt.edu/registrar/excess](essc.unt.edu/registrar/excess) & [essc.unt.edu/saucs](essc.unt.edu/saucs).

**Excessive Hours Regarding Financial Aid:**
If you receive financial aid & maintain Satisfactory Academic Progress (SAP) & Pace of Progression (POP) in order for your aid to continue. Refer to [http://financialaid.unt.edu/satisfactory-academic-progress-requirements](http://financialaid.unt.edu/satisfactory-academic-progress-requirements) for information.

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**Payment**

You must register during open enrollment periods & pay by the deadline listed in MyUNT or [www.unt.edu/registration](www.unt.edu/registration). Failure to pay will result in the cancellation of your entire schedule of classes.

You have numerous options available to pay. These include financial aid, scholarships, grants, loans, & student employment. Refer to [http://www.unt.edu/paying-for-college.htm](http://www.unt.edu/paying-for-college.htm) for information.

If you have been awarded financial aid, please be aware that you must maintain Satisfactory Academic Progress (SAP) & Pace of Progression (POP) in order for your aid to continue. Refer to [http://financialaid.unt.edu/satisfactory-academic-progress-requirements](http://financialaid.unt.edu/satisfactory-academic-progress-requirements) for information.

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**Commencement**

Commencement is UNT’s formal graduation ceremony. UNT offers 3 commencements per year in May, August, & December. In order to attend commencement, you must have applied for & been approved for graduation at the beginning of your final semester. Refer to [unt.edu/commencement](unt.edu/commencement) for more information.
COMPUTER ENGINEERING
Bachelor of Science (B.S.) degree with a major in Computer Engineering offered through the Department of Computer Science & Engineering
Discovery Park F-201; (940) 565-2767
www.cse.unt.edu
Faculty Advisor: Dr. Ryan Garlick

ENGLISH
- 3 Hours approved course
Grade of “C” or better is required.

UNITED STATES HISTORY
- HIST 2610, U.S. History To 1865 (3 Hours)
- HIST 2620, U.S. History From 1865 (3 Hours)

POLITICAL SCIENCE
- PSCI 1040, Government: Laws & Institutions (3 Hours)
- PSCI 1050, Government: Processes & Policies (3 Hours)

If you are transferring credit for either PSCI course, check with your advisor about the application of course(s) taken elsewhere.

VISUAL & PERFORMING ARTS
- 3 Hours approved course

HUMANITIES
- 3 Hours approved course

SOCIAL & BEHAVIORAL SCIENCES
- 3 Hours approved course

DISCOVERY
- 3 Hours approved course

CAPSTONE
- Fulfilled by CSCE 4011, Engineering Ethics

MATH 1710, Calculus I (4 Hours)
CHEM 1410, General Chemistry I (3 Hours) & CHEM 1430, General Chemistry I Lab (1 Hour)
or CHEM 1415, Chemistry for Engineers (3 Hours) & CHEM 1435, Chemistry for Engineers Lab (1 Hour)
PHYS 1710, Mechanics (3 Hours) & PHYS 1730, Mechanics Lab (1 Hour)
TECM 2700, Technical Writing (3 Hours)

Grades of “C” or better required. Needs 2.5 GPA.

MATH 1720, Calculus II (3 Hours)
MATH 1780, Probability Models (3 Hours)
MATH 2700, Linear Algebra & Vector Geometry (3 Hours)
MATH 2730, Multivariable Calculus (3 Hours)
Advanced Math or Science Elective course (3 Hours). Check with your advisor for approved options.

PHYS 2220, Electricity & Magnetism (3 Hours)
PHYS 2240, Electricity & Magnetism Lab (1 Hour)

ADVANCED TECHNICAL ELECTIVE
- Advanced Technical Elective course (3 Hours). Check with your advisor for approved options.

CSCE 1030, Computer Science I (4 Hours)
CSCE 1040, Computer Science II (3 Hours)
CSCE 2100, Computing Foundations I (3 Hours)
CSCE 2110, Computing Foundations II (3 Hours)
CSCE 2610, Assembly Lang. & Computer Organization (3 Hours)
CSCE 3010, Signals & Systems (3 Hours)
CSCE 3020, Communications 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)

Choose a specialty area & complete 3 approved courses below:

CSCE Specialty Elective (3 Hours)
CSCE Specialty Elective (3 Hours)
CSCE Specialty Elective (3 Hours)

Real-time & Embedded Systems Specialization course options:
ELET 3750, CSCE 4440, 4600, 4610, 4620, 4730

VLSI & Electronics Specialization course options:
ELET 3750, PHYS 4500, CSCE 4610, 4730, 4750

Communications & Networks Specialization course options:
CSCE 3510, 3530, 4520, 4530, 4550, 4560

Computer Systems Specialization course options:
CSCE 3030, 4600, 4610, 4620, 4650

Grades of “C” or better required. Needs 2.75 GPA in advanced CSCE courses.

This is an unofficial simplified checklist effective Fall 2013. Degree requirements may change. You may need elective courses to help reach a minimum of 122 Total Hours & 45 Advanced Hours. Check with an advisor.
<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
<th>SPRING</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FALL</strong></td>
<td><strong>SPRING</strong></td>
</tr>
<tr>
<td>MATH 1710, Calculus I (see note 1)</td>
<td>MATH 1720, Calculus II (MATH 1710)</td>
</tr>
<tr>
<td>CHEM 1410 or 1415, Chemistry (see note 2)</td>
<td>PHYS 1710, Mechanics (MATH 1710)</td>
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<tr>
<td>CHEM 1430 or 1435, Chemistry Lab (see note 2)</td>
<td>PHYS 1730, Mechanics Lab (MATH 1710)</td>
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<tr>
<td>CSCE 1030, Computer Science I (see note 3)</td>
<td>CSCE 1040, Computer Science II (CSCE 1030)</td>
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<tr>
<td>English Composition Core course</td>
<td>TECM 2700, Tech. Writing (English Composition Core)</td>
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<tr>
<td><strong>Total Hours</strong></td>
<td><strong>Total Hours</strong></td>
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<tr>
<td>15</td>
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<thead>
<tr>
<th>SOPHOMORE YEAR</th>
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<tbody>
<tr>
<td><strong>FALL</strong></td>
<td><strong>SPRING</strong></td>
</tr>
<tr>
<td>MATH 2730, Multivariable Calculus (MATH 1720)</td>
<td>MATH 1780, Probability Models (MATH 1710)</td>
</tr>
<tr>
<td>PHYS 2220, E. &amp; M. (MATH 1720, PHYS 1710, 1730)</td>
<td>MATH 2700, Linear Algebra (MATH 1720)</td>
</tr>
<tr>
<td>PHYS 2240, E. &amp; M. Lab (MATH 1720, PHYS 1710, 1730)</td>
<td>CSCE 2110, Computing Foundations II (CSCE 2100)</td>
</tr>
<tr>
<td>CSCE 2100, Computing Foundations I (CSCE 1040)</td>
<td>CSCE 2610, Assembly &amp; Org. (CSCE 2100, EENG 2710)</td>
</tr>
<tr>
<td>EENG 2710 or ENGR 2720, Digital Logic</td>
<td>EENG 2610 or ENGR 2405, Circuit Analysis (see note 4)</td>
</tr>
<tr>
<td>University Core course</td>
<td>University Core course</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td><strong>Total Hours</strong></td>
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<td>16</td>
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<table>
<thead>
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<tbody>
<tr>
<td><strong>FALL</strong></td>
<td><strong>SPRING</strong></td>
</tr>
<tr>
<td>EENG 3510, Electronics I (EENG 2610)</td>
<td>CSCE 3020, Comm. (CSCE 3010)</td>
</tr>
<tr>
<td>CSCE 3010, Signals &amp; Systems (EENG 2610, MATH 2730)</td>
<td>CSCE 3600, Computer Systems (CSCE 2100)</td>
</tr>
<tr>
<td>CSCE 3612, Embed. Sys. Design (EENG 2710, CSCE 2610)</td>
<td>CSCE Specialty Area Elective course (see note 5)</td>
</tr>
<tr>
<td>CSCE 3730, Reconfigurable Logic (CSCE 2610)</td>
<td>Advanced Math or Science Elective</td>
</tr>
<tr>
<td>University Core course</td>
<td>University Core course</td>
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<tr>
<td><strong>Total Hours</strong></td>
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<tbody>
<tr>
<td><strong>FALL</strong></td>
<td><strong>SPRING</strong></td>
</tr>
<tr>
<td>CSCE 4910, Design I (CSCE 3612, EENG 3510)</td>
<td>CSCE 4915, Design II (CSCE 4910)</td>
</tr>
<tr>
<td>CSCE Specialty Area Elective course (see note 5)</td>
<td>CSCE 4011, Engineering Ethics (junior classification)</td>
</tr>
<tr>
<td>CSCE Specialty Area Elective course (see note 5)</td>
<td>Advanced Technical Elective (see note 6)</td>
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<tr>
<td>University Core course</td>
<td>University Core course</td>
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<td>University Core course</td>
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<td><strong>Total Hours</strong></td>
<td><strong>Total Hours</strong></td>
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<td>15</td>
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</table>

**Required prerequisite(s) indicated in parentheses.**

Note 1: MATH 1710 requires one of the following as prerequisite: completion of MATH 1650, Pre-Calculus with a grade of “C” or higher; or Freshman Math Group Level 3; or approval authorized by score on the Mathematics Department Math Placement Test; or earned credit for a math course at or above the MATH 1710 level.

Note 2: CHEM 1410 & 1430 requires MATH 1100, College Algebra (or higher) as prerequisite. CHEM 1415 & 1435 requires MATH 1650, Pre-Calculus (or higher) as prerequisite.

Note 3: CSCE 1030 requires completion of or co-enrollment in MATH 1650, Pre-Calculus (or higher) as prerequisite. AP Computer Science A score of 4 or 5 earns credit for CSCE 1030. AP Computer Science AB score of 4 or 5 earns credit for CSCE 1030 & 1040. IB Computer Science earns credit for CSCE 1030 & 1040.

Note 4: EENG 2610 or ENGR 2405 requires completion of MATH 1720 and either completion of or co-enrollment in PHYS 2220 & 2240.

Note 5: Must complete prerequisite(s) for each CSCE Specialty Area Elective course.

Note 6: Must complete prerequisite(s) for the Advanced Technical Elective course. Please check with an advisor.

Note 7: Advanced level general elective may be needed to reach 45 total advanced hours. Please check with an advisor.

Must earn at least a grade of “C” in each course above except for University Core courses. Must earn at least a 2.5 GPA in Engineering Foundations courses & at least a 2.75 in advanced CSCE courses.
ENGLISH
- 3 Hours approved course
  Grade of “C” or better is required.

UNITED STATES HISTORY
- HIST 2610, U.S. History To 1865 (3 Hours)
- HIST 2620, U.S. History From 1865 (3 Hours)

POLITICAL SCIENCE
- PSCI 1040, Government: Laws & Institutions (3 Hours)
- PSCI 1050, Government: Processes & Policies (3 Hours)

If you are transferring credit for either PSCI course, check with your advisor about the application of course(s) taken elsewhere.

VISUAL & PERFORMING ARTS
- 3 Hours approved course

HUMANITIES
- 3 Hours approved course

SOCIAL & BEHAVIORAL SCIENCES
- 3 Hours approved course

DISCOVERY
- 3 Hours approved course

CAPSTONE
- Fulfilled by CSCE 4010, Social Issues in Computing

Mathematics & Science
- PHYS 2220, Electricity & Magnetism (3 Hours)
- PHYS 2240 Electricity & Magnetism Lab (1 Hour)
- BIOL 1710, Principles of Biology (3 Hours)
- BIOL 1730, Principles of Biology Lab (1 Hour)
- MATH 1720, Calculus II (3 Hours)
- MATH 1780, Probability Models (3 hours)
- MATH 2700, Linear Algebra & Vector Geometry (3 Hours)

Electrical Engineering
- EENG 2710 or ENGR 2720, Digital Logic Design (3 Hours)

Computer Science and Engineering
- CSCE 1040, Computer Science II (3 Hours)
- CSCE 3510, Introduction to Wireless Comm. (3 Hours)
- CSCE 4610, Computer Systems Architecture (3 Hours)
- CSCE 4530: Computer Network Design (3 Hours)
- CSCE 4520: Wireless Networks and Protocols (3 Hours)
- CSCE 4540: TCP/IP Protocols (3 Hours)
- CSCE 4600: Introduction to Operating Systems (3 Hours)
- CSCE 4610: Computer Architecture (3 Hours)
- CSCE 4650: Introduction to Compilation Techniques (3 Hours)
- CSCE 4901: Computer Science Capstone (3 Hours)

3 CSCE courses (9 Hours) chosen from:
- CSCE 415, Formal Lang., Automata & Computability (3 Hours)
- CSCE 4410, Software Development I (3 Hours)
- CSCE 4430, Programming Languages (3 Hours)
- CSCE 4460, Software Development II (3 Hours)
- CSCE 4610, Computer Architecture (3 Hours)
- CSCE 4650, Introduction to Compilation Techniques (3 Hours)
- CSCE 4999: Senior Thesis (3 Hours)

3 CSCE courses (9 Hours) chosen from:
- CSCE 3530, Introduction to Computer Networks (3 Hours)
- CSCE 4210, Game Programming I (3 Hours)
- CSCE 4230, Introduction to Computer Graphics (3 Hours)
- CSCE 4310, Introduction to Artificial Intelligence (3 Hours)
- CSCE 4350, Intro. to Database Systems Design (3 Hours)
- CSCE 4444, Software Engineering (3 Hours)
- CSCE 4901, Computer Science Capstone (3 Hours)

3 CSCE courses (9 Hours) chosen from any 3*** &/or 4*** CSCE courses not already applied to other requirements listed above:
- CSCE 3*** or 4*** (3 Hours)
- CSCE 3*** or 4*** (3 Hours)
- CSCE 3*** or 4*** (3 Hours)

Maximum of 6 hours may be applied from CSCE 4890, 4920, 4940, or 4950. Consult your faculty advisor.

Completion of CSCE 3530, 4550, & 4560 earns a Security Certificate.

Completion of CSCE 4210, 4215, 4220, & 4250 earns a Game Programming Certificate.

Grades of “C” or better required. Needs 2.75 GPA in advanced CSCE courses.

This is an unofficial simplified checklist effective Fall 2013. Degree requirements may change. You may need elective courses to help reach a minimum of 120 Total Hours & 42 Advanced Hours. Check with an advisor.
# COMPUTER SCIENCE

Sample Four-Year Schedule

## FRESHMAN YEAR

### FALL
- MATH 1710, Calculus I (see note 1)  
  4
- BIOL 1710, Principles of Biology I (see note 2)  
  3
- BIOL 1730, Principles of Biology I Lab (see note 2)  
  1
- CSCE 1030, Computer Science I (see note 3)  
  4
- English Composition Core course  
  3
- Total Hours  
  15

### SPRING
- MATH 1720, Calculus II (MATH 1710)  
  3
- CHEM 1410 or 1415, Chemistry (see note 4)  
  3
- CHEM 1430 or 1435, Chemistry Lab (see note 4)  
  1
- CSCE 1040, Computer Science II (CSCE 1030)  
  3
- TECM 2700, Tech. Writing (English Composition Core)  
  3
- University Core course  
  3
- Total Hours  
  16

## SOPHOMORE YEAR

### FALL
- MATH 2700, Linear Algebra (MATH 1720)  
  3
- PHYS 1710, Mechanics (MATH 1710)  
  3
- PHYS 1730, Mechanics Lab (MATH 1710)  
  1
- CSCE 2100, Computing Foundations I (CSCE 1040)  
  3
- EENG 2710 or ENGR 2720, Digital Logic Design  
  3
- University Core course  
  3
- Total Hours  
  16

### SPRING
- MATH 1780, Probability Models (MATH 1710)  
  3
- PHYS 2220, E. & M. (MATH 1720, PHYS 1710, 1730)  
  3
- PHYS 2240, E. & M. Lab (MATH 1720, PHYS 1710, 1730)  
  1
- CSCE 2110, Computing Foundations II (CSCE 2100)  
  3
- CSCE 2610, Assembly & Org. (CSCE 2100, EENG 2710)  
  3
- University Core course  
  3
- University Core course  
  3
- Total Hours  
  16

## JUNIOR YEAR

### FALL
- CSCE 3110, Data Structures (CSCE 2110)  
  3
- CSCE 3600, Principles of Systems (CSCE 2100)  
  3
- CSCE Elective course (see note 5)  
  3
- TECM course (TECM 2700)  
  3
- University Core course  
  3
- Total Hours  
  15

### SPRING
- CSCE 4010, Social Issues (junior classification)  
  3
- CSCE Elective course (see note 5)  
  3
- CSCE Elective course (see note 5)  
  3
- CSCE Elective course (see note 5)  
  3
- University Core course  
  3
- Total Hours  
  15

## SENIOR YEAR

### FALL
- CSCE 4110, Analysis of Algorithms (CSCE 3110)  
  3
- CSCE Elective course (see note 5)  
  3
- CSCE Elective course (see note 5)  
  3
- University Core course  
  3
- University Core course  
  3
- Total Hours  
  15

### SPRING
- CSCE Elective course (see note 5)  
  3
- CSCE Elective course (see note 5)  
  3
- CSCE Elective course (see note 5)  
  3
- University Core course  
  3
- University Core course  
  3
- Total Hours  
  12

---

**Required prerequisite(s) indicated in parentheses.**

Note 1: MATH 1710 requires one of the following as prerequisite: completion of MATH 1650, Pre-Calculus with a grade of “C” or higher; or Freshman Math Group Level 3; or approval authorized by score on the Mathematics Department Math Placement Test; or earned credit for a math course at or above the MATH 1710 level.

Note 2: AP Biology score of 4 or 5 earns credit for BIOL 1710, 1730, 1720 & 1740. CLEP Biology earns credit for BIOL 1710, 1730, 1720 & 1740. IB Biology earns credit for BIOL 1710, 1730, 1720 & 1740.

Note 3: CHEM 1410 & 1430 requires completion of or co-enrollment in MATH 1650, Pre-Calculus (or higher) as prerequisite, AP Computer Science A score of 4 or 5 earns credit for CSCE 1030, AP Computer Science AB score of 4 or 5 earns credit for CSCE 1030 & 1040. IB Computer Science earns credit for CSCE 1030 & 1040.

Note 4: MATH 1710 requires one of the following as prerequisite: completion of MATH 1650, Pre-Calculus with a grade of “C” or higher; or Freshman Math Group Level 3; or approval authorized by score on the Mathematics Department Math Placement Test; or earned credit for a math course at or above the MATH 1710 level.

Note 5: Must complete prerequisite(s) for each CSCE Elective course.

Must earn at least a grade of “C” in each course above except for University Core courses. Must earn at least a 2.5 GPA in Engineering Foundations courses & at least a 2.75 in advanced CSCE courses.

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This is an unofficial sample schedule. Requirements, prerequisites, etc. may change. Students should meet with an advisor each semester for individual scheduling, program decisions, etc. Engineering admissions requirements must be met & a degree audit must be created in order to progress in the program to a timely graduation.
CONSTRUCTION ENGINEERING TECHNOLOGY

Bachelor of Science in Engineering Technology (B.S.E.T) degree with a major in Construction Engineering Technology offered through the Department of Engineering Technology
Discovery Park F-115; (940) 565-2022
www.etec.unt.edu
Faculty Advisor: Dr. Robert Hayes

University Core

ENGLISH
- 3 Hours approved course
- Grade of “C” or better required.

UNITED STATES HISTORY
- HIST 2610, U.S. History to 1865 (3 Hours)
- HIST 2620, U.S. History from 1865 (3 Hours)

Honors equivalents, HIST 4700, or advanced US-Topic History course(s) may substitute for the courses above.

POLITICAL SCIENCE
- PSCI 1040, Government: Laws & Institutions (3 Hours)
- PSCI 1050, Government: Processes & Policies (3 Hours)

If you are transferring credit for either PSCI course, check with your advisor. Do not make an assumption about the application of course(s) taken elsewhere.

VISUAL & PERFORMING ARTS
- 3 Hours approved course

HUMANITIES
- 3 Hours approved course

SOCIAL & BEHAVIORAL SCIENCES
- Fulfilled by ECON 1100, Microeconomics

DISCOVERY
- Fulfilled by ENGR 1030, Technological Systems

CAPSTONE
- Fulfilled by CNET 4790, Senior Design II

Engineering Foundations

- MATH 1710, Calculus I (4 Hours)
- CHEM 1410, General Chemistry I (3 Hours) & CHEM 1430, General Chemistry I Lab (1 Hour)
  or CHEM 1415, Chemistry for Engineers (3 Hours) & CHEM 1435, Chemistry for Engineers Lab (1 Hour)
- PHYS 1710, Mechanics (3 Hours) & PHYS 1730, Mechanics Lab (1 Hour)
- TECM 2700, Technical Writing (3 Hours)

Grades of “C” or better required. Needs 2.5 GPA.

Major Requirements: Construction Engr. Tech.

MATHEMATICS & SCIENCE
- PHYS 2220, Electricity & Magnetism (3 Hours) & PHYS 2240, Electricity & Magnetism Lab (1 hour)
- MATH 1720, Calculus II (3 Hours)

CONSTRUCTION ENGINEERING TECHNOLOGY REQUIREMENTS
- CNET 1160, Construction Methods & Materials (3 Hours)
- CNET 2180, Construction Methods & Surveying (4 Hours)
- CNET 2300, Architectural Drawing (2 Hours)
- CNET 3150, Construction Contract Documents (2 Hours)
- CNET 3160, Construction Cost Estimating (3 Hours)
- CNET 3190, Construction Scheduling (3 Hours)
- CNET 3410, Occupational Safety & Liability (3 Hours)
- CNET 3430, Structural Analysis (3 Hours)
- CNET 3440, Steel Structures (3 Hours)
- CNET 3460, Soils & Foundations (3 Hours)
- CNET 3480, Structural Design w/ 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 Hours)
- CNET 4790, Senior Design II (3 Hours)
- CSCE 1020, Program Development (4 Hours)
- ENGR 2301, Statics (3 Hours)
- ENGR 2332, Mechanics of Materials (4 Hours)
- ACCT 2010, Accounting Principles I (3 Hours)
- BLAW 3430, Legal & Ethical Environment of Business (3 Hours)
- BLAW 4770, Real Estate Law & Contracts (3 Hours)
- ECON 1100, Microeconomics (3 Hours)
- MGMT 3830, Operations Management (3 Hours)

OTHER REQUIREMENTS
- ENGR 1030, Technical Systems (3 Hours)
- ENGR 1060, Communications & Ethics (3 Hours)

Grades of “C” or better required.

This is an unofficial simplified checklist effective Fall 2013. Degree requirements may change. You may need elective courses to help reach a minimum of 124 Total Hours & 42 Advanced Hours. Check with an advisor.
CONSTRUCTION ENGINEERING TECHNOLOGY
Sample Four-Year Schedule

FRESHMAN YEAR

<table>
<thead>
<tr>
<th>FALL</th>
<th>SPRING</th>
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<tbody>
<tr>
<td>MATH 1710, Calculus I (see note 1)</td>
<td>MATH 1720, Calculus II (MATH 1710)</td>
</tr>
<tr>
<td>CHEM 1410 or 1415, Chemistry (see note 2)</td>
<td>PHYS 1710, Mechanics (MATH 1710)</td>
</tr>
<tr>
<td>CHEM 1430 or 1435, Chemistry Lab (see note 2)</td>
<td>PHYS 1730, Mechanics Lab (MATH 1710)</td>
</tr>
<tr>
<td>CNET 1160, Const. Methods &amp; Materials</td>
<td>CNET 2180, Const. Methods &amp; Surveying (CNET 1160)</td>
</tr>
<tr>
<td>ENGR 1030, Technological Systems</td>
<td>ENGR 1060, Comm. &amp; Ethics (English Composition)</td>
</tr>
<tr>
<td>English Composition Core course</td>
<td>TECM 2700, Technical Writing (English Composition)</td>
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<td>Total Hours</td>
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SOPHOMORE YEAR

<table>
<thead>
<tr>
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<th>SPRING</th>
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</thead>
<tbody>
<tr>
<td>PHYS 2220, E. &amp; M. (MATH 1720, PHYS 1710, 1730)</td>
<td>ACCT 2010, Accounting Principles I (ECON 1100)</td>
</tr>
<tr>
<td>PHYS 2240, E. &amp; M. Lab (MATH 1720, PHYS 1710, 1730)</td>
<td>CSCE 1020, Program Development</td>
</tr>
<tr>
<td>CNET 2300, Arch. Drawing</td>
<td>ENGR 2332, Mechanics of Materials (ENGR 2301)</td>
</tr>
<tr>
<td>ENGR 2301, Statics (MATH 1710, PHYS 1710, 1730)</td>
<td>MGMT 3830, Operations Management</td>
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<tr>
<td>ECON 1100, Microeconomics</td>
<td>University Core course</td>
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<td>University Core course</td>
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<td>Total Hours</td>
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JUNIOR YEAR

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<tr>
<td>CNET 3150, Const. Contract Doc. (CNET 2180)</td>
<td>CNET 3190, Const. Scheduling (CNET 3160)</td>
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<tr>
<td>CNET 3160, Const. Cost Estimating (CNET 1160, 2300)</td>
<td>CNET 3440, Steel Structures (CNET 3430)</td>
</tr>
<tr>
<td>CNET 3410, Occupational Safety &amp; Liability</td>
<td>CNET 3460, Soils &amp; Foundations (CNET 2180, ENGR 2332)</td>
</tr>
<tr>
<td>CNET 3430, Structural Analysis (ENGR 2332)</td>
<td>BLAW 3430, Legal &amp; Ethical Env. (PSCI 1040, PSCI 1050)</td>
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<td>University Core course</td>
<td>University Core course</td>
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<tr>
<td>Total Hours</td>
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SENIOR YEAR

<table>
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<th>FALL</th>
<th>SPRING</th>
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<tbody>
<tr>
<td>CNET 3480, Structural Design (CNET 2180, CNET 3430)</td>
<td>CNET 4180, Problems in Project Mgmt. (CNET 4170)</td>
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<td>CNET 4170, Const. Management (CNET 3160)</td>
<td>CNET 4620, Adv. Design (CNET 3440)</td>
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<tr>
<td>CNET 4780, Senior Design I (see note 3)</td>
<td>CNET 4790, Senior Design II (CNET 4780)</td>
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<tr>
<td>BLAW 4770, Real Estate Law &amp; Contracts</td>
<td>University Core course</td>
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<tr>
<td>University Core course</td>
<td>Elective course (see note 4)</td>
</tr>
<tr>
<td>Elective course (see note 4)</td>
<td>Total Hours</td>
</tr>
<tr>
<td>Total Hours</td>
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</table>

Required prerequisite(s) indicated in parentheses.

Note 1: MATH 1710 requires one of the following as prerequisite: completion of MATH 1650, Pre-Calculus with a grade of "C" or higher; or Freshman Math Group Level 3; or approval authorized by score on the Mathematics Department Math Placement Test; or earned credit for a math course at or above the MATH 1710 level.

Note 2: CHEM 1410 & 1430 requires MATH 1100, College Algebra (or higher) as prerequisite. CHEM 1415 & 1435 requires MATH 1650, Pre-Calculus (or higher) as prerequisite.

Note 3: CNET 4780 requires senior classification & completion of CNET 3190, CNET 3440, and CNET 3460 as prerequisite.

Note 4: Must complete 4 hours of elective credit in order to reach 124 minimum hours required for the degree. Completion of MATH prerequisites required to enroll in MATH 1710 will count toward elective hours. Please meet with an advisor to discuss electives.

Must earn at least a grade of "C" in each course above except for University Core courses. Must earn at least a 2.5 GPA in Engineering Foundations courses.

This is an unofficial sample schedule. Requirements, prerequisites, etc. may change. Students should meet with an advisor each semester for individual scheduling, program decisions, etc. Engineering admissions requirements must be met & a degree audit must be created in order to progress in the program to a timely graduation.
Bachelor of Science (B.S.) degree with a major in Electrical Engineering is offered through the Department of Electrical Engineering
Discovery Park B-252; (940) 891-6872
www.ee.unt.edu
Faculty Advisor: Dr. Ike Agbor

**ELECTRICAL ENGINEERING**

- **ENGLISH**
  - 3 Hours approved course
  - Grade of “C” or better is required.

- **UNITED STATES HISTORY**
  - HIST 2610, U.S. History To 1865 (3 Hours)
  - HIST 2620, U.S. History From 1865 (3 Hours)

- **POLITICAL SCIENCE**
  - PSCI 1040, Government: Laws & Institutions (3 Hours)
  - PSCI 1050, Government: Processes & Policies (3 Hours)

If you are transferring credit for either PSCI course, check with your advisor about the application of course(s) taken elsewhere.

- **VISUAL & PERFORMING ARTS**
  - 3 Hours approved course

- **HUMANITIES**
  - 3 Hours approved course

- **SOCIAL & BEHAVIORAL SCIENCES**
  - 3 Hours approved course

- **DISCOVERY**
  - Fulfilled by EENG 1910, Learning to Learn

- **CAPSTONE**
  - Fulfilled by EENG 4990, Senior Design II

**MATHEMATICS & SCIENCE**

- PHYS 2220, Electricity & Magnetism (3 Hours) & PHYS 2240 Electricity & Magnetism Lab (1 Hour)
- MATH 1720, Calculus II (3 Hours)
- MATH 2700, Linear Algebra & Vector Geometry (3 Hours)
- MATH 2730, Multivariable Calculus (3 Hours)
- MATH 3410, Differential Equations I (3 Hours)
- MATH 3680, Applied Statistics (3 Hours)

Please note that completion of the above UNT Math courses will earn a minor in Mathematics.

**ELECTRICAL ENGINEERING COURSES**

- EENG 1910, Learning to Learn (3 Hours)
- EENG 1920, Introduction to Electrical Engineering (3 Hours)
- EENG 2610, Circuit Analysis (3 Hours)
- EENG 2620, Signals & Systems (3 Hours)
- EENG 2710, Digital Logic Design (3 Hours)
- EENG 2910, Digital System Design (3 Hours)
- EENG 2920, Analog Circuit Design (3 Hours)
- EENG 3410, Engineering Electromagnetics (3 Hours)
- EENG 3510, Electronics I (3 Hours)
- EENG 3520, Electronics II (3 Hours)
- EENG 3710, Computer Organization (3 Hours)
- EENG 3810, Communications Systems (3 Hours)
- 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)
- CSCE 1020, Program Development (4 Hours)

**ELECTRICAL ENGINEERING ELECTIVES**

- EENG 4*** (3 Hours)
- EENG 4*** (3 Hours)
- EENG 4*** (3 Hours)
- EENG 4*** (3 Hours)

Electives may be chosen any 4*** level EENG courses. Examples include 4010, 4310, 4330, 4340, 4350, 4410, 4710, 4760, 4810, 4850, & 4900. EENG 4010 is a topics course & the content of 4010 varies for each section for each semester. EENG 4010 may be repeated for credit if you do not retake the exact same topic the 2nd time. EENG 4920 & 4951 cannot be taken as electives.

**BUSINESS COURSES**

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

A minor in Business Foundations (General Business Track) will fulfill the credit for MGMT 3830 or MGMT 3850.

Grades of “C” or better required.

This is an unofficial simplified checklist effective Fall 2013. Degree requirements may change. You may need elective courses to help reach a minimum of 128 Total Hours & 42 Advanced Hours. Check with your advisor.
# ELECTRICAL ENGINEERING

## Sample Four-Year Schedule

### FRESHMAN YEAR

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>FALL</td>
<td>MATH 1710</td>
<td>Calculus I (see note 1)</td>
<td>4</td>
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<tr>
<td></td>
<td>CHEM 1415</td>
<td>Chemistry for Engineers</td>
<td>3</td>
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<td>CHEM 1435</td>
<td>Chemistry for Engineers</td>
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<td></td>
<td>EENG 1910</td>
<td>Project I (see note 3)</td>
<td>3</td>
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<tr>
<td></td>
<td>English Composition</td>
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<td>University Core course</td>
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<tr>
<td>SPRING</td>
<td>MATH 1720</td>
<td>Calculus II (MATH 1710)</td>
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<td>PHYS 1710</td>
<td>Mechanics (MATH 1710)</td>
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<td>PHYS 1730</td>
<td>Mechanics Lab (MATH 1710)</td>
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<td>EENG 1920</td>
<td>Intro, to EE (EENG 1910, MATH 1710)</td>
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<td>EENG 2710</td>
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<td>TECM 2700</td>
<td>Tech. Writing (English Composition Core)</td>
<td>3</td>
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### SOPHOMORE YEAR

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<th>Semester</th>
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<td>FALL</td>
<td>MATH 2730</td>
<td>Multivariable Calculus (MATH 1720)</td>
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<td>EENG 2610</td>
<td>Circ. (MATH 1720, coreq PHYS 2220, 2240)</td>
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<td>EENG 2910</td>
<td>Digital System (EENG 2710)</td>
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<tr>
<td></td>
<td>University Core course</td>
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<td>3</td>
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<td></td>
<td>Total Hours</td>
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<tr>
<td>SPRING</td>
<td>MATH 2700</td>
<td>Linear Algebra (MATH 1720)</td>
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<td></td>
<td>MATH 3410</td>
<td>Differential Equations (MATH 1720)</td>
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<td>EENG 2620</td>
<td>Signals &amp; Systems (EENG 2610, MATH 2730)</td>
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<td>EENG 2920</td>
<td>Analog Circ. Des. (EENG 1920, EENG 2610)</td>
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<td>CSCE 1020</td>
<td>Program Development</td>
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### JUNIOR YEAR

<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Hours</th>
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<tr>
<td>FALL</td>
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<tr>
<td></td>
<td>EENG 3410</td>
<td>Electromagnetics (EENG 2610, MATH 3410)</td>
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<td>EENG 3510</td>
<td>Electrons I (EENG 2610)</td>
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<td>EENG 3910</td>
<td>DSP System Design (EENG 2620)</td>
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<tr>
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<td>EENG 3520</td>
<td>Electronics II (EENG 3510)</td>
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<td>EENG 3710</td>
<td>Computer Org. (EENG 2710, CSCE 1020)</td>
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<td>EENG 3810</td>
<td>Comm. Sys. (EENG 2620, 3510, MATH 3680)</td>
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### SENIOR YEAR

<table>
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<tr>
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<td>EENG 4910</td>
<td>Senior Design I (EENG 3810, 3910, 3920)</td>
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<td>MGMT 3830</td>
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<tr>
<td>SPRING</td>
<td>EENG Elective (see note 4)</td>
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<td>EENG Elective (see note 4)</td>
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<td></td>
<td>EENG 4990</td>
<td>Senior Design II (EENG 4910)</td>
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<td></td>
<td>MGMT 3850</td>
<td>Entrepreneurship</td>
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<td>University Core course</td>
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</table>

**Required prerequisite(s) indicated in parentheses.**

Note 1: MATH 1710 requires one of the following as prerequisite: completion of MATH 1650, Pre-Calculus with a grade of “C” or higher; or Freshman Math Group Level 3; or approval authorized by score on the Mathematics Department Math Placement Test; or earned credit for a math course at or above the MATH 1710 level.

Note 2: CHEM 1415 & 1435 requires MATH 1650, Pre-Calculus, or placement into a higher level math course as prerequisite.

Note 3: EENG 1910 requires a major classification as prerequisite. Pre-Engineering students cannot enroll in this course until MATH 1650, Pre-Calculus is completed with a minimum grade of “C” and earn a minimum UNT GPA of 2.0.

Note 4: Must complete prerequisite(s) for each EENG Elective course.

Must earn at least a grade of “C” in each course above except for University Core courses.

Must earn at least a 2.5 GPA in Engineering Foundations courses.

This is an unofficial sample schedule. Requirements, prerequisites, etc., may change. Students should meet with an advisor each semester for individual scheduling, program decisions, etc. Engineering admissions requirements must be met & a degree audit must be created in order to progress in the program to a timely graduation.
ELECTRICAL ENGINEERING TECHNOLOGY

Bachelor of Science in Engineering Technology (B.S.E.T.) degree with a major in Electrical Engineering Technology offered through the Department of Engineering Technology

Discovery Park F-115; (940) 565-2022
www.etec.unt.edu
Faculty Advisor: Dr. Robert Hayes

University Core

ENGLISH
- 3 Hours approved course
  Grade of “C” or better required.

UNITED STATES HISTORY
- HIST 2610, U.S. History to 1865 (3 Hours)
- HIST 2620, U.S. History from 1865 (3 Hours)

Honors equivalents, HIST 4700, or advanced US-Topic History course(s) may substitute for the courses above.

POLITICAL SCIENCE
- PSCI 1040, Government: Laws & Institutions (3 Hours)
- PSCI 1050, Government: Processes & Policies (3 Hours)

If you are transferring credit for either PSCI course, check with your advisor. Do not make an assumption about the application of course(s) taken elsewhere.

VISUAL & PERFORMING ARTS
- 3 Hours approved course

HUMANITIES
- 3 Hours approved course

SOCIAL & BEHAVIORAL SCIENCES
- 3 Hours approved course

DISCOVERY
- Fulfilled by ENGR 1030, Technological Systems

CAPSTONE
- Fulfilled by ELET 4790, Senior Design II


MATHEMATICS & SCIENCE
- PHYS 2220, Electricity & Magnetism (3 Hours) & PHYS 2240, Electricity & Magnetism Lab (1 Hour)
- MATH 1720, Calculus II (3 Hours)

ELECTRICAL ENGINEERING TECHNOLOGY REQUIREMENTS
- ENGR 2405, Circuit Analysis (3 Hours) & ENGR 2415, Circuit Analysis Lab (1 Hour)
- ENGR 2720, Logic Design (3 Hours) & ENGR 2730, Logic Design Lab (1 Hour)
- ENGR 2750, Introduction to Microprocessors (4 Hours)

- ELET 1720, Introduction to Electronics (3 Hours)
- ELET 2740, Special Electronic Devices (4 Hours)
- ELET 3700, Advanced Circuit Analysis (4 Hours)
- ELET 3750, Embedded C-Programming (4 Hours)
- ELET 3760, Design of DSP Systems (4 Hours)
- ELET 3980, Digital Control of Industrial Processes (3 Hours)
- ELET 4300, Embedded System Organization (3 Hours)
- ELET 4320, Electronic Communications II (3 Hours)
- ELET 4330, Instrumentation System Design (3 Hours)
- ELET 4340, Digital Logic Design Techniques (3 Hours)
- ELET 4710 (4 Hours), Electronic Communications I (4 Hours)
- ELET 4720 (4 Hours), Control Systems (4 Hours)
- ELET 4780 (4 Hours), Senior Design I (1 Hour)
- ELET 4790, Senior Design II (3 Hours)

TECHNICAL ELECTIVES
- Advanced level (3*** or 4*** level) course chosen from appropriate elective options (3 Hours). ELET 3220 is recommended for all students for this elective.
- Any level course chosen from appropriate elective options (3 Hours)
- Any level course chosen from appropriate elective options (3 Hours)
- Any level course chosen from appropriate elective options (3 Hours)

Check with an advisor for appropriate technical elective course options.

OTHER REQUIREMENTS
- ENGR 1030, Technological Systems (3 Hours)
- ENGR 1060, Communication and Ethics (3 Hours)

Grades of “C” or better required.

This is an unofficial simplified checklist effective Fall 2013. Degree requirements may change. You may need elective courses to help reach a minimum of 124 Total Hours & 42 Advanced Hours. Check with an advisor.

Grades of “C” or better required. Needs 2.5 GPA.
# ELECTRICAL ENGINEERING TECHNOLOGY

Sample Four-Year Schedule

## FRESHMAN YEAR

<table>
<thead>
<tr>
<th>FALL</th>
<th>SPRING</th>
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<tbody>
<tr>
<td>MATH 1710, Calculus I (see note 1)</td>
<td>MATH 1720, Calculus II (MATH 1710)</td>
</tr>
<tr>
<td>CHEM 1410 or 1415, Chemistry (see note 2)</td>
<td>PHYS 1710, Mechanics (MATH 1710)</td>
</tr>
<tr>
<td>CHEM 1430 or 1435, Chemistry Lab (see note 2)</td>
<td>PHYS 1730, Mechanics Lab (MATH 1710)</td>
</tr>
<tr>
<td>ELET 1720, Intro. to Electronics (see note 3)</td>
<td>ELET 2740, Spec. Elect. Devices (ELET 1720, MATH 1710)</td>
</tr>
<tr>
<td>ENGR 1030, Technological Systems</td>
<td>ENGR 2720, Logic Design (MATH 1710)</td>
</tr>
<tr>
<td>English Composition Core course</td>
<td>ENGR 2730, Logic Design Lab (MATH 1710)</td>
</tr>
<tr>
<td>Total Hours</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>FALL</th>
<th>SPRING</th>
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<tbody>
<tr>
<td>MATH 1710, Calculus I (see note 1)</td>
<td>MATH 1720, Calculus II (MATH 1710)</td>
</tr>
<tr>
<td>CHEM 1410 or 1415, Chemistry (see note 2)</td>
<td>PHYS 1710, Mechanics (MATH 1710)</td>
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<tr>
<td>CHEM 1430 or 1435, Chemistry Lab (see note 2)</td>
<td>PHYS 1730, Mechanics Lab (MATH 1710)</td>
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<tr>
<td>ELET 1720, Intro. to Electronics (see note 3)</td>
<td>ELET 2740, Spec. Elect. Devices (ELET 1720, MATH 1710)</td>
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<tr>
<td>ENGR 1030, Technological Systems</td>
<td>ENGR 2720, Logic Design (MATH 1710)</td>
</tr>
<tr>
<td>English Composition Core course</td>
<td>ENGR 2730, Logic Design Lab (MATH 1710)</td>
</tr>
<tr>
<td>Total Hours</td>
<td>Total Hours</td>
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## SOPHOMORE YEAR

<table>
<thead>
<tr>
<th>FALL</th>
<th>SPRING</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 2220, E. &amp; M. (MATH 1720, PHYS 1710, 1730)</td>
<td>ENGR 1060, Comm. &amp; Ethics (English Composition)</td>
</tr>
<tr>
<td>PHYS 2240, E. &amp; M. Lab (MATH 1720, PHYS 1710, 1730)</td>
<td>ELET 3980, Dig. Control (MATH 1710 level or higher)</td>
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<tr>
<td>ENGR 2405, Circuits (MATH 1720, co/pre PHYS 2220)</td>
<td>TECM 2700, Technical Writing (English Composition)</td>
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<tr>
<td>ENGR 2415, Circuits Lab (see above)</td>
<td>University Core course</td>
</tr>
<tr>
<td>ENGR 2750, Intro to Microprocessors (ENGR 2720, 2730)</td>
<td>University Core course</td>
</tr>
<tr>
<td>University Core course</td>
<td>University Core course</td>
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<td>Total Hours</td>
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## JUNIOR YEAR

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<thead>
<tr>
<th>FALL</th>
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<tbody>
<tr>
<td>ELET 3700, Adv. Circuit Analysis (ENGR 2405, 2415)</td>
<td>ELET 3220, Intro. to Power Sys. Analysis (ENGR 2405)</td>
</tr>
<tr>
<td>ELET 3750, Embedded C-Prog. (ENGR 2750)</td>
<td>ELET 3760, Design of DSP Systems (ELET 3700, ELET 3750)</td>
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<tr>
<td>University Core course</td>
<td>ELET 4340, Digital Logic Design Tech. (ELET 3750)</td>
</tr>
<tr>
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<td>Technical Elective (see note 3)</td>
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<td>University Core course</td>
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## SENIOR YEAR

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<tr>
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<tbody>
<tr>
<td>ELET 4300, Embedded System Org. (ELET 4340)</td>
<td>ELET 4320, Electronic Comm II (ELET 4710)</td>
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<td>ELET 4710, Electronic Comm I (ELET 3700)</td>
<td>ELET 4330, Instrumentation Sys. Design (ELET 3760)</td>
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<td>ELET 4720, Control Systems (ELET 3700)</td>
<td>ELET 4790, Senior Design II (ELET 4780)</td>
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<td>ELET 4780, Senior Design I (ELET 3760, Senior Standing)</td>
<td>Technical Elective (see note 3)</td>
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<td>Technical Elective (see note 3)</td>
<td>University Core course</td>
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<td>Total Hours</td>
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</table>

Required prerequisite(s) indicated in parentheses.

Note 1: MATH 1710 requires one of the following as prerequisite: completion of MATH 1650, Pre-Calculus with a grade of “C” or higher; or Freshman Math Group Level 3; or approval authorized by score on the Mathematics Department Math Placement Test; or earned credit for a math course at or above the MATH 1710 level.

Note 2: CHEM 1410 & 1430 requires MATH 1100, College Algebra (or higher) as prerequisite. CHEM 1415 & 1435 requires MATH 1650, Pre-Calculus (or higher) as prerequisite.

Note 3: ELET 1720 requires MATH 1100, College Algebra, or a higher MATH course as prerequisite.

Must earn at least a grade of “C” in each course above except for University Core courses.

Must earn at least a 2.5 GPA in Engineering Foundations courses.

This is an unofficial sample schedule. Requirements, prerequisites, etc. may change. Students should meet with an advisor each semester for individual scheduling, program decisions, etc. Engineering admissions requirements must be met & a degree audit must be created in order to progress in the program to a timely graduation.
ENGLISH
- 3 Hours approved course
  Grade of “C” or better is required.

UNITED STATES HISTORY
- HIST 2610, U.S. History To 1865 (3 Hours)
- HIST 2620, U.S. History From 1865 (3 Hours)

POLITICAL SCIENCE
- PSCI 1040, Government: Laws & Institutions (3 Hours)
- PSCI 1050, Government: Processes & Policies (3 Hours)

If you are transferring credit for either PSCI course, check with your advisor about the application of course(s) taken elsewhere.

VISUAL & PERFORMING ARTS
- 3 Hours approved course

HUMANITIES
- 3 Hours approved course

SOCIAL & BEHAVIORAL SCIENCES
- 3 Hours approved course

DISCOVERY
- 3 Hours approved course

CAPSTONE
- Fulfilled by CSCE 4010, Social Issues in Computing

MATHEMATICS
- MATH 1680, Elementary Probability & Statistics (3 Hours)

COMPUTER SCIENCE and ENGINEERING
- CSCE 1030, Computer Science I (4 Hours)
- CSCE 1040, Computer Science II (3 Hours)
- CSCE 2100, Computing Foundations I (3 Hours)
- CSCE 2110, Computing Foundations II (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 3600, Principles of Systems Programming (3 Hours)
- CSCE 4010, Social Issues in Computing (3 Hours)
- CSCE 4350, Introduction to Database Systems Design (3 Hours)
- CSCE 4444, Software Engineering (3 Hours)
- CSCE 4550, Introduction to Computer Security (3 Hours)
- CSCE 4905, Information Technology Capstone I (3 Hours)
- CSCE 4925, Information Technology Capstone II (3 Hours)

CONCENTRATION AREA ELECTIVES
- CSCE 3*** or 4*** Level Course (3 Hours)
- CSCE 3*** or 4*** Level Course (3 Hours)
- CSCE 3*** or 4*** Level Course (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) & complete approved courses. Check with your advisor concerning approved classes. Suggestions include, but are not limited to:

- Game Development
- Business (Pre-MBA)
- Information Security
- Pre-Law
- Networking
- Pre-Med

A maximum of 6 hours can be applied to Concentration Area and/or Supporting Area from CSCE 4890, 4920, 4940, or 4950.

Completion of CSCE 3530, 4550, & 4560 for Concentration Area and/or Supporting Area earns a certificate from the Committee on National Security Systems.

Completion of CSCE 4210, 4215, 4220, & 4250 for Concentration Area and/or Supporting Area earns a certificate in Game Programming.

Grades of “C” or better required. Needs 2.75 GPA in advanced CSCE courses.

This is an unofficial simplified checklist effective Fall 2013. Degree requirements may change. You may need elective courses to help reach a minimum of 121 Total Hours & 42 Advanced Hours. Check with an advisor.
INFORMATION TECHNOLOGY
Sample Four-Year Schedule

FRESHMAN YEAR

<table>
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<tr>
<th>FALL</th>
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<tbody>
<tr>
<td>MATH 1710, Calculus I (see note 1)</td>
<td>MATH 1680, Intro. Probability &amp; Statistics 3</td>
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<tr>
<td>CHEM 1410 or 1415, Chemistry (see note 2)</td>
<td>PHYS 1710, Mechanics (MATH 1710) 3</td>
</tr>
<tr>
<td>CHEM 1430 or 1435, Chemistry Lab (see note 2)</td>
<td>PHYS 1730, Mechanics Lab (MATH 1710) 1</td>
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<tr>
<td>CSCE 1030, Computer Science I (see note 3)</td>
<td>CSCE 1040, Computer Science II (CSCE 1030) 3</td>
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<tr>
<td>English Composition Core course</td>
<td>TECM 2700, Technical Writing (English Comp. Core) 3</td>
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<td>Total Hours</td>
<td>University Core course 3</td>
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SOPHOMORE YEAR

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<tbody>
<tr>
<td>CSCE 2100, Computing Foundations I (CSCE 1040)</td>
<td>CSCE 2110, Computing Foundations II (CSCE 2100) 3</td>
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<td>Supporting Area course (see note 4)</td>
<td>CSCE 3600, Computer Systems (CSCE 2100) 3</td>
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<td>University Core course</td>
<td>Supporting Area course (see note 4) 3</td>
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JUNIOR YEAR

<table>
<thead>
<tr>
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<th>SPRING</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCE 3055, IT Project Management (CSCE 2100)</td>
<td>CSCE 4350, Database Systems (CSCE 2110) 3</td>
</tr>
<tr>
<td>CSCE 3220, Human Computer Interfaces (CSCE 2110)</td>
<td>CSCE Concentration Area Elective (see note 5) 3</td>
</tr>
<tr>
<td>CSCE 3420, Internet Programming (CSCE 2110)</td>
<td>CSCE Concentration Area Elective (see note 5) 3</td>
</tr>
<tr>
<td>CSCE 3530, Computer Networks (CSCE 3600)</td>
<td>Supporting Area course (see note 4) 3</td>
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<tr>
<td>Supporting Area course (see note 4)</td>
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SENIOR YEAR

<table>
<thead>
<tr>
<th>FALL</th>
<th>SPRING</th>
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<tbody>
<tr>
<td>CSCE 4444, Software Engineering (CSCE 2110)</td>
<td>CSCE 4010, Engineering Ethics (junior classification) 3</td>
</tr>
<tr>
<td>CSCE 4550, Computer Security (CSCE 3600)</td>
<td>CSCE 4925, Capstone II (CSCE 4905) 3</td>
</tr>
<tr>
<td>CSCE 4905, Capstone I (CSCE 3055)</td>
<td>CSCE Concentration Area Elective (see note 5) 3</td>
</tr>
<tr>
<td>Supporting Area course (see note 4)</td>
<td>Supporting Area course (see note 4) 3</td>
</tr>
<tr>
<td>Supporting Area course (see note 4)</td>
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<td>Total Hours</td>
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<tr>
<td></td>
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</tbody>
</table>

Required prerequisite(s) indicated in parentheses.

Note 1: MATH 1710 requires one of the following as prerequisite: completion of MATH 1650, Pre-Calculus with a grade of “C” or higher; or Freshman Math Group Level 3; or approval authorized by score on the Mathematics Department Math Placement Test; or earned credit for a math course at or above the MATH 1710 level.

Note 2: CHEM 1410 & 1430 requires MATH 1100, College Algebra (or higher) as prerequisite. CHEM 1415 & 1435 requires MATH 1650, Pre-Calculus (or higher) as prerequisite.

Note 3: CSCE 1030 requires completion of or co-enrollment in MATH 1650, Pre-Calculus (or higher) as prerequisite. AP Computer Science A score of 4 or 5 earns credit for CSCE 1030. AP Computer Science AB score of 4 or 5 earns credit for CSCE 1030 & 1040. IB Computer Science earns credit for CSCE 1030 & 1040.

Note 4: Must enroll in Supporting Area courses approved by an advisor & complete prerequisite(s) for approved courses.

Note 5: Must enroll in 3*** or 4*** level CSCE courses & complete prerequisite(s) for chosen courses.

Must earn at least a grade of “C” in each course above except for University Core courses. Must earn at least a 2.5 GPA in Engineering Foundations courses & at least a 2.75 in advanced CSCE courses.

This is an unofficial sample schedule. Requirements, prerequisites, etc. may change. Students should meet with an advisor each semester for individual scheduling, program decisions, etc. Engineering admissions requirements must be met & a degree audit must be created in order to progress in the program to a timely graduation.
MATERIALS SCIENCE & ENGINEERING

Bachelor of Science (B.S.) degree with a major in Materials Science & Engineering offered through the Department of Materials Science & Engineering

Discovery Park E-132; (940) 565-3260
www.mtse.unt.edu
Faculty Advisor: Dr. Peter Collins

ENGLISH
- 3 Hours approved course
- Grade of “C” or better is required.

UNITED STATES HISTORY
- HIST 2610, U.S. History To 1865 (3 Hours)
- HIST 2620, U.S. History From 1865 (3 Hours)

POLITICAL SCIENCE
- PSCI 1040, Government: Laws & Institutions (3 Hours)
- PSCI 1050, Government: Processes & Policies (3 Hours)

If you are transferring credit for either PSCI course, check with your advisor about the application of course(s) taken elsewhere.

VISUAL & PERFORMING ARTS
- 3 Hours approved course

HUMANITIES
- 3 Hours approved course

SOCIAL & BEHAVIORAL SCIENCES
- 3 Hours approved course

DISCOVERY
- 3 Hours approved course

CAPSTONE
- Fulfilled by MTSE 4100, Senior Research Project II

Joshua K. Aronson

Grades of “C” or better. Needs 2.5 GPA.

MATHEMATICS & SCIENCE
- CHEM 1420, General Chemistry II (3 Hours)
- PHYS 2220, Electricity & Magnetism (3 Hours) & PHYS 2240, Electricity & Magnetism Lab (1 Hour)
- PHYS 3010, Modern Physics (3 Hours)
- MATH 1720, Calculus II (3 Hours)
- MATH 2700, Linear Algebra & Vector Geometry (3 Hours)
- MATH 3410, Differential Equations (3 Hours)

MATERIALS SCIENCE & ENGINEERING REQUIREMENTS
- ENGR 2301, Statics (3 Hours)
- ENGR 2332, Mechanics of Materials (3 Hours)
- MTSE 3010, Bonding & Structure (3 Hours)
- MTSE 3020, Microstructure & Characterization (3 Hours)
- MTSE 3030, Thermodynamics & 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, & 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 4050, Polymer Science & Engineering (3 Hours)
- MTSE 4060, Materials Selection & Performance (3 Hours)
- MTSE 4090, Senior Research Project I (2 Hours)
- MTSE 4100, Senior Research Project II (3 Hours)

Advanced Level MTSE Elective courses
- MTSE Elective course (3 Hours)
- MTSE Elective course (3 Hours)

Grades of “C” or better required.

This is an unofficial simplified checklist effective Fall 2013. Degree requirements may change. You may need elective courses to help reach a minimum of 120 Total Hours & 45 Advanced Hours. Check with your advisor.
# MATERIALS SCIENCE & ENGINEERING

Sample Four-Year Schedule

## FRESHMAN YEAR

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<thead>
<tr>
<th>FALL</th>
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<tbody>
<tr>
<td>MATH 1710, Calculus I (see note 1)</td>
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<td>MATH 1720, Calculus II (MATH 1710)</td>
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<td>CHEM 1410, General Chemistry I (see note 2)</td>
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<td>CHEM 1420, General Chemistry II (CHEM 1410, 1430)</td>
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<td>CHEM 1430, General Chemistry I Lab (see note 2)</td>
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<td>PHYS 1710, Mechanics (MATH 1710)</td>
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<td>PHYS 1730, Mechanics Lab (MATH 1710)</td>
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<td>TECM 2700, Tech. Writing (English Composition Core)</td>
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<tr>
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## SOPHOMORE YEAR

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<tbody>
<tr>
<td>MATH 2700, Linear Algebra (MATH 1720)</td>
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<td>MATH 3410, Differential Equations (MATH 1720)</td>
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<tr>
<td>PHYS 2220, E. &amp; M. (MATH 1720, PHYS 1710, 1730)</td>
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<td>PHYS 3010, Modern Physics (PHYS 2220, 2240)</td>
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<td>PHYS 2240, E. &amp; M. Lab (MATH 1720, PHYS 1710, 1730)</td>
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<td>ENGR 2332, Mechanics of Materials (ENGR 2301)</td>
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<td>ENGR 2301, Statics (MATH 1710, PHYS 1710, 1730)</td>
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<td>ENGR 3450, Engineering Materials (see note 3)</td>
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<tr>
<td>Total Hours</td>
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## JUNIOR YEAR

<table>
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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>MTSE 3010, Bonding &amp; Structure (ENGR 3450)</td>
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<td>MTSE 3050, Mechanical Properties (ENGR 3450)</td>
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<tr>
<td>MTSE 3020, Micro &amp; Characterization (ENGR 3450)</td>
<td>3</td>
<td>MTSE 3060, Phase Transformations (MTSE 3030, 3040)</td>
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<tr>
<td>MTSE 3030, Thermo &amp; Phase Diagrams (ENGR 3450)</td>
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<td>MTSE 3070, Elect., Opt., &amp; Mag, Properties (ENGR 3450)</td>
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<td>MTSE 3040, Transport Phen. (ENGR 3450, MATH 3410)</td>
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<td>MTSE 3080, Materials Processing (MTSE 3040)</td>
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<tr>
<td>MTSE 3090, Laboratory I (ENGR 3450)</td>
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<td>MTSE 3100, Laboratory II (MTSE 3090)</td>
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<td>University Core course</td>
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<tr>
<td>Total Hours</td>
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<td>Total Hours</td>
<td>16</td>
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</table>

## SENIOR YEAR

<table>
<thead>
<tr>
<th>FALL</th>
<th>3</th>
<th>SPRING</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTSE 4010, Phys. Metallurgy Prin. (MTSE 3010, 3030, 3040)</td>
<td>3</td>
<td>MTSE Advanced Level MTSE Elective (see note 5)</td>
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<tr>
<td>MTSE 4030, Ceramic Sci. &amp; Engr. (MTSE 3010, 3020, 3040)</td>
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<td>MTSE Advanced Level MTSE Elective (see note 5)</td>
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</tr>
<tr>
<td>MTSE 4050, Polymer Sci. &amp; Engr. (ENGR 3450)</td>
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<td>MTSE 4060, Selection &amp; Perform. (MTSE 3030, 3040, 3050)</td>
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<tr>
<td>MTSE 4090, Senior Research Project I (see note 4)</td>
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<td>MTSE 4100, Senior Research Project II (MTSE 4090)</td>
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**Required prerequisite(s) indicated in parentheses.**

Note 1: MATH 1710 requires one of the following as prerequisite: completion of MATH 1650, Pre-Calculus with a grade of “C” or higher; Freshman Math Group Level 3; or approval authorized by score on the Mathematics Department Math Placement Test; or earned credit for a math course at or above the MATH 1710 level.

Note 2: CHEM 1410 & 1430 requires MATH 1100, College Algebra, or placement into a higher level math course as prerequisite.

Note 3: ENGR 3450 requires completion of MATH 1710, CHEM 1410, 1430, PHYS 1710, 1730 as prerequisite.

Note 4: MTSE 4090 requires completion of MTSE 3010, 3020, 3030, 3040, 3050, 3070, 3080 as prerequisite.

Note 5: Must complete prerequisite(s) for each Advanced Elective MTSE course. See your advisor for approved course options.

Must earn at least a grade of “C” in each course above except for University Core courses. Must earn at least a 2.5 GPA in Engineering Foundations courses.

---

This is an unofficial sample schedule. Requirements, prerequisites, etc. may change. Students should meet with an advisor each semester for individual scheduling, program decisions, etc. Engineering admissions requirements must be met & a degree audit must be created in order to progress in the program to a timely graduation.
MECHANICAL & ENERGY ENGINEERING
Bachelor of Science (B.S.) degree with a major in Mechanical & Energy Engineering offered through the Department of Mechanical & Energy Engineering
Discovery Park F-101; (940) 565-2400
www.mee.unt.edu
Faculty Advisors: Dr. Xiaohua Li & Dr. Cherish Qualls

University Core

ENGLISH
- 3 Hours approved course
  Grade of “C” or better is required.

UNITED STATES HISTORY
- HIST 2610, U.S. History To 1865 (3 Hours)
- HIST 2620, U.S. History From 1865 (3 Hours)

POLITICAL SCIENCE
- PSCI 1040, Government: Laws & Institutions (3 Hours)
- PSCI 1050, Government: Processes & Policies (3 Hours)

MATHEMATICS & SCIENCE
- PHYS 2220, Electricity & Magnetism (3 Hours) & PHYS 2240, Electricity & Magnetism Lab (1 Hour)
- MATH 1720, Calculus II (3 Hours)
- MATH 2700, Linear Algebra & Vector Geometry (3 Hours)
- MATH 2730, Multivariable Calculus (3 Hours)
- MATH 3410, Differential Equations (3 Hours)

MECHANICAL & ENERGY ENGINEERING REQUIREMENTS
- MEEN 1000, Discover Mechanical & Energy (3 Hours)
- MEEN 2210, Thermodynamics I (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 & 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)

MECHANICAL & ENERGY ELECTIVES
- Advanced Level Energy Elective course chosen from 3*** or 4*** MEEN options.
- Advanced Level Technical Elective course chosen from 3*** or 4*** MEEN options.

Grades of “C” or better. Needs 2.5 GPA.

Please note that CHEM 1410-1430 cannot be approved for MEEN students unless CHEM 1420-1440 is completed in addition to CHEM 1410-1430.

This is an unofficial simplified checklist effective Fall 2013. Degree requirements may change. You may need elective courses to help reach a minimum of 127 Total Hours & 42 Advanced Hours. Check with an advisor.
# MECHANICAL & ENERGY ENGINEERING

## Sample Four-Year Schedule

### FRESHMAN YEAR

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<thead>
<tr>
<th>Semester</th>
<th>Course Description</th>
<th>Credits</th>
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<tbody>
<tr>
<td>FALL</td>
<td>MATH 1710, Calculus I (see note 1)</td>
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<tr>
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<td>CHEM 1415, Chemistry for Engineers (see note 2)</td>
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<td>CHEM 1435, Chemistry for Engineers Lab (see note 2)</td>
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<td>MEEN 1000, Discover Mech. &amp; Energy (see note 3)</td>
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<td>SPRING</td>
<td>MATH 1720, Calculus II (MATH 1710)</td>
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<td>PHYS 1710, Mechanics (MATH 1710)</td>
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<td>PHYS 1730, Mechanics Lab (MATH 1710)</td>
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<td>ENGR 1304, Engineering Graphics</td>
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<td>TECM 2700, Tech Writing (English Composition Core)</td>
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### SOPHOMORE YEAR

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<th>Course Description</th>
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<tr>
<td>FALL</td>
<td>MATH 2730, Multivariable Calculus (MATH 1720)</td>
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<td>PHYS 2220, E. &amp; M. (MATH 1720, PHYS 1710, 1730)</td>
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<td>PHYS 2240, E. &amp; M. Lab (MATH 1720, PHYS 1710, 1730)</td>
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<td>ENGR 2301, Statics, (MATH 1710, PHYS 1710, 1730)</td>
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<td>CSCE 1020, Program Development</td>
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<td>SPRING</td>
<td>MATH 3410, Differential Equations (MATH 1720)</td>
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<td>MEEN 2210, Thermodynamics I (MATH 1720, PHYS 1710)</td>
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<td>ENGR 2302, Dynamics (ENGR 2301)</td>
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<td>ENGR 2332, Mechanics of Materials (ENGR 2301)</td>
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<td>EENG 2610 or ENGR 2405, Circuit Analysis (see note 4)</td>
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<td>University Core course</td>
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### JUNIOR YEAR

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<th>Course Description</th>
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<tbody>
<tr>
<td>FALL</td>
<td>MEEN 3110, Thermodynamics II (MEEN 2210)</td>
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<td>MEEN 3120, Fluids (MATH 2730, MATH 3410)</td>
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<td>MEEN 3240, Laboratory I (MEEN 2210, MATH 3410)</td>
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<td>MEEN 3250, Analy. (ENGR 1304, CSCE 1020, MATH 3410)</td>
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<td>ENGR 3450, Materials (CHEM 1415, 1435, PHYS 1710)</td>
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<td>ENGR 3451, Materials Lab (CHEM 1415, 1435, PHYS 1710)</td>
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<tr>
<td>SPRING</td>
<td>MATH 2700, Linear Algebra (MATH 1720)</td>
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<td>MEEN 3130, Machine Elements (MEEN 1000, ENGR 2332)</td>
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<td>MEEN 3210, Heat Transfer (MEEN 3120)</td>
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<td>MEEN 3230, Dyna. &amp; Controls (ENGR 2302, MATH 3410)</td>
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<td>MEEN 3242, Laboratory II (MEEN 3240)</td>
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### SENIOR YEAR

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<th>Course Description</th>
<th>Credits</th>
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<tbody>
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<td>FALL</td>
<td>MEEN 3100, Manufacturing (ENGR 2332, 3450, 3451)</td>
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<td>MEEN 4150, Design I (see note 5)</td>
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<td></td>
<td>MEEN Advanced Level Energy Elective (see note 6)</td>
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<td>MEEN Advanced Level Technical Elective (see note 6)</td>
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<tr>
<td></td>
<td>Total Hours</td>
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<tr>
<td>SPRING</td>
<td>MEEN 4250, Capstone Design (MEEN 4150)</td>
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<td>MEEN Advanced Level Energy Elective (see note 6)</td>
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<tr>
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<td>MEEN Advanced Level Technical Elective (see note 6)</td>
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**Required prerequisite(s) indicated in parentheses.**

Note 1: MATH 1710 requires one of the following as prerequisite: completion of MATH 1650, Pre-Calculus with a grade of “C” or higher; or Freshman Math Group Level 3; or approval authorized by score on the Mathematics Department Math Placement Test; or earned credit for a math course at or above the MATH 1710 level.

Note 2: CHEM 1415 & 1435 requires MATH 1650, Pre-Calculus, or placement into a higher level math course as prerequisite.

Note 3: MEEN 1000 requires MATH 1650, Pre-Calculus, or placement into a higher level math course as prerequisite.

Note 4: EENG 2610 or ENGR 2405 require MATH 1720 as prerequisite and PHYS 2220, 2240 as prerequisite or corequisite.

Note 5: MEEN 4150 requires EENG 2610 or ENGR 2405, MEEN 3130, MEEN 3210, & MEEN 3230 as prerequisite.

Note 6: Must complete prerequisite(s) for each Advanced Level Energy & Advanced Level Technical Elective course. Please check with an advisor.

Must earn at least a grade of “C” in each course above except for University Core courses.

Must earn at least a 2.5 GPA in Engineering Foundations courses.

---

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MECHANICAL ENGINEERING TECHNOLOGY
Bachelor of Science in Engineering Technology (B.S.E.T.) degree with a major in Mechanical Engineering Technology offered through the Department of Engineering Technology
Discovery Park F-115; (940) 565-2022
www.etec.unt.edu
Faculty Advisor: Dr. Robert Hayes

ENGLISH
- 3 Hours approved course
  Grade of “C” or better required.

UNITED STATES HISTORY
- HIST 2610, U.S. History to 1865 (3 Hours)
- HIST 2620, U.S. History from 1865 (3 Hours)

Honors equivalents, HIST 4700, or advanced US-Topic History course(s) may substitute for the courses above.

POLITICAL SCIENCE
- PSCI 1040, Government: Laws & Institutions (3 Hours)
- PSCI 1050, Government: Processes & Policies (3 Hours)

If you are transferring credit for either PSCI course, check with your advisor. Do not make an assumption about the application of course(s) taken elsewhere.

VISUAL & PERFORMING ARTS
- 3 Hours approved course

HUMANITIES
- 3 Hours approved course

SOCIAL & BEHAVIORAL SCIENCES
- 3 Hours approved course

DISCOVERY
- Fulfilled by ENGR 1030, Technological Systems

CAPSTONE
- Fulfilled by MEET 4790, Senior Design II

MATHEMATICS & SCIENCE
- PHYS 2220, Electricity & Magnetism (3 Hours) & PHYS 2240, Electricity & Magnetism Lab (1 Hour)
- MATH 1720, Calculus II (3 Hours)

MECHANICAL ENGINEERING TECHNOLOGY REQUIREMENTS
- ENGR 1304, Engineering Graphics (3 Hours)
- ENGR 2301, Statics (3 Hours)
- ENGR 2302, Dynamics (3 Hours)
- ENGR 2332, Mechanics of Materials (4 Hours)
- ENGR 2405, Circuit Analysis (3 Hours) & ENGR 2415, Circuit Analysis Lab (1 Hour)
- ENGR 3450, Engineering Materials (3 Hours) & ENGR 3451, Engineering Materials Lab (1 Hour)
- 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 (2 Hours)
- MEET 4780, Senior Design I (1 Hour)
- MEET 4790, Senior Design II (3 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 (2 Hours)
- CSCE 1020, Program Development (4 Hours)
- ELET 3980, Digital Control of Industrial Processes (3 Hours)
- LSCM 3960, Logistics and Supply Chain Management (3 Hours)

TECHNICAL ELECTIVES
- Advanced level (3*** or 4**** level) course chosen from appropriate elective options (3 Hours)
- Advanced level (3*** or 4**** level) course chosen from appropriate elective options (2 Hours)
- Any level course chosen from appropriate elective options (3 Hours)

Technical elective options include courses from the areas of Engineering, Business, or Math. Check with an advisor for approval of each course.

OTHER REQUIREMENTS
- ENGR 1030, Technological Systems (3 Hours)
- ENGR 1060, Communication and Ethics (3 Hours)

Grades of “C” or better required.

This is an unofficial simplified checklist effective Fall 2013. Degree requirements may change. You may need elective courses to help reach a minimum of 124 Total Hours & 42 Advanced Hours. Check with an advisor.
# MECHANICAL ENGINEERING TECHNOLOGY

## Sample Four-Year Schedule

### FRESHMAN YEAR

<table>
<thead>
<tr>
<th>Term</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FALL</strong></td>
<td>MATH 1710, Calculus I (see note 1)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>CHEM 1410 or 1415, Chemistry (see note 2)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>CHEM 1430 or 1435, Chemistry Lab (see note 2)</td>
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</tr>
<tr>
<td></td>
<td>ENGR 1030, Technological Systems</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ENGR 1304, Engineering Graphics</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>English Composition Core course</td>
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</tr>
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<td><strong>Total Hours</strong></td>
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</tr>
<tr>
<td><strong>SPRING</strong></td>
<td>MATH 1720, Calculus II (MATH 1710)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PHYS 1710, Mechanics (MATH 1710)</td>
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</tr>
<tr>
<td></td>
<td>PHYS 1730, Mechanics Lab (MATH 1710)</td>
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<td>ENGR 1060, Comm. &amp; Ethics (English Composition)</td>
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<td>TECM 2700, Tech. Writing (English Composition)</td>
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### SOPHOMORE YEAR

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<td>PHYS 2220, E. &amp; M. (MATH 1720, PHYS 2220, 2240)</td>
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<td>PHYS 2240, E. &amp; M. Lab (MATH 1720, PHYS 2220, 2240)</td>
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<td>ENGR 2301, Statics (MATH 1710, PHYS 1710, 1730)</td>
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<td>CSCE 1020, Program Development</td>
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<td><strong>SPRING</strong></td>
<td>ENGR 2302, Dynamics (ENGR 2301)</td>
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<td>ENGR 2332, Mechanics of Materials (ENGR 2301)</td>
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<td>ENGR 2405, Circuit (MATH 1720, PHYS 2220, 2240)</td>
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<td>ENGR 2415, Circuit Lab (MATH 1720, PHYS 2220, 2240)</td>
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### JUNIOR YEAR

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<td><strong>FALL</strong></td>
<td>ENGR 3450, Materials (PHYS 1710, CHEM Reqt.)</td>
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<td>ENGR 3451, Materials Lab (PHYS 1710, CHEM Reqt.)</td>
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<td>MEET 3940, Fluid Mechanics (ENGR 2302, MATH 1720)</td>
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<td>MEET 3990, Thermo. (MATH 1720, PHYS &amp; CHEM Reqt.)</td>
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<td>MFET 3110, Mach. Principles &amp; Processes</td>
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<td>ELET 3980, Digital Controls (junior classification)</td>
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<td>MEET 3650, Design of Mech. Components (ENGR 2332)</td>
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<td>MFET 4190, Quality Assurance (MFET 3110)</td>
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<td>MFET 4210, CAD/CAM System Operations (see note 3)</td>
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<td>LSCM 3960, Logistics (junior classification)</td>
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### SENIOR YEAR

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<td>MEET 4350, Heat Transfer Applications (see note 4)</td>
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<td>MEET 4780, Senior Design I (MFET 4210 &amp; senior class.)</td>
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<td>MFET 4200, Engineering Costs Analysis (MFET 4190)</td>
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<td>MEET 4360, Exper. Thermal Sci. (MEET 3940, 3990, 4350)</td>
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**Required prerequisite(s) indicated in parentheses.**

Note 1: MATH 1710 requires one of the following as prerequisite: completion of MATH 1650, Pre-Calculus with a grade of “C” or higher; or Freshman Math Group Level 3; or approval authorized by score on the Mathematics Department Math Placement Test; or earned credit for a math course at or above the MATH 1710 level.

Note 2: CHEM 1410 or 1430 requires MATH 1100, College Algebra, or placement into a higher level math course as prerequisite.

Note 3: MFET 4210 requires MFET 3110, CSCE 1020, & completion of all MATH, PHYS, & CHEM requirements as prerequisite.

Note 4: MEET 4350 requires MEET 3940, MATH 1720, PHYS 1710, PHYS 1730, & CHEM requirement as prerequisite.

Must earn at least a grade of “C” in each course above except for University Core courses.

Must earn at least a 2.5 GPA in Engineering Foundations courses.

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This is an unofficial sample schedule. Requirements, prerequisites, etc. may change. Students should meet with an advisor each semester for individual scheduling, program decisions, etc. Engineering admissions requirements must be met & a degree audit must be created in order to progress in the program to a timely graduation.
### UNT Core Information

#### ENGLISH COMPOSITION (3 Hours)
- ENGL 1310, College Writing I
- ENGL 1311, Honors Composition I
- ENGL 1313, Computer Assisted College Writing I
- ENGL 1315, Writing about Literature I
- TECM 1312, Gram. & Comp. For International Students
- TECM 1700, Intro. to Professional, Science, & Tech. Writing

AP English Language & Composition score of 4 or 5 fulfills this category

#### UNITED STATES HISTORY (6 Hours)
- HIST 2610, US to 1865
- or
- HIST 2675, Honors US History to 1865
- or
- HIST 2680, Honors US History from 1865

AP U.S. History score of 3, 4 or 5
CLEP History of United States I
CLEP History of United States II

#### POLITICAL SCIENCE (6 Hours)
- PSCI 1040, American Government
- or
- PSCI 1041, Honors Am. Government
- PSCI 1050, American Government
- or
- PSCI 1051, Honors Am. Government

AP U.S. Government & Politics score of 3, 4 or 5
CLEP American Government fulfills PSCI 1050 or PSCI 1051

#### VISUAL & PERFORMING ARTS (3 Hours)
- ART 1300, Art Appreciation
- ART 1301, Honors Art Appreciation
- ART 2350, Art History Survey I
- ART 2360, Art History Survey II
- COMM 2060, Performance of Literature
- DANC 1200, Appreciation of Dance
- DANC 2800, Survey of Dance
- MUMH 1600, Music in Human Imagination
- MUMH 2040, Music Appreciation
- MUMH 3000, Nineteenth-Century Music
- MUMH 3010, Twentieth-Century Music
- THEA 1340, Aesthetics of the Theatre
- THEA 2340, Theater Appreciation
- THEA 3030, World Theatre to 1700
- THEA 3040, World Theatre from 1700

AP Art History score of 4 or 5
IB Dance score of 4 or higher* fulfills this category

#### HUMANITIES (3 Hours)
- AGER 2250, Images of Aging in Film & Lit.
- ENGL 2210, World Literature I
- ENGL 2211, Honors World Literature I
- ENGL 2220, World Literature II
- ENGL 2221, Honors World Literature
d - ENGL 2322, British Literature to 1780
- ENGL 2323, British Literature from 1780
- ENGL 2327, American Literature to 1870
- ENGL 2328, American Literature from 1870
- FREN 3040, Adv. Reading French Culture
- FREN 4070, French Culture & Lit. thru Film
- FREN 4310, Tempor. French Civilization
- GERM 3040, Topics in German Culture
- GERM 3050, Topics in German Literature
- ITAL 3040, Topics in Italian Culture
- MUET 3030, Music Cultures of the World
- PHIL 1800, Philosophy of Self
- PHIL 2070, Great Religions
- PHIL 2100, Intro. To Judaism
- PHIL 2310, Intro. To Ancient Philosophy
- PHIL 2400, Religion in American Society
- PHIL 2500, Contemp. Environ. Issues
- PHIL 2600, Ethics in Science

AP English Literature & Composition score of 4 or 5 fulfills this category

#### SOCIAL & BEHAVIORAL SCIENCES (3 Hours)
- 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.
- DFST 1013, Human Development
- EADP 4050, Special Pop. in Disasters
- ECON 1100, Microeconomics
- ECON 1110, Macroeconomics
- HLTH 2200, Family Life & Human Sexuality
- JOUR 1210, Mass Comm. & Society
- MKTG 2650, Princ. of Global Marketing
- PADM 2100, Diversity in Urban Gover.
- PSYC 1630, General Psychology I
- PSYC 1650, General Psychology II
- RHAB 3100, Disability & Society
- SOCI 1510, Individuals in Society
- SOCI 2100, Crime & Justice in the U.S.

AP Macroeconomics score of 3, 4 or 5
AP Microeconomics score of 3, 4 or 5
AP Psychology score of 3, 4 or 5
IB Economics score of 4 or higher*
IB Psychology score of 4 or higher*
CLEP Macroeconomics
CLEP Microeconomics
CLEP Human Growth & Development
CLEP Introductory Psychology
CLEP Introductory Sociology

#### DISCOVERY (3 Hours)
- ANTH 1100, World Cultures
- ANTH 1150, World Cultures Through Film
- ANTH 2070, Intro. to Race & Ethnic Studies
- ANTH 2200, Gender Across Cultures
- BICS 3615, Visual Display of Business Info.
- BIOL 1000, Discover Life Science
- BIOL 1750/1755, Intro. Research Lab I & II
- BUSI 1340, Managing Business Enterprise
- CHEM 1400, Discover Chemistry
- CJUS 3700, Ethical Issues in Criminal Justice
- COMM 1010, Intro. to Communication
- COMM 1440, Honors Classical Argument
- COMM 2040, Public Speaking
- COUN 2620, Diversity & Cultural Awareness
- DANC 1100, Stress Reduct. Thru Movement
- DFSF 2033, Parenting in Diverse Families
- EENG 1910, Learning to Learn
- ENGL 2500, Intro. Literary Analysis & Intrepre.
- ENGR 1030, Technological Systems
- FREN 1610, French Influence in North Am.
- FREN 1620, French Language in Canada
- GEOG 1200, World Regional Geography
- GEOG 1500, Geography of DW Metroplex
- HIST 1050, World History to 1500
- HIST 1060, World History from 1500
- HMGST 1450, Principles of Nutrition
- HNRS 1100, The Good Society
- HNRS 1500, Intro. to Research
- INST 2100, Intro. to International Studies
- LING 2050, Pop Culture, Tech., & Society
- MATH 2000, Discrete Mathematics
- MDSE 2750, Consumers in a Global Market
- MEEN 1000, Discover Mech. & Energy Engr.
- MGMT 3330, Communicating in Business
- MKTG 3010, Professional Selling
- MUAG 1500, Occupational Health
- PHED 1000, Health Related Fitness
- PHIL 1050, Introduction to Philosophy
- PHIL 1400, Contemporary Moral Issues
- PHIL 2050, Introduction to Logic
- PSYC 1500, Mythbusting
- RHAB 3000, Microcounseling
- SOCI 2070, Race & Ethnic Relations
- SOWK 4500, Human Diversity
- TECM 1500, New Media for College Career
- UGST 1000, Freshman Seminar
- WMST 2100, Women & Society

AP World History score of 3, 4 or 5
IB Geography score of 4 or higher*
IB History score of 4 or higher* fulfills this category

#### CAPSTONE (3 Hours)
- CNET 4790, Senior Design II
- CSCE 4010, Social Issues in Computing
- CSCE 4011, Engineering Ethics
- EENG 4990, Senior Design II
- ELET 4790, Senior Design II
- MEEN 4250, Capstone Design II
- MEET 4790, Senior Design II
- MTSE 4100, Senior Project II

*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.
**CALCULUS I (4 Hours)**
MATH 1710, Calculus I (4 Hours)

Math Placement for Freshman Students:
If you have not earned credit for math courses via AP, IB, CLEP, or transfer credit, you must begin math courses based on your Math Group Level assigned by the Math Department:
Math Level 0 or No Math Level: MATH 1010, 1581, or 1681
Math Level 1: MATH 1100
Math Level 2: MATH 1600 or 1650
MATH Level 3: MATH 1710

Math Placement Test:
If you feel that you are capable of beginning your math courses at a higher level than your pre-assigned Math Group Level or qualification based on earned math credit, you can take a Math Placement test to seek approval into a higher math course. Contact the Math Department at (940) 565-2155 or General Academic Building (GAB) 440.

AP Statistics score of 3, 4, 5: MATH 1680
AP Calculus AB score of 3, 4, 5: MATH 1710
AP Calculus BC score of 3, 4, 5: MATH 1710, 1720
AP Calculus AB Subscore of BC Exam score 3, 4, or 5: MATH 1710
CLEP Mathematics: elective
CLEP College Algebra: MATH 1100
CLEP Trigonometry: MATH 1600
CLEP Pre-calculus: MATH 1650
CLEP Calculus with Elementary Functions: MATH 1710
IB Mathematic Studies: Elective, no prerequisite
IB Mathematics: MATH 1710
Transfer Remedial or Intermediate Algebra: Prerequisite for MATH 1581 or 1681
Transfer College Algebra: MATH 1100
Transfer Statistics: Prerequisite for MATH 1100
Transfer Trigonometry credit: MATH 1600
Transfer Business Math or Business Calculus: Prerequisite for MATH 1600 or 1650
Transfer Pre-calculus credit: MATH 1650

**CHEMISTRY (4 Hours)**
CHEM 1410, General Chemistry I (3 Hours) & CHEM 1430, General Chemistry Lab (1 Hour)
or
CHEM 1415, Chemistry for Engineers (3 Hours)
CHEM 1435, Chemistry for Engineering Lab (1 Hour)

AP Chemistry score of 4: CHEM 1410-1430
AP Chemistry score of 5: CHEM 1410-1430, 1420-1440
CLEP Chemistry: CHEM 1410, CHEM 1420
IB Chemistry: CHEM 1410-1430, 1420-1440

**PHYSICS (4 Hours)**
PHYS 1710, Mechanics (3 Hours) & PHYS 1730, Mechanics Lab (1 Hour)

AP Physics C (Mechanics) score 4 or 5: PHYS 1710-1730
AP Physics C (Electricity & Magnetism score of 4 or 5: PHYS 2220-2240

**TECHNICAL COMMUNICATION (3 Hours)**
TECM 2700, Technical Writing (3 Hours)

Grades of “C” or better is required.
Needs 2.5 GPA in MATH 1710, CHEM 1410 & 1430 or 1415 & 1435, PHYS 1710 & 1730, and TECM 2700.

Select 1 course to fulfill prerequisite for MATH 1100

MATH 1010: Fundamentals of Algebra
MATH 1581: Survey of Math
MATH 1681: Elem. Probability & Statistics

Take MATH 1010 only if required by UNT; otherwise take MATH 1581 or MATH 1681.

Check your requirement checklist & sample plan for appropriate CHEM course/lab.
## Minor & Certificate Information

### BUSINESS FOUNDATIONS MINOR (18 Hours)
- ACCT 2010, Accounting Principles I (3 Hours)
- ACCT 2020, Accounting Principles II (3 Hours)
- Plus 4 advanced level courses chosen from a specific list of options which is located in the UNT catalog located at catalog.unt.edu.

*Must complete appropriate prerequisites in order to enroll in courses. Please check with an advisor.*

### COMPUTER SCIENCE & ENGINEERING MINOR (19 Hours)
- CSCE 1030, Computer Science I (4 Hours)
- CSCE 1040, Computer Science II (3 Hours)
- CSCE 2100, Computing Foundations I (3 Hours)
- CSCE 2110, Computing Foundations II (3 Hours)
- CSCE 3*** or 4***, CSCE advanced level course (3 Hours)
- CSCE 3*** or 4***, CSCE advanced level course (3 Hours)

*Must complete appropriate prerequisites in order to enroll in Advanced Level CSCE courses. Please check with an advisor.*

### ELECTRICAL ENGINEERING MINOR (18 Hours)
- EENG 2610, Circuit Analysis (3 Hours)
- EENG 2620, Signals & Systems (3 Hours)
- EENG 2710, Digital Logic Design (3 Hours)
- EENG 2910, Digital System Design (3 Hours)
- or
- EENG 2920, Analog Circuit Design (3 Hours)
- EENG 3510, Electronics I (3 Hours)
- EENG 4***, EENG advanced level course (3 Hours)

*Must complete appropriate prerequisites in order to enroll in EENG courses. Please check with an advisor.*

### GENERAL ENGINEERING TECHNOLOGY MINOR (18 Hours)
- 6 courses (12 Hours) including 2 advanced level courses (6 Hours) chosen from the Department of Engineering Technology. Courses from this department are coded as CNET, ELET, ENGR, MEET, or MFET.

*Must complete appropriate prerequisites in order to enroll in courses. Please check with an advisor.*

### MATERIALS SCIENCE & ENGINEERING MINOR (18 Hours)
- ENGR 3450, Engineering Materials (3 Hours)
- Plus 5 courses (15 Hours) chosen from MTSE 3***, MTSE 4*** level courses. 2 of the 5 courses must include MTSE 3010, 3030, 3050, or 3070.

*Must complete appropriate prerequisites in order to enroll in courses. Please check with an advisor.*

### MATHEMATICS MINOR (18 Hours)
- MATH 1710, Calculus I (4 Hours)
- MATH 1720, Calculus II (3 Hours)
- Plus 4 MATH courses (12 Hours) higher level than MATH 1720 including 2 advanced level (6 Hours) of MATH 3***, MATH 4***.

*Must complete appropriate prerequisites in order to enroll in MATH courses. Please check with an advisor.*

### ENERGY ASSESSMENT OF BUILDINGS CERTIFICATE (15 Hours)
- MEEN 3220, Mechanical & Energy Engineering Projects (3 Hours)
- MEEN 4320, Mechanical Systems of Buildings (3 Hours)
- MEEN 4335, Computational Simulation of Building Energy Systems (3 Hours)
- MEEN 4340, Energy Efficiencies & Green Building Design for Commercial Buildings (3 Hours)
- MEEN 4350, Energy Efficiencies & Green Building Design for Residential Buildings (3 Hours)

*Must complete appropriate prerequisites in order to enroll in courses. Please check with an advisor.*

### GAME PROGRAMMING CERTIFICATE (12 Hours)
- CSCE 4210, Game Programming I (3 Hours)
- CSCE 4215, Programming Math & Physics for Games (3 Hours)
- CSCE 4220, Game Programming II (3 Hours)
- CSCE 4250, Topics in Game Development (3 Hours)

*Must complete appropriate prerequisites in order to enroll in CSCE courses. Please check with an advisor.*

### MATHEMATICS OF SCIENTIFIC COMPUTATION CERTIFICATE (18 Hours)
- CSCE 1020, Program Development (4 Hours)
- or
- CSCE 1030, Computer Science I (4 Hours)
- MATH 3350, Introduction to Numerical Analysis (3 Hours)
- MATH 3410, Differential Equations (3 Hours)
- Plus 3 advanced level courses chosen from a specific list of options which is located in the UNT catalog at catalog.unt.edu.

*Must complete appropriate prerequisites in order to enroll in courses. Please check with an advisor.*

### SECURITY CERTIFICATE (19 Hours)
- CSCE 1030, Computer Science I (4 Hours)
- CSCE 1040, Computer Science II (3 Hours)
- CSCE 2610, Assembly Language & Computer Organization (3 Hours)
- CSCE 3530, Intro. to Computer Networks (3 Hours)
- CSCE 4550, Intro. to Computer Security (3 Hours)
- CSCE 4560, Secure Electronic Commerce (3 Hours)

*Must complete appropriate prerequisites in order to enroll in CSCE courses. Please check with an advisor.*

### TECHNICAL WRITING CERTIFICATE (12 Hours)
- TECM 2700, Technical Writing (3 Hours)
- TECM 4180, Advanced Technical Writing (3 Hours)
- TECM 4190, Technical Editing (3 Hours)
- TECM 4100, Writing Grants & Proposals (3 Hours)
- or
- TECM 4250, Writing Technical Procedures & Manuals (3 Hours)
- or
- TECM 4700, Writing in the Sciences (3 Hours)

*TECM 2700 is the prerequisite for TECM 4*** courses.*

Minors & Certificates are not required in order to graduate with a degree from the College of Engineering at UNT.

UNT offers many more minors & certificates than those listed on this page. Information on all available minor & certificate options & requirements can be found in the UNT catalog located at catalog.unt.edu.
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<th>Engineering.Unt.edu/Advising &amp; (940) 565-4201 &amp; NTDP C-104</th>
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<td>Email Account (EagleConnect)</td>
<td>Eagleconnect.Unt.edu or Unt.edu/Helpdesk</td>
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<td>Engineering Student Organizations &amp; Honor Societies</td>
<td>Engineering.Unt.edu/Ceo/Home</td>
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<td>Employment, Internships, &amp; Job Skills:</td>
<td>Careercenter.Unt.edu &amp; Inroads.Org &amp; Internmatch.com &amp; Texasinternships.jobs</td>
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<td>Financial Assistance</td>
<td>Financialaid.Unt.edu &amp; ESSC.Unt.edu/Saucs &amp; Moneymanagement.Unt.edu</td>
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<td>Library.Unt.edu</td>
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<td>Office of Disability Accommodations</td>
<td>Disability.Unt.edu</td>
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<td>Registrar (General Information, Drop, Excessive Hours, Graduation, Registration, Transcripts)</td>
<td>ESSC.Unt.edu/Registrar</td>
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<td>My.Unt.edu &amp; Unt.edu/Registration</td>
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<td>Scholarships</td>
<td>Engineering.Unt.edu/Students/Scholarships-and-Grants &amp; Financialaid.Unt.edu &amp; Searchforcolleges.org</td>
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<td>Student Activities &amp; Organizations</td>
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