# UNT

# Agreen light to greatness:



College of Engineering
Undergraduate Academic Guide
2012-2013



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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 & you are 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) after you have requested a degree audit. A 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. You must contact a faculty advisor in the department of your desired degree program (major) to initiate the degree audit. Please see below & on the next page for faculty advisor contact information.

# Department of Computer Science & Engineering

Discovery Park F201; 940-565-2767 www.cse.unt.edu Faculty Advisors: Dr. Ryan Garlick & Mr. David Keathly

# **Bachelor of Science: Computer Engineering**

Designing, constructing, & operating computer systems. You can specialize in digital systems, operating systems, real-time & embedded systems, networks, micro-processors, or hardware. You will learn what you need to know to work with cell phones, PDAs, robotics, & biomedical devices.

# **Bachelor of Science: Computer Science**

Software programming -- writing the detailed instructions that list in logical order the steps a computer must follow to organize data, solve a problem, or do some other task. You can specialize in game programming, information security, networks, database design, or artificial intelligence.

# **Bachelor of Arts: Information Technology**

Applying modern technologies to the creation, management, & use of information. You will learn about programming, information systems, project management, networks, security, & IT systems.

# **Department of Electrical Engineering**

Discovery Park B252; 940-891-6872 www.ee.unt.edu Faculty Advisor: Dr. Ike Agbor

# **Bachelor of Science: Electrical Engineering**

Designing electrical & electronic systems & components in computers, household appliances, televisions, communications equipment, cars, airplanes, satellites, & the space shuttle. You'll learn about electronic circuits, measurement systems, digital signal processing, computer-aided design, microprocessors, & wireless communications.

# **Department of Engineering Technology**

Discovery Park F115; 940-565-2022 www.etec.unt.edu Faculty Advisor: Dr. Robert Hayes

# Bachelor of Science in Engineering Technology: Construction Engineering Technology

Deals with structural design, project management, surveying, estimating, construction materials, computer applications, accounting, safety, & contract & business law.

# Bachelor of Science in Engineering Technology: Electrical Engineering Technology

Deals with circuit analysis, digital systems, micro-processors, computers, circuit board designs, automatic control systems, & network analysis. It's similar to Electrical Engineering, but differs in that is more focused on application & less focused on theory & math.

# Bachelor of Science in Engineering Technology: Mechanical Engineering Technology

Developing & constructing mechanical components or systems that may be used for a wide range of mechanical devices, machinery, & complete mechanical systems such as automobiles, power plants, steam/gas engines, robots, & spacecrafts. It's similar to Mechanical & Energy, but differs in that it's more focused on application & less focused on theory, math, energy, & thermal fluid sciences.

# Department of Materials Science & Engineering

Discovery Park E132; 940-565-3260 www.mste.unt.edu Faculty Advisor: Dr. Peter Collins

# Bachelor of Science: Materials Science & Engineering

Developing, changing, & using different processes to turn raw materials into useful substances. You can learn to create new materials, such as the material on the U.S. Air Force's stealth planes that makes them nearly invisible to radar, & work with materials like plastics, metals or ceramics.

# **Department of Mechanical & Energy Engineering**

Discovery Park F101; 940-565-2400 www.mee.unt.edu Faculty Advisors: Dr. Xiaohua Li & Dr. Cherish Qualls

# Bachelor of Science: Mechanical & Energy Engineering

Conceiving, designing, & building mechanical systems. You will learn about energy, dynamics, robotics, propulsion, manufacturing, & nanotechnology. Conventional ME programs are generalized, allowing specialization only in the final year whereas MEEN focuses on energy & thermal fluid sciences throughout the entire program, making graduates the most focused, qualified energy engineers.

### College of Engineering Advising Office

Discovery Park C104; 940-565-4201 www.eng.unt.edu/advising "UNT College of Engineering Advising Office" on facebook

**Advisors/Counselors:** Nicole D'Alesandro, Virginia Fisher, Kimberly Srader, Nancy Van Hoy **Director of Academic Services:** Dr. Christopher Heiden

Advising by appointment only. No walk-ins. Please allow at least 2 weeks for an available appointment opening.

# **Discovery Park**

Discovery Park is a 2<sup>nd</sup> campus located 4 miles north of the main campus. It is the location of all College of Engineering offices, classes, labs, & more. Information on free bus transportation routes/times & available student parking passes/locations can be found at **www.unt.edu/transit**.

# **Degree Requirements**

The structure of engineering bachelor's degrees consists of 3-4 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 primary area of study.
- Minor: optional set of requirements for a secondary area of study; a "mini-major".
- Electives: set of freely chosen courses; may be optional; see your advisor for more information.

### 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

Junior 3000 Senior 4000

# 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.
- Restricted course: course or section time that is restricted so that only certain students can enroll.
- 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 for 12 – 15 hours.

# 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 meet have:

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.

# <u>Do I have to be a full-time student?</u>

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

Classification is based on the number of earned credit hours after semester grade/credit posting. Classification dictates your registration appointment each semester & may impact your eligibility for scholarships, financial aid, etc.

Freshman: 0 - 29 hours Junior: 60 - 89 hours Sophomore: 30 - 59 hours Senior: 90+ hours

# 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
- Dividé 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 guide for your major.

# 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 2<sup>nd</sup> bachelor's degree are not eligible for semester honors.

President's List: 4.000 Dean's List: 3.500 – 3.999

### Graduation with Honors:

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

Cum laude: 3.500 – 3.699

Magna cum laude: 3.700 – 3.899 Summa cum laude: 3.900 – 4.000

### 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 2.0 for the 1st time. 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 2.0. 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 1<sup>st</sup> suspension is for 1 long semester, a 2<sup>nd</sup> suspension is for 2 long semesters, & a 3<sup>rd</sup> 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. Refer to www.unt.edu/catalog for more information & www.unt.edu/registration for deadlines.

# **Retaking Courses: Course Duplications**

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

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.

# **Dropping or Withdrawing**

Dropping refers to removing yourself from one or more courses for the semester/term (but remain in at least one course for the semester/term). You must follow the procedures & deadlines listed at www.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 www.unt.edu/reaistration. A "W" or "WF" may be recorded on your transcript.

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

# Registration

You will be using MyUNT to register for classes each semester/term. It is your personal database for all your information connected with UNT. You can access the system at www.my.unt.edu. 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 Bulletin (Catalog). You can locate it at catalog.unt.edu. The catalog contains information on:

- Majors/Minors offered
- Course descriptions (including pre-requisites and co-requisites)
- 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: www.unt.edu/registration.

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

# 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.
- You meet course load approval & residency requirements at UNT.
- You are not graduating the same semester/tem in which you will be concurrently enrolled.

# **Payment**

You must register during open enrollment periods & pay by the deadline listed in MyUNT or **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 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 for information.

# **Tuition: Repeated Courses**

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 <a href="http://essc.unt.edu/registrar/repeated.html">http://essc.unt.edu/registrar/repeated.html</a>.

### **Tuition: Excessive Hours**

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 http://essc.unt.edu/registrar/excess.html & http://essc.unt.edu/saucs/.

# **Financial Aid: Excessive Hours**

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

### 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 http://essc.unt.edu/registrar/graduation.html for more information & the application deadline.

# Commencement

Commencement is UNT's formal graduation ceremony. UNT offers 3 commencements per year: 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 http://www.unt.edu/commencement/for more information.

# **COMPUTER ENGINEERING**

This is an unofficial simplified guide effective Fall 2012

University Core	Major Requirements: Computer Engineering
ENGLISH	MATHEMATICS & SCIENCE PHYS 2220-2240 (4 Hours)
Grade of "C" or better is required.	MATH 1720 (3 Hours)  MATH 1780 (3 Hours)
UNITED STATES HISTORY HIST 2610 HIST 2620	MATH 2700 (3 Hours)  MATH 2730 (3 Hours)  Advanced Math or Science (3 Hours)
Honors equivalents, HIST 4700, or advanced US-Topic	Choose a 3000 or 4000 level course from Math, Physics, Chemistry, Biology, Geology, Geography. Check with your advisor for approval.
History course(s) may substitute for the courses above.	ELECTRICAL ENGINEERING
POLITICAL SCIENCE           PSCI 1040           PSCI 1050	EENG 2610 (3 Hours)
If you are transferring credit for either PSCI course, check with your advisor. Do not make an assumption	ADVANCED TECHNICAL ELECTIVE  Adv. Technical Elective (3 Hours)
about the application of course(s) taken elsewhere.	Choose 3000 or 4000 level courses from the areas of Engineering, Business, Biology, Chemistry, Economics, Math, or Physics. Check with your advisor for approval.
SOCIAL AND BEHAVIORAL SCIENCES	with your advisor for approval.
VISUAL / PERFORMING ARTS  HUMANITIES	COMPUTER SCIENCE and ENGINEERING         CSCE 1030 (4 Hours)
<u>DISCOVERY</u>	CSCE 3730 (3 Hours)
CAPSTONE	CSCE 4011 (3 Hours)  CSCE 4910 (3 Hours)  CSCE 4915 (3 Hours)
Please note that CSCE 4011 is a Major Requirement & double-dips for this category.	CSCE Specialty Elective (3 Hours)  CSCE Specialty Elective (3 Hours)  CSCE Specialty Elective (3 Hours)
Engineering Foundations	Choose a specialty area & complete 3 approved courses below:
Engineering Foundations	Specialization Area: Real-time and Embedded Systems ELET 3750, CSCE 4440, 4610, 4620, 4730
MATH 1710 (4 Hours) CHEM 1410-1430 (4 Hours) <b>or</b> 1415-1435 (4 Hours)	Specialization Area: VLSI and Electronics ELET 3750, PHYS 4500, CSCE 4610, 4730, 4750
PHYS 1710-1730 (4 Hours) TECM 2700 (3 Hours)	<b>Specialization Area: Communications and Networks</b> CSCE 3510, 3530, 4520, 4530, 4550, 4560
Grades of "C" or better required. Needs 2.5 GPA.	<b>Specialization Area: Computer Systems</b> CSCE 3030, 3650, 4600, 4610, 4620

### **ELECTIVE COURSES**

You may need elective courses to help reach a minimum of 122 Total Hours & 45 Advanced Hours. Check with your advisor .

Grades of "C" or better required. Needs 2.75 GPA in CSCE courses.

# Bachelor of Science: Major in Computer Engineering

Sample Four-Year Schedule

	FRESHMAN YEA	R	
CSCE 1030, Computer Science I English Composition core course HIST 2610, United States History MATH 1710, Calculus I CHEM 1410 or 1415, Chemistry CHEM 1430 or 1435, Chemistry Lab Total Hours	4 3 3 4 3 1 18	SPRING  CSCE 1040, Computer Science II  TECM 2700, Technical Writing  HIST 2620, United States History  MATH 1720, Calculus II  PHYS 1710, Mechanics  PHYS 1730, Mechanics Lab  Total Hours	3 3 3 3 1 16
FALL CSCE 2100, Computing Foundations I EENG 2710, Digital Logic PHYS 2220, Electricity and Magnetism PHYS 2240, Electricity and Magnetism Lab Discovery core course MATH 2730, Multivariable Calculus Total Hours	3 3 3 1 3 3 16 JUNIOR YEAR	SPRING EENG 2610, Circuits Analysis CSCE 2110, Computing Foundations II CSCE 2610, Computer Organization MATH 2700, Linear Algebra MATH 1780, Probability Models Total Hours	3 3 3 3 <u>3</u> 15
FALL CSCE 3010, Signals and Systems CSCE 3612, Embedded Systems Design CSCE 3730, Reconfigurable Logic PSCI 1040, American Government Technical Elective (advanced) Total Hours	3 3 3 3 3 15 SENIOR YEAR	SPRING CSCE 3020, Communications Systems CSCE 3600, Computer Systems EENG 3510, Electronics I PSCI 1050, American Government Social and Behavioral Science course Total Hours	3 3 3 3 3 15
FALL CSCE 4910, Computer Engineering Design I CSCE Specialty Area Elective Mathematics or Science Elective (advanced) Visual and Performing Arts course Humanities course Total Hours	3 3 3 3 3 15	SPRING CSCE 4915, Computer Engineering Design II CSCE Specialty Area Elective CSCE Specialty Area Elective CSCE 4011, Engineering Ethics Advanced Elective Total Hours	3 3 3 3 3

# **PLEASE NOTE:**

This is an unofficial sample schedule.

Students should meet with their advisor each semester for individual scheduling, program decisions, etc. Engineering admissions requirements must be met & a degree audit must be created in order to transition from pre-engineering to full major to progress in the program.

# **COMPUTER SCIENCE**

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University Core	Major Requirements: Computer Science contra
<u>ENGLISH</u>	MATHEMATICS & SCIENCE
	PHYS 2220-2240 (4 Hours)
Grade of "C" or better required.	BIOL 1710-1730 (4 Hours) <b>or</b>
·	1720-1740 (4 Hours)
JNITED STATES HISTORY	MATH 1720 (3 Hours)
	MATH 1780 (3 hours)
HIST 2610	MATH 2700 (3 Hours)
HIST 2620	
	ELECTRICAL ENGINEERING
Honors equivalents, HIST 4700, or advanced US-Topic History course(s) may substitute for the courses above.	EENG 2710 (3 Hours)
	COMPUTER SCIENCE and ENGINEERING
POLITICAL SCIENCE	CSCE 1030 (4 Hours)
PSCI 1040	CSCE 1040 (3 Hours)
PSCI 1050	CSCE 2100 (3 Hours)
	CSCE 2110 (3 Hours)
f you are transferring credit for either PSCI course,	CSCE 2610 (3 Hours)
check with your advisor. Do not make an assumption	CSCE 3110 (3 Hours)
about the application of course(s) taken elsewhere.	CSCE 3600 (3 Hours)
	CSCE 4010 (3 Hours)
SOCIAL AND BEHAVIORAL SCIENCES	CSCE 4110 (3 Hours)
	3 CSCE courses (9 Hours) chosen from:
	CSCE 3650 (3 Hours)
VISUAL / PERFORMING ARTS	CSCE 4115 (3 Hours)
VIGOTE / FERT CHANNETO THE C	CSCE 4410 (3 Hours)
<del></del>	CSCE 4430 (3 Hours)
	CSCE 4600 (3 Hours)
<u>HUMANITIES</u>	CSCE 4610 (3 Hours)
	CSCE 4999 (3 Hours)
DISCOVERY	3 CSCE courses (9 Hours) chosen from:
	CSCE 3530 (3 Hours)
	CSCE 4210 (3 Hours)
CAPSTONE	CSCE 4230 (3 Hours)
	CSCE 4310 (3 Hours)
	CSCE 4350 (3 Hours)
Please note that CSCE 4010 is a Major Requirement &	CSCE 4444 (3 Hours)
double-dips for this category.	CSCE 4901 (3 Hours)
	3 CSCE courses (9 Hours) chosen from electives:
Fig. stip a satisfact Factor at attacks	CSCE 3*** or 4*** (3 Hours)
Engineering Foundations	CSCE 3*** or 4*** (3 Hours)
	CSCE 3*** or 4*** (3 Hours)
MATH 1710 (4 Hours)	
MATH 1710 (4 Hours) PHYS 1710-1730 (4 Hours)	Maximum of 6 hours may be applied from CSCE 4890, 4920, 4940, c
CHEM 1410-1430 (4 Hours) <b>or</b>	4950. Consult your faculty advisor.
1415-1435 (4 Hours)	Completion of CCCT 2520 AEEO 9 AE(O agree a partition to form the
TECM 2700 (3 Hours)	Completion of CSCE 3530, 4550, & 4560 earns a certificate from the Committee on National Security Systems. Completion of CSCE 4210
	4215, 4220, & 4250 earns a certificate in Game Programming.
Grades of "C" or better required. Needs 2.5 GPA.	
	Grades of "C" or better required. Needs 2.75 GPA in CSCE courses.

courses.

# **ADVANCED TECHNICAL WRITING**

1 course (3 Hours) chosen from TECM 4180, 4190, or 4250

Major Requirements: Computer Science

You may need elective courses to help reach 120 Total Hours & 42 Advanced Hours. Check with your advisor concerning elective

# Bachelor of Science: Major in Computer Science

Sample Four-Year Schedule

	FRESHMAN YEA	AR	
FALL CSCE 1030, Computer Science I ENGL 1310 or 1313, College Writing I PSCI 1040, American Government MATH 1710, Calculus I CHEM 1410 or 1415, Chemistry CHEM 1430 or 1435, Chemistry Lab Total Hours	4 3 3 4 3 1 18	SPRING CSCE 1040, Computer Science II TECM 2700, Technical Writing MATH 1720, Calculus II PHYS 1710, Mechanics PHYS 1730, Mechanics Lab Visual and Performing Arts course Total Hours	3 3 3 1 3 16
	SOPHOMORE Y	EAR	
FALL CSCE 2100, Computing Foundations I EENG 2710, Digital Logic PHYS 2220, Electricity and Magnetism PHYS 2240, Electricity and Magnetism Lab MATH 2700, Linear Algebra HIST 2610 or 2620, United States History Total Hours	3 3 3 1 3 3 16	SPRING CSCE 2610, Computer Organization CSCE 2110, Computing Foundations II MATH 1780, Introduction to Statistical Analysis BIOL 1710 or 1720, Principles of Biology BIOL 1730 or 1740, Principles of Biology Lab Humanities course Total Hours	3 3 3 1 3 16
	JUNIOR YEAR		
FALL CSCE 3600, Principles of Systems CSCE 3110, Data Structures TECM 4180 or 4190 or 4250 CSCE course Discovery course Total Hours	3 3 3 3 3 15	SPRING CSCE course CSCE course CSCE course CSCE course HIST 4700, Texas History Total Hours	3 3 3 3 3
	SENIOR YEAR		
FALL CSCE 4110, Analysis of Algorithms CSCE 4010, Social Issues in Computing CSCE course CSCE course PSCI 1050, American Government Total Hours	3 3 3 3 3 15	SPRING CSCE course CSCE course CSCE course Social and Behavioral Sciences course Total Hours	3 3 3 3 12

# **PLEASE NOTE:**

This is an unofficial sample schedule.

Students should meet with their advisor each semester for individual scheduling, program decisions, etc. Engineering admissions requirements must be met & a degree audit must be created in order to transition from pre-engineering to full major to progress in the program.

# **CONSTRUCTION ENGINEERING TECHNOLOGY**

This is an unofficial simplified guide effective Fall 2012

University Core	Major Requirements: Construction Engr. Tech.
ENGLISH  Grade of "C" or better required.	MATHEMATICS & SCIENCE  MATH 1720 (3 Hours)  PHYS 2220-2240 (4 hours)
UNITED STATES HISTORY  HIST 2610  HIST 2620  Honors equivalents, HIST 4700, or advanced US-Topic History course(s) may substitute for the courses above.  POLITICAL SCIENCE PSCI 1040 PSCI 1050  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.	CONSTRUCTION ENGINEERING TECHNOLOGY REQUIREMENTS  CNET 1160 (3 Hours)  CNET 2180 (4 Hours)  CNET 2300 (2 Hours)  CNET 3150 (2 Hours)  CNET 3160 (3 Hours)  CNET 3190 (3 Hours)  CNET 3410 (3 Hours)  CNET 3430 (3 Hours)  CNET 3440 (3 Hours)  CNET 3440 (3 Hours)  CNET 3480 (3 Hours)  CNET 3480 (3 Hours)  CNET 4170 (3 Hours)  CNET 4170 (3 Hours)  CNET 4180 (3 Hours)  CNET 4180 (3 Hours)  CNET 4180 (3 Hours)
SOCIAL AND BEHAVIORAL SCIENCES  Please note that ECON 1100 is a Major Requirement & Double-dips for this category.  VISUAL / PERFORMING ARTS	CNET 4780 (1 Hours) CNET 4780 (1 Hours) CNET 4790 (3 Hours)  ENGR 2301 (3 Hours) ENGR 2332 (4 Hours)  ACCT 2010 (3 Hours) ECON 1100 (3 Hours) BLAW 3430 (3 Hours) BLAW 4770 (3 Hours) MGMT 3830 (3 Hours)
HUMANITIES  DISCOVERY	CSCE 1020 (4 Hours)  OTHER REQUIREMENTS ENGR 1030 (3 Hours) ENGR 1060 (3 Hours)
Please note that ENGR 1030 is a Major Requirement & double-dips for this category.  CAPSTONE	Grades of "C" or better required. Needs 2.5 GPA in Construction Engineering Technology Requirement courses.
Please note that CNET 4790 is a Major Requirement & double-dips for this category.  Engineering Foundations	ELECTIVE COURSES You may need elective courses to help reach 124 Total Hours & 42 Advanced Hours. Check with your advisor concerning elective courses.
MATH 1710 (4 Hours)  PHYS 1710-1730 (4 Hours)  CHEM 1410-1430 (4 Hours) or  1415-1435 (4 Hours)	

Grades of "C" or better required. Needs 2.5 GPA.

TECM 2700 (3 Hours)

# Bachelor of Science in Engineering Technology: Major in Construction Engineering Technology

Sample Four-Year Schedule

	FRESHM	IAN YEAR	
FALL CHEM 1410 or 1415, Chemistry CHEM 1430 or 1435, Chemistry Lab English Composition course MATH 1710, Calculus I CNET 1160, Construction Methods & Mtls ECON 1100, Microeconomics Total Hours	3 1 3 4 3 3 17	SPRING CNET 2180, Const Methods & Surveying Visual & Performing Arts MATH 1720, Calculus II PHYS 1710, Mechanics PHYS 1730, Mechanics Lab HIST 2610, U.S. History to 1865 Total Hours	4 3 3 3 1 3 17
2	SOPHON	ORE YEAR	
FALL ACCT 2010, Accounting Principles I PHYS 2240, Electricity & Magnetism Lab PHYS 2220, Electricity & Magnetism CNET 2300, Architectural Drawing ENGR 2301, Statics TECM 2700, Tech Writing Total Hours	3 1 3 2 3 3 15	SPRING ENGR 2332, Mechanics of Materials ENGR 1060, Communications & Ethics CSCE 1020, Program Development HIST 2620, US History since 1865 Elective (see advisor) Total Hours	4 3 4 3 2 16
	JUNIOR	YEAR	
FALL CNET 3150, Const. Contract Documents CNET 3160, Const. Cost Estimating CNET 3410, Occupational Safety Liability CNET 3430, Structural Analysis PSCI 1040, American Government Total Hours	2 3 3 3 3 14	SPRING CNET 3190, Construction Scheduling CNET 3440, Steel Structures CNET 3460, Soils and Foundation PSCI 1050, American Government MGMT 3830, Operations Mgmt. Total Hours	3 3 3 3 3 15
	SENIOR	YEAR	
FALL BLAW 3430, Legal & Ethical Environment CNET 4170, Construction Management CNET 3480, Structural Design w/Concrete CNET 4780, Senior Design I Humanities course ENGR 1030, Technological Systems Total Hours	3	SPRING BLAW 4770, Real Estate Law CNET 4180, Problems in Project Mgmt CNET 4790, Senior Design II CNET 4620, Adv Design in Cold-Formed Steel Structures Total Hours	3 3 3 3

# **PLEASE NOTE:**

This is an unofficial sample schedule.

Students should meet with their advisor each semester for individual scheduling, program decisions, etc. Engineering admissions requirements must be met & a degree audit must be created in order to transition from pre-engineering to full major in the program.

# **ELECTRICAL ENGINEERING**

This is an unofficial simplified guide effective Fall 2012

University Core	Major Requirements: Electrical Engineering
ENGLISH	MATHEMATICS & SCIENCE
	PHYS 2220-2240 (4 Hours) MATH 1720 (3 Hours)
Grade of "C" or better required.	MATH 2700 (3 Hours)
	MATH 2730 (3 Hours)
UNITED STATES HISTORY	MATH 3410 (3 Hours)
HIST 2610 HIST 2620	MATH 3680 (3 Hours)
ПіЗІ 2020	Please note that completion of the above UNT Math courses will
Honors equivalents, HIST 4700, or advanced US-Topic	earn a minor in Mathématics.
History course(s) may substitute for the courses above.	ELECTRICAL ENGINEERING COURSES
	EENG 1910 (3 Hours)
POLITICAL SCIENCE	EENG 1920 (3 Hours)
PSCI 1040	EENG 2610 (3 Hours)
PSCI 1050	EENG 2620 (3 Hours) EENG 2710 (3 Hours)
If you are transferring and lift for eith or DCCL on tree	EENG 2910 (3 Hours)
If you are transferring credit for either PSCI course, check with your advisor. Do not make an assumption	EENG 2920 (3 Hours)
about the application of course(s) taken elsewhere.	EENG 3410 (3 Hours)
	EENG 3510 (3 Hours)
SOCIAL AND BEHAVIORAL SCIENCES	EENG 3520 (3 Hours) EENG 3710 (3 Hours)
	EENG 3810 (3 Hours)
WOULD / DEDECTIVE ADTO	EENG 3910 (3 Hours)
VISUAL / PERFORMING ARTS	EENG 3920 (3 Hours)
	EENG 4910 (3 Hours) EENG 4990 (3 Hours)
HUMANITIES	LLING 4770 (3 110013)
HOMANIHES	ELECTRICAL ENGINEERING ELECTIVES
	4 Courses (12 Hours)
DISCOVERY	
Please note that EENG 1910 is a Major Requirement & double-dips for this category.	Electives may be chosen EENG 4010, 4710, 4810, and 4900, EENG 4010 is a topics course. The content of 4010 varies for each section for each semester and may be repeated for credit.
CAPSTONE	CURRORT COURCES
	SUPPORT COURSES  CSCE 1020 (4 Hours)
Please note that EENG 4990 is a Major Requirement & double-dips for this category.	MGMT 3830 (3 Hours)  MGMT 3850 (3 Hours)
	Grades of "C" or better required. Needs 2.5 GPA in EENG courses.
Engineering Foundations	ELECTIVE COURSES  You may need elective courses to help reach 128 Total Hours & 42 Advanced Hours. Check with your advisor concerning elective courses.
MATH 1710 (4 Hours) PHYS 1710-1730 (4 Hours) CHEM 1415-1435(4 Hours) TECM 2700 (3 Hours)	

Grades of "C" or better required. Needs 2.5 GPA.

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# Bachelor of Science: Major in Electrical Engineering

Sample Four-Year Schedule

	FRESHMAN Y	EAR	
FALL CHEM 1415, Chemistry CHEM 1435, Chemistry Lab English Composition course MATH 1710, Calculus I EENG 1910, Project I PSCI 1040, American Government Total Hours	3 1 3 4 3 3 17	SPRING TECM 2700, Technical Writing EENG 2710, Digital Logic PHYS 1710, Mechanics PHYS 1730, Mechanics Lab EENG 1920, Project II MATH 1720, Calculus II Total Hours	3 3 1 3 3
	SOPHOMORI	E YEAR	
FALL MATH 2730, Multivariable Calculus EENG 2610, Circuits Analysis EENG 2910, Project III MATH 2700, Linear Algebra PHYS 2220, Electricity & Magnetism PHYS 2240, Electricity & Magnetism Lab Total Hours	3 3 3 3 1 16	SPRING HIST 2610, U.S. History to 1865 MATH 3410, Differential Equations CSCE 1020, Program Development EENG 2620, Signals and Systems EENG 2920, Project IV Total Hours	3 3 4 3 3 16
	JUNIOR YEA	AR	
PSCI 1050, American Government EENG 3510, Electronics I MATH 3680, Applied Statistics HIST 2620, U.S. History from 1865 EENG 3410, Engr. Electromagnetics EENG 3910, Project V Total Hours	3 3 3 3 3 3 18	EENG 3710, Computer Organization EENG 3520, Electronics II EENG 3810, Communication Systems EENG 3920, Project VI Humanities course Total Hours	3 3 3 3 15
	SENIOR YE	AR	
FALL EENG Elective EENG Elective EENG 4910, Project VII Social and Behavioral Science course MGMT 3830, Operations Total Hours	3 3 3 3 3 15	SPRING EENG Elective EENG Elective EENG 4990, Project VIII Visual and Performing Arts course MGMT 3850, Entrepreneurship Total Hours	3 3 3 3 3 15

# **PLEASE NOTE:**

This is an unofficial sample schedule.

Students should meet with their advisor each semester for individual scheduling, program decisions, etc. Engineering admissions requirements must be met & a degree audit must be created in order to transition from pre-engineering to full major to progress in the program.

# **ELECTRICAL ENGINEERING TECHNOLOGY**

This is an unofficial simplified guide effective Fall 2012

University Cole	Major Requirements, Electrical Engl. Tech.
<u>ENGLISH</u>	MATHEMATICS & SCIENCE
	PHYS 2220-2240 (4 Hours)
Grade of "C" or better required.	MATH 1720 (3 Hours)
UNITED STATES HISTORY	ELECTRICAL ENGINEERING TECHNOLOGY REQUIREMENTS
HIST 2610	ENGR 2405 (3 Hours)
HIST 2620	ENGR 2415 (1 Hour)
	ENGR 2720 (3 Hours)
Honors equivalents, HIST 4700, or advanced US-Topic	ENGR 2730 (1 Hour)
History course(s) may substitute for the courses above.	ENGR 2750 (4 Hours) ELET 3700 (4 Hours)
	ELET 3700 (4 Hours) ELET 3720 (4 Hours)
POLITICAL SCIENCE	ELET 3740 (4 hours)
PSCI 1040	ELET 3750 (4 Hours)
PSCI 1050	ELET 3760 (4 Hours)
	ELET 4710 (4 Hours)
If you are transferring credit for either PSCI course,	ELET 4720 (4 Hours)
check with your advisor. Do not make an assumption about the application of course(s) taken elsewhere.	ELET 4730 (4 Hours)
about the application of coursels) taken eisewhere.	ELET 4770 (4 Hours) ELET 4780 (1 Hours)
SOCIAL AND BEHAVIORAL SCIENCES	ELET 4790 (3 Hours)
	MFET 4190 (3 Hours)
VISUAL / PERFORMING ARTS	
VISUAL / I ERI ORIVIINO ARIS	ADVANCED TECHNICAL ELECTIVE COURSES
	1 advanced course (3 Hours );
HUMANITIES	Choose a 3000 or 4000 level course from the areas of Engineerir Business, Biology, Chemistry, Economics, Math, or Physics. Checwith your advisor for approval.
DISCOVERY	
	TECHNICAL ELECTIVE COURSES
Diagram and a thirt FNICD 1020 is at Administration Day surjection and 8	3-4 courses (12 Hours);
Please note that ENGR 1030 is a Major Requirement & double-dips for this category.	
CAPSTONE	
	Chaose courses from the areas of Engineering Business Biology
	Choose courses from the areas of Engineering, Business, Biolog Chemistry, Economics, Math, or Physics. Check with your adviso
Please note that ELET 4790 is a Major Requirement &	for approval.
double-dips for this category.	OTHER REQUIREMENTS.
	OTHER REQUIREMENTS: ENGR 1030 (3 Hours)
	ENGR 1060 (3 Hours)
Engineering Foundations	
	Grades of "C" or better required. Needs 2.5 GPA based on Electrical Engineering Technology & Technical Elective courses.
MATH 1710 (4 Hours)	
PHYS 1710-1730 (4 Hours)	ELECTIVE COURSES
CHEM 1410-1430 (4 Hours) <b>or</b>	You may need elective courses to help reach 124 Total Hours 8
1415-1435 (4 Hours)	42 Advanced Hours. Check with your advisor concerning electi
TECM 2700 (3 Hours)	courses.
Grades of "C" or better required. Needs 2.5 GPA.	

# Bachelor of Science in Engineering Technology: Major in Electrical Engineering Technology

Sample Four-Year Schedule

	FREGUA 4	N VEAR	
	FRESHMA	N YEAK	
FALL CHEM 1410 or 1415, Chemistry CHEM 1430 or 1435, Chemistry Lab English Composition course MATH 1710, Calculus I PSCI 1040, American Government HIST 2610, U.S. History to 1865 Total Hours	3 1 3 4 3 3 17	SPRING PSCI 1050, American Government TECM 2700, Technical Writing ENGR 1030, Technological Systems HIST 2620, U.S. History since 1865 MATH 1720, Calculus II Social & Behavioral Science course Total Hours	3 3 3 3 3 18
	SOPHOMO	RE YEAR	
FALL Humanities ENGR 1060, Communication & Ethics ENGR 2720, Digital Logic ENGR 2730, Digital Logic Lab PHYS 1710, Mechanics PHYS 1730, Mechanics Lab Total Hours	3 3 3 1 3 1 14	SPRING Technical Elective ENGR 2750, Intro to Microprocessors PHYS 2220, Electricity & Magnetism PHYS 2240, Electricity & Magnetism Lab ENGR 2405, Circuits Analysis ENGR 2415, Circuits Analysis Lab Total Hours	3 4 3 1 3 1 15
	JUNIOR	YEAR	
FALL ELET 3700, Circuit Analysis ELET 3720, Electronics I ELET 3750, Digital Systems Technical Elective Total Hours	4 4 4 3 15	SPRING ELET 3740, Electronics II ELET 3760, Design of DSP Systems Visual & Performing Arts course Technical Elective Total Hours	4 4 3 3 14
	SENIOR YEAR	t	
FALL ELET 4720, Control Systems ELET 4710, High Frequency Systems I ELET 4730, Analog Mixed Signal Electronics	4 4 4	SPRING ELET 4770, High Frequency Systems II ELET 4790, Senior Design II MFET 4190, Quality Assurance	4 3 3

# **PLEASE NOTE:**

1

ELET 4780, Senior Design Technical Elective

**Total Hours** 

Advanced Level Technical Elective

Elective (see advisor)

**Total Hours** 

This is an unofficial sample schedule.

Students should meet with their advisor each semester for individual scheduling, program decisions, etc. Engineering admissions requirements must be met & a degree audit must be created in order to transition from pre-engineering to full major to progress in the program.

# INFORMATION TECHNOLOGY

This is an unofficial simplified guide effective Fall 2012

**University Core ENGLISH** Grade of "C" or better required. **UNITED STATES HISTORY** HIST 2610 HIST 2620 \_\_\_ Honors equivalents, HIST 4700, or advanced US-Topic History course(s) may substitute for the courses above. **POLITICAL SCIENCE** PSCI 1040 \_\_ PSCI 1050 \_\_\_ 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. SOCIAL AND BEHAVIORAL SCIENCES **VISUAL / PERFORMING ARTS HUMANITIES** DISCOVERY **CAPSTONE** Please note that CSCE 4010 is a Major Requirement & double-dips for this category. **Engineering Foundations** MATH 1710 (4 Hours)

PHYS 1710-1730 (4 Hours) CHEM 1410-1430 (4 Hours) **or** 

TECM 2700 (3 Hours)

1415-1435 (4 Hours)

Grades of "C" or better required. Needs 2.5 GPA.

Major Requirements: Information Tech.

MATHEMATICS .	
MATH 1680 (3 Hours)	
COMPUTER SCIENCE and ENG	NEERING
CSCE 1030 (4 Hours)	
CSCE 1040 (3 Hours)	
CSCE 2100 (3 Hours)	
CSCE 2110 (3 Hours)	
CSCE 3055 (3 hours)	
CSCE 3220 (3 Hours)	
CSCE 3420 (3 Hours)	
CSCE 3530 (3 Hours)	
CSCE 3600 (3 Hours)	
CSCE 4010 (3 Hours)	
CSCE 4350 (3 Hours)	
CSCE 4444 (3 Hours)	
CSCE 4550 (3 Hours)	
CSCE 4905 (3 Hours)	
CSCE 4925 (3 Hours)	
CSCE Adv. Concentration Elec	
CSCE Adv. Concentration Elec	ctive (3 Hours)
CSCE Adv. Concentration Elec	ctive (3 Hours)
SUPPORTING AREA	
(3 Hours)	

You must choose 1 concentration (9 Hours) & 1 supporting area (18 Hours). You must complete approved courses for each. Check with your advisor concerning approved classes. Suggestions include, but are not limited to:

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

A maximum of 6 hours can be applied to concentration and/or supporting area from CSCE 4890, 4920, 4940, 4950 or 4980.

Completion of CSCE 3530, 4550, & 4560 for concentration Electives and/or supporting areas earns a certificate from the Committee on National Security Systems.

Completion of CSCE 4210, 4215, 4220, & 4250 for concentration Electives and/or supporting area earns a certificate in Game Programming.

Grades of "C" or better required. Needs 2.75 GPA in CSCE courses.

### **ELECTIVE COURSES**

You may need elective courses to help reach 121 Total Hours & 42 Advanced Hours. Check with your advisor concerning elective courses.

# **Bachelor of Arts: Major in Information Technology**

Sample Four-Year Schedule

	FRESHMAI	N YEAR	
FALL CSCE 1030, Computer Science I English Composition course HIST 2610, United States History MATH 1710, Calculus I PSCI 1040, American Government Total Hours	4 3 3 4 <u>3</u> 17	SPRING CSCE 1040, Computer Science II CHEM 1410 or 1415, Chemistry CHEM 1430 or 1435, Chemistry Lab TECM 2700, Technical Writing HIST 2620, United States History PSCI 1050, American Government Total Hours	3 3 1 3 3 3
	SOPHOMORE	: YEAR	
FALL CSCE 2100, Computing Foundations I MATH 1680, Statistics PHYS 1710, Mechanics PHYS 1730, Mechanics Lab Visual and Performing Arts course Social and Behavioral Sciences course Total Hours	3 3 3 1 3 3 16	SPRING CSCE 2110, Computing Foundations II CSCE 3600, Computer Systems Humanities course Discovery course Supporting Area Total Hours	3 3 3 3 15
	JUNIOR YEAR	1	
CSCE 3055, IT Project Management CSCE 3220, Human Computer Interfaces CSCE 3420, Internet Programming CSCE 3530, Computer Networks CSCE 4350, Database Systems Total Hours	3 3 3 3 3 15	SPRING CSCE 3535, Networks/Security Mgmt CSCE Concentration Area CSCE Concentration Area Supporting Area Supporting Area Total Hours	3 3 3 3 15
	SENIOR YEAR		
FALL CSCE 4444, Software Engineering CSCE 4550, Computer Security CSCE 4905, Capstone I Supporting Area Supporting Area	3 3 3 3 3	SPRING CSCE 4010, Engineering Ethics CSCE 4925, Capstone II CSCE Concentration Area Supporting Area Supporting Area	3 3 3 3

# **PLEASE NOTE:**

Total Hours

15

Total Hours

This is an unofficial sample schedule.

Students should meet with their advisor each semester for individual scheduling, program decisions, etc. Engineering admissions requirements must be met & a degree audit must be created in order to transition from pre-engineering to full major to progress in the program.

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# **MATERIALS SCIENCE & ENGINEERING**

This is an unofficial simplified guide effective Fall 2012

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# **MATHEMATICS & SCIENCE** CHEM 1420 (3 Hours) PHYS 2220-2240 (4 Hours) PHYS 3010 (3 Hours) MATH 1720 (3 Hours) MATH 2700 (3 Hours) MATH 3410 (3 Hours) **MATERIALS SCIENCE & ENGINEERING REQUIREMENTS** MTSE 3010 (3 Hours) MTSE 3020 (3 Hours) MTSE 3030 (3 Hours) MTSE 3040 (3 Hours) MTSE 3050 (3 Hours) MTSE 3060 (3 Hours) MTSE 3070 (3 Hours) MTSE 3080 (3 Hours) MTSE 3090 (1 Hour) MTSE 3100 (1 Hour) MTSE 4010 (3 Hours) MTSE 4030 (3 Hours) MTSE 4050 (3 Hours) MTSE 4060 (3 Hours) MTSE 4090 (2 Hours) MTSE 4100 (3 Hours) ENGR 2301 (3 Hours) ENGR 2332 (4 Hours) ENGR 3450 (3 Hours) Plus 6 hours: 2 advanced level MTSE elective courses Grades of "C" or better required. Needs 2.5 GPA in MTSE courses. **ELECTIVE COURSES** You may need elective courses to help reach 120 Total Hours & 45 Advanced Hours. Check with your advisor concerning elective courses.

Major Requirements: Materials Sci. & Engr.

<u>ENGLISH</u>

Grade of "C" or better required.

### **UNITED STATES HISTORY**

HIST 2610 \_\_\_\_\_\_ HIST 2620

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

University Core

# **POLITICAL SCIENCE**

PSCI 1040 \_\_\_\_\_\_ PSCI 1050 \_\_\_\_\_

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.

### **SOCIAL AND BEHAVIORAL SCIENCES**

# VISUAL / PERFORMING ARTS

\_\_\_\_

<u>HUMANITIES</u>

DISCOVERY

# CAPSTONE

Please note that MTSE 4100 is a Major Requirement & double-dips for this category.

**Engineering Foundations** 

MATH 1710 (4 Hours)

PHYS 1710-1730 (4 Hours)

CHEM 1410-1430\* (4 Hours)

TECM 2700 (3 Hours)

Grades of "C" or better. Needs 2.5 GPA.

 Please note that CHEM 1415-1435 cannot be approved in substitution for CHEM 1410-1430 or 1420 for MTSE students.

# Bachelor of Science: Major in Materials Science & Engineering

Sample Four-Year Schedule

	FRESHMAN	YEAR	
FALL CHEM 1410, General Chemistry CHEM 1430, General Chemistry Lab English Composition course MATH 1710, Calculus I HIST 2610, U.S. History to 1865 Total Hours	3 1 3 4 3 14	SPRING PHYS 1710, Mechanics PHYS 1730, Mechanics Lab TECM 2700, Tech Writing HIST 2620, U.S. History since 1865 MATH 1720, Calculus II CHEM 1420, General Chemistry II Total Hours	3 1 3 3 3 3 16
	SOPHOMORE Y	EAR	
FALL Discovery course ENGR 2301, Statics MATH 2700, Linear Algebra & Vector Geom. PHYS 2220, Electricity & Magnetism PHYS 2240, Electricity & Magnetism Lab Total Hours	3 3 3 3 1 13	SPRING MATH 3410, Differential Equations ENGR 2332, Mechanics of Materials PHYS 3010, Modern Physics ENGR 3450, Engineering Materials PSCI 1050, American Government Total Hours	3 4 3 3 3 16
	JUNIOR YEAR		
FALL MTSE 3010, Bonding & Structure MSTE 3020, Micro & Characterization MTSE 3030, Thermo & Phase Diagrams MTSE 3040, Transport Phenomena MTSE 3090, Materials Science & Engr. Lab I PSCI 1040, American Government Total Hours	3 3 3 1 3 16	SPRING MTSE 3050, Mech Properties MTSE 3060, Phase Transformations MTSE 3070, Elect Opt & Mag Properties MTSE 3080, Materials Processing MTSE 3100, Materials Science & Engr. Lab II Visual and Performing Arts course Total Hours	3 3 3 1 3 16
	SENIOR YEAR		
FALL MTSE 4010, Phys Metallurgy Principles MTSE 4030, Ceramic Science & Engr. MTSE 4050, Polymer Science & Engr. MTSE 4090, Senior Research Project I Humanities course Total Hours	3 3 3 2 2 3	SPRING MTSE Advanced Elective (4000 level) MTSE Advanced Elective (4000 level) MTSE 4060, Materials Selection & Perform. MTSE 4100, Senior Research Project II Social & Behavioral Science course Total Hours	3 3 3 3 3 15

# **PLEASE NOTE:**

This is an unofficial sample schedule.

Students should meet with their advisor each semester for individual scheduling, program decisions, etc. Engineering admissions requirements must be met & a degree audit must be created in order to transition from pre-engineering to full major to progress in the program.

# **MECHANICAL & ENERGY ENGINEERING**

This is an unofficial simplified guide effective Fall 2012

**MATHEMATICS & SCIENCE** 

**University Core ENGLISH** Grade of "C" or better required. **UNITED STATES HISTORY** HIST 2610 \_ HIST 2620 \_\_\_\_\_ Honors equivalents, HIST 4700, or advanced US-Topic History course(s) may substitute for the courses above. **POLITICAL SCIENCE** PSCI 1040\_ PSCI 1050 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. SOCIAL AND BEHAVIORAL SCIENCES **VISUAL / PERFORMING ARTS HUMANITIES** DISCOVERY Please note that MEEN 1000 is a Major Requirement & double-dips for 3 Hours of this category. **CAPSTONE** Please note that MEEN 4250 is a Major Requirement & double-dips for this category. **Engineering Foundations** MATH 1710 (4 Hours)

Major Requirements: Mechanical & Energy Engr.

PHYS 2220-2240 (4 Hours)	
MATH 1720 (3 Hours)	
MATH 2700 (3 Hours)	
MATH 2730 (3 Hours)	
MATH 3410 (3 Hours)	
MECHANICAL & ENERGY ENGINEERIN	G REQUIREMENTS
MEEN 1000 (3 Hours)	
MEEN 2210 (3 Hours)	
MEEN 3110 (3 Hours)	
MEEN 3120 (3 Hours) MEEN 3130 (3 Hours)	
MEEN 3210 (3 Hours)	
MEEN 3230 (3 Hours)	
MEEN 3240 (2 Hours)	
MEEN 3242 (1 Hour)	
MEEN 3250 (3 Hours) MEEN 4150 (3 Hours)	
MEEN 4250 (3 Hours)	
11 (11 11 1)	
ENGR 1304 (3 Hours)	
ENGR 2301 (3 Hours) ENGR 2302 (3 Hours)	
ENGR 2332 (4 Hours)	
EENG 2610 (3 Hours) <b>or</b>	
ENGR 2405 (3 Hours)	
ENGR 3450 (3 Hours)	
ENGR 3451 (1 Hour)	
CSCE 1020 (4 Hours)	
6 hours (2 courses) of advanced leve	al MEEN alactivas
	STATELIA GIGCIIVOS
<del></del>	
6 hours (2 courses) of advanced leve	el technical electives
List of approved MEEN and technica	l electives is located a

Grades of "C" or better required. Needs 2.5 GPA in MEEN courses.

Please note that completion of an advanced Math course as a technical elective should also earn a minor in Mathematics.

# **ELECTIVE COURSES**

You may need elective courses to help reach 127 Total Hours & 42 Advanced Hours. Check with your advisor concerning elective courses.

PHYS 1710-1730 (4 Hours) CHEM 1415-1435\* (4 Hours)

TECM 2700 (3 Hours)

Grades of "C" or better required. Needs 2.5 GPA.

# Bachelor of Science: Major in Mechanical & Energy Engineering

Sample Four-Year Schedule

FRESHMAN YE	AR
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FALL CHEM 1415, Chemistry for Engineers CHEM 1435, Chemistry for Engineers Lab English Composition course MATH 1710, Calculus I MEEN 1000, Discover Mechanical & Energy HIST 2610, U.S. History to 1865 Total Hours	3 1 3 4 3 3 17	SPRING PHYS 1710, Mechanics PHYS 1730, Mechanics Lab TECM 2700, Tech Writing ENGR 1304, Engineering Graphics CSCE 1020, Intro. Computer Programming MATH 1720, Calculus II Total Hours	3 1 3 3 4 <u>3</u> 17
	SOPHOMOR	RE YEAR	
FALL MATH 2730, Multivariable Calculus MATH 2700, Linear Algebra ENGR 2301, Statics PSCI 1050, American Government PHYS 2220, Electricity & Magnetism PHYS 2240, Electricity & Magnetism Lab Total Hours	3 3 3 3 1 16	SPRING MATH 3410, Differential Equations MEEN 2210, Thermodynamics I ENGR 2302, Dynamics ENGR 2332, Mechanics of Materials EENG 2610 or ENGR 2405, Circuits Analysis Total Hours	3 3 4 <u>3</u> 16
	JUNIOR YEA	AR .	
FALL MEEN 3110, Thermodynamics II MEEN 3120, Fluids MEEN 3240, MEE Lab 1 MEEN 3250, Analytical Methods ENGR 3450, Engineering Materials	3 3 2 3 3	SPRING  MEEN 3130, Machine Elements  MEEN 3210, Heat Transfer  MEEN 3230, Dynamics and Control  MEEN 3242, MEE Lab II  HIST 2620, U.S. History from 1865	3 3 3 1 3
ENGR 3451, Engineering Materials Lab	1	Social & Behavioral Sciences course	3

### **SENIOR YEAR**

**Total Hours** 

FALL		SPRING	
MEEN 4150, Design I	3	MEEN 4250, Design II	3
Advanced MEEN Elective	3	Advanced MEEN Elective	3
Advanced Technical Elective	3	Advanced Technical Elective	3
Visual and Performing Arts course	3	Elective	3
PSCI 1040, American Government	<u>3</u>	Humanities course	<u>3</u>
Total Hours	15	Total Hours	15

**Total Hours** 

# **PLEASE NOTE:**

This is an unofficial sample schedule.

Students should meet with their advisor each semester for individual scheduling, program decisions, etc. Engineering admissions requirements must be met & a degree audit must be created in order to transition from pre-engineering to full major to progress in the program.

# MECHANICAL ENGINEERING TECHNOLOGY

This is an unofficial simplified guide effective Fall 2012

University Core	Major Requirements: Mechanical Engr. Tech.
<u>ENGLISH</u>	MATHEMATICS & SCIENCE
	PHYS 2220-2240 (4 Hours)
Grade of "C" or better required.	MATH 1720 (3 Hours)
UNITED STATES HISTORY	MECHANICAL ENGINEERING TECHNOLOGY REQUIREMENTS
HIST 2610	
HIST 2620	ENGR 1304 (3 Hours) ENGR 2301 (3 Hours) ENGR 2302 (3 Hours)
Honors equivalents, HIST 4700, or advanced US-Topic	ENGR 2332 (4 Hours)
History course(s) may substitute for the courses above.	ENGR 2405 (3 Hours)
POLITICAL SCIENCE	ENGR 2415 (1 Hour)
PSCI 1040	ENGR 3450 (3 Hours) ENGR 3451 (1 Hour)
PSCI 1050	
	MEET 3650 (3 Hours)
If you are transferring credit for either PSCI course,	MEET 3940 (3 Hours)
check with your advisor. Do not make an assumption	MEET 3990 (3 Hours)
about the application of course(s) taken elsewhere.	MEET 4050 (3 Hours) MEET 4350 (3 Hours)
SOCIAL AND BEHAVIODAL SCIENCES	MAEET 43/0 (2 Hours)
SOCIAL AND BEHAVIORAL SCIENCES	MEET 4780 (2 Hours)
	MEET 4790 (3 Hours)
VISUAL / PERFORMING ARTS	
TIOONE / TERRO HAMILTO YERRO	MFET 3110 (4 Hours)
	MFET 4190 (3 Hours) MFET 4200 (2 Hours)
<u>HUMANITIES</u>	MFET 4210 (3 Hours)
	CSCE 1020 (4 Hours)
DICCOVERY	ELET 3980 (3 Hours)
DISCOVERY	LSCM 3960 (3 Hours)
Please note that ENGR 1030 is a Major Requirement &	ADVANCED TECHNICAL ELECTIVES 2 advanced courses (6 Hours);
double-dips for this category.	2 davancea conses (o nons),
CAPSTONE	TECHNICAL ELECTIVE 1 course (3 Hours);
<u>CAFSIONE</u>	i course (3 nours),
	Choose 1 course at 3000 or 4000 level & 1 course from any level
Please note that MEET 4790 is a Major Requirement &	from the areas of Engineering, Business, Biology, Chemistry,
double-dips for this category.	Economics, Math, or Physics. Check with your advisor for approval .
	OTHER REQUIREMENTS
Francis a sais a Farra de Nara	ENGR 1030 (3 Hours)
Engineering Foundations	ENGR 1060 (3 Hours)
	Grades of "C" or better required . Needs 2.5 GPA in Mechanical
MATH 1710 (4 Hours)	Engineering Technology & Technical Elective courses.
PHYS 1710-1730 (4 Hours)	ELECTIVE COURSES
CHEM 1410-1430 (4 Hours) <b>or</b> 1415-1435 (4 Hours)	ELECTIVE COURSES  You may need elective courses to help reach 124 Total Hours 8
TECM 2700 (3 Hours)	42 Advanced Hours. Check with your advisor concerning
	Elective courses.
Grades of "C" or better required. Needs 2.5 GPA.	

# **Bachelor of Science in Engineering Technology:** Major in Mechanical Engineering Technology

Sample Four-Year Schedule

	FRESHMAN	/EAR	
FALL CHEM 1410 or 1415, Chemistry CHEM 1430 or 1435, Chemistry Lab English Composition course MATH 1710, Calculus I ENGR 1304, Engineering Graphics PSCI 1040, American Government Total Hours	3 1 3 4 3 3 17	SPRING TECM 2700, Technical Writing MATH 1720, Calculus II PSCI 1050, American Government PHYS 1710, Mechanics PHYS 1730, Mechanics Lab ENGR 1030, Technological Systems Total Hours	3 3 3 1 3 16
	SOPHOMORE Y	EAR	
FALL CSCE 1020, Program Development HIST 2610, U.S. History to 1865 ENGR 2301, Statics PHYS 2220, Electricity & Magnetism PHYS 2240, Electricity & Magnetism Lab Social & Behavioral Science course Total Hours	4 3 3 3 1 3 17	SPRING ENGR 2332, Mechanics of Materials ENGR 2302, Dynamics ENGR 2405, Circuit Analysis ENGR 2415, Circuit Analysis Lab HIST 2620, U.S. History from 1865 ENGR 1060, Communications & Ethics Total Hours	4 3 3 1 3 <u>3</u>
	JUNIOR YEAR		
FALL ENGR 3450, Engineering Materials MEET 3940, Fluid Mechanics Application MFET 3110, Mach Principles & Processes ENGR 3451, Engineering Materials Lab MEET 3990, Applied Thermodynamics Total Hours	3 3 4 1 3 14	SPRING ELET 3980, Digital Controls MEET 3650, Design of Mech Components MFET 4190, Quality Assurance MFET 4210, CAD/CAM System Operations Humanities core Total Hours	3 3 3 3 3
	SENIOR YEAR		
FALL MEET 4050, Mechanical Design MEET 4350, Heat Transfer Applications MFET 4200, Engineering Costs Analysis Technical Elective Visual & Performing Arts course MEET 4780, Senior Design I Total Hours	3 3 2 3 3 1 15	SPRING MEET 4790, Senior Design II MEET 4360, Experimental Thermal Sciences LSCM 3960, Logistics Advanced Technical Elective Advanced Technical Elective Total Hours	3 2 3 3 3 14

# **PLEASE NOTE:**

This is an unofficial sample schedule.

Students should meet with their advisor each semester for individual scheduling, program decisions, etc. Engineering admissions requirements must be met & a degree audit must be created in order to transition from pre-engineering to full major to progress in the program.

# Course Offering for UNT Core Requirements

# **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

# **UNITED STATES HISTORY** (6 Hours)

2610. US to 1865

2675, Honors US History to 1865 HIST

HIST 2620, US from 1865 HIST 2685, Honors US History from 1865

4700, Texas History HIST

Advanced (3\*\*\* or 4\*\*\*) level U.S.

History (Group A)

# **POLITICAL SCIENCE** (6 Hours)

PSCI 1040, American Government

1041, Honors Am. Government 1050, American Government

1051, Honors Am. Government

# **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.

COMM2020, 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.

# VISUAL AND PERFORMING ARTS (3 Hours)

ART 1300, Art Appreciation

ART 1301, Honors Art Appreciation

ART 2350, Art History Survey I 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

### **HUMANITIES** (3 Hours)

AGER 2250, Images of Aging in Film & Lit.

ENGL 2210, World Literature I

ENGL 2211, Honors World Literature I FNGI 2220, World Literature II

ENGL 2221, Honors World Literature

FNGI 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, Contemp. French Civilization **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

# **DISCOVERY** (3 Hours)

1100, World Cultures ANTH

ANTH 1150, World Cultures Through Film

ANTH 2070, Intro. to Race & Ethnic Studies

ANTH 2200, Gender Across Cultures

BCIS 3615, Visual Display of Business Info.

BIOL 1750/1755, Intro. Research Lab I & II

BUSI 1340, Managing Business Enterprise

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

DFST 2033, Parenting in Diverse Families

EENG 1910, Learning to Learn

ENGR 1030, Technological Systems

FREN 1610, French Influence in North Am.

FREN 1620, French Language in Canada

GEOG 1170, Culture, Environment & Society

GEOG 1200, World Regional Geography

GEOG 1500, Geography of DFW Metroplex

HIST 1050, World History to 1500

HIST 1060, World History from 1500

**HMGT** 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

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, Microcounselina

SOCI 2070, Race & Ethnic Relations

SOWK 4540, Human Diversity

TECM 1500, New Media for College Career

**UCRS** 1000, Freshman Seminar WMST 2100, Women & Society

### **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

HNRS 4000, Honors Capstone Seminar

MEEN 4250, Capstone Design II MEET 4790, Senior Design II 4100, Senior Project II MTSE

MUET 3020, Popular Music in Am. Culture PHIL 3700, Science, Technology & Society

PHIL 3900, Philosophy of Food Resources

Resources						
Name	Location	Phone	Web Address			
Bulletin (Catalog)	N/A	N/A	catalog.unt.edu			
Career Center (Same as Internship Office)	Chestnut Hall 103	565-2105	careercenter.unt.edu			
Chemistry Resource Center	CHEM 231	565-2556	chemistry.unt.edu/undergraduate- program/instructional-resources			
Computer Class Help Lab	Discovery Park F205	565-2767	cse.unt.edu			
Computer Labs	Numerous locations	Check website	gacl.unt.edu			
Counseling & Testing Service	Chestnut Hall 311	565-2741	unt.edu/cat			
Deadlines: Add, Drop, Withdrawal, Payment, Incomplete, Pass/No Pass, Graduation Application	Academic Calendar & MyUNT	565-2111	unt.edu/registration my.unt.edu			
Dean of Students : Withdrawal Process, Complaints, Student Life Offices, Code of Conduct	UU 321	565-2648 565-2039	deanofstudents.unt.edu			
EagleConnect: Student Email Account	N/A	Check website	eagleconnect.unt.edu unt.edu/helpdesk			
Engineering Student Organizations & Honor Societies	Discovery Park	Check website	engineering.unt.edu/students/organizations dplife.unt.edu/orgs.html			
Financial Aid: Grants & Loans	ESSC 228	565-2302 or 565-2016	financialaid.unt.edu			
Internships & Co-op Office (Same as Career Ctr)	Chestnut Hall 155	565-2861	careercenter.unt.edu			
Learning Center	Sage Hall 315	369-7006	learningcenter.unt.edu			
Libraries	Numerous locations	Check website	library.unt.edu			
Math Lab & Short-Term Tutoring	GAB 440	565-2155	math.unt.edu/mathlab			
Multicultural Center	UU 218	565-3424	edo.unt.edu/content/multicultural-center			
Office of Disability Accommodations	Sage Hall 167	565-4323	disability.unt.edu			
Physics Instructional Center (PIC)	PHYS 209	565-3275	phys.unt.edu/PIC			
Registrar: General Information Graduation Registration Transcripts	ESSC 209 ESSC 210 ESSC 147 ESSC 209	565-2111 565-4625 565-2378 565-2344	essc.unt.edu/registrar/			
Scholarships	ESSC 228 (for some scholarships)	Check website	engineering.unt.edu/prospective/paying- for-college financialaid.unt.edu opgf.unt.edu searchforcolleges.org			
Student Accounting –Tuition & Fees	ESSC 105	565-3225	http://essc.unt.edu/saucs/			
Student Activities & Organizations	UU 320	565-3807	studentactivities.unt.edu			
Student Government Association	UU 320S	565-3850	sga.unt.edu			
Student Health & Wellness Center	Chestnut Hall	565-2333	healthcenter.unt.edu			
Student Legal Advisor	UU 324	565-2614	studentlegal.unt.edu			
Student Money Management Center	Chestnut Hall 313	369-7761	moneymanagement.unt.edu			
Texas Success Initiative: START Office	Sage Hall 313	565-4403	start-office.unt.edu			
Thinkwell Tutoring	N/A	Check website	thinkwell.com			
Writing Lab	AUDB 105	565-2563	unt.edu/writinglab			