College of Engineering

Undergraduate Academic Guidebook
2016-2017

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North Texas Discovery Park (NTDP)

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

Information on free bus transportation routes/times & available student parking passes/locations can be found at **unt.edu/transit**.

Engineering Admissions

In addition to UNT admissions requirements, you must also meet College of Engineering admissions.

Freshman Applicants:
Must meet one of the following criteria based on high school rank:
- Top 25% of high school graduating class -
  MATH SAT score of 570 or better & a total SAT score of 1070 or better if SAT taken Feb. 2016 or before
  MATH SAT score of 590 or better & a total SAT score of 1140 or better if SAT taken March 2016 or later
  MATH ACT score of 23 or better & a composite ACT score of 23 or better
- Top 50% of high school graduating class -
  MATH SAT score of 600 or better & a total SAT score of 1100 or better if SAT taken Feb. 2016 or before
  MATH SAT score of 620 or better & a total SAT score of 1170 or better if SAT taken March 2016 or later
  MATH ACT score of 24 or better & a composite ACT score of 24 or better
- 51% or lower high school graduating class -
  MATH SAT score of 630 or better & a total SAT score of 1180 or better if SAT taken Feb. 2016 or before
  MATH SAT score of 650 or better & a total SAT score of 1250 or better if SAT taken March 2016 or later
  MATH ACT score of 26 or better & a composite ACT of 26 or better
- No high school rank (GED or homeschooled) or international high school -
  MATH SAT score of 600 or better & a total SAT score of 1100 or better if SAT taken Feb. 2016 or before
  MATH SAT score of 620 or better & a total SAT score of 1170 or better if SAT taken March 2016 or later
  MATH ACT score of 24 or better & a composite ACT score of 24 or better

Transfer & 2nd Bachelor's Degree Applicants:
Must be eligible to enroll in Math 1710 (Calculus I) by completion of proper prerequisite(s) and/or testing. Please refer to page 31 of this guidebook for more information.

If you do **NOT** meet the above requirements, you must seek entry into a degree program (major) within another college or pursue Pre-Professional Engineering (PREP) in the College of Public Affairs & Community Service. You may be eligible for admissions into engineering when you are in academic good standing (minimum 2.0 cumulative UNT GPA) **and** when you are eligible to enter MATH 1710 via completion of (1) MATH 1650, Pre-Calculus with a grade of C or better; or (2) MATH 1610, Functions, Graphs & Applications, with a grade of C or better; or (3) earn a minimum score of 70 on ALEKS testing; or (4) earn a minimum score of 70 on Pearson's MyMathTest, or (5) earn a minimum score of 101 on Accuplacer math placement testing. You will need to contact the College of Engineering Advising Office to seek admissions. Please refer to page 31 of this guidebook for more information.

Engineering Dismissal

You are required to conduct yourself in a professional manner at UNT community while making successful progression toward graduation. Failure to do so will result in dismissal from the College of Engineering. Criteria for dismissal includes (but is not limited to);
- Violation of the Code of Student Conduct located at **deanofstudents.unt.edu/content**.
- Failure to enroll in engineering required coursework and/or prerequisites each semester.
- Failure to earn a minimum grade of "C" by the 2nd attempt in engineering required coursework and/or prerequisites.
- Failure to reach or maintain GPA criteria for engineering required coursework and/or prerequisites.
- Failure to maintain academic good standing (2.0 UNT cumulative GPA).

Courses

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

Abbreviations:		*Numbers:*		
	ENGL for English		Freshman	1000
	HIST for History		Sophomore	2000
	MATH for Mathematics		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, take tests, 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.
Next-Generation or NGEN: course that is taught with more focus on engagement & activities vs. lecture.
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.
Restricted: course that is limited to certain students such as Honors College, Out of State, Majors Only.

Different semester/term offerings of courses at UNT:

Fall: August to December	3 Week: May	10 week: June to August
Spring: January to May	8 Week: May to July	5 week 1: June to July
		5 week 2: July to August

Please note that UNT does not offer a winter semester

Credit Hours

Number of units assigned to each course. Referred to as "credits", "hours" or "credit hours". 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. It's also used in the calculation of your GPA.

How many hours do I earn for each course?
Depends on the course. Usually 3 – 4 hours but courses can range from 1 to 5 hours.

How many credits is full-time?
12 hours (approximately 4 courses). 15-16 hours is recommended to attempt a timely graduation date. 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 time each semester & may impact your eligibility for scholarships, financial aid, internships, 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. Grades of "F" & "WF" are still attempted hours & 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.
- *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.

You can access a GPA calculator at **advising.unt.edu/about-your-gpa/calculate-your-gpa**.

Grade Point Average (GPA): Academic Status

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

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

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 will be required to attend an Academic Success Program workshop offered through the Learning Center at the beginning of your alert semester. You must raise your UNT GPA to 2.0 or higher during your alert semester or you will be placed on probation.

Academic Probation:
Standing if you are not eligible for alert & 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 (referred to as indefinite suspension) for 4 long semesters. You **may** be allowed to return to UNT & the College of Engineering after completing a 1st or 2nd suspension period. You **may** be allowed to return to UNT after a 3rd (indefinite) suspension period but you will be dismissed permanently from the College of Engineering.

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*

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 engineering required courses must be completed with a grade of C or better. There is a 2 attempt limit on engineering required courses that require a grade of C or better no later than the 2nd attempt. Only the last attempt/grade will be used in fulfilling prerequisite and/or corequisite fulfillment as well as 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:
Dropping refers to removing yourself from one or more courses for the semester/term (but you remain in at least one course for the semester/term). You can drop yourself via the MyUNT registration system before or shortly after the semester/term begins. The MyUNT drop functionality usually expires on the 1st day of summer semesters/terms/sessions or approximately 12 days into the fall/spring semesters/terms. After the MyUNT drop functionality expires, you may still be able to drop via approval of your course's instructor. Please see drop procedures & deadlines listed at **unt.edu/registration**. A "W" or "WF" may be recorded on your transcript. Please note that if you are enrolled in only 1 course for a summer session & you need to remove that 1 course, it is considered a withdraw & not a drop. Please see below for withdraw information.

Only 6 drops are allowed during your academic career unless you began college before the fall semester of 2007. Once the 6 drop limit is reached, no additional drops are approved.

Withdrawing:
Withdrawing refers to dropping all courses for the semester/term. You are not allowed to withdraw (drop all courses) via the MyUNT registration system. You must follow the procedures & deadlines listed at **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 and/or excessive hours.*

Incompletes

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

- The final drop & 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 miscellaneous elective courses which are not needed for your degree plan or graduation under the Pass/No Pass Grading Option. Certain criteria must be met & you must obtain approval from your advisor after your 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.

Registration

You will be using MyUNT located at **my.unt.edu** to register for courses each semester/term. Information on registration open enrollment periods, payment deadlines, issues, problems, or concerns can be located at **unt.edu/registration.**

Failure to pay by the deadline listed will result in the cancellation of your entire schedule of classes.

If a course you need to take is full, please add yourself to the waitlist. The waitlist will not guarantee a seat in the course. Seats are given in position order as fully enrolled students vacate the course. You can waitlist for a maximum of 3 courses per semester/term. If you are having difficulty enrolling in an open course, contact the department that teaches the course. Common difficulties include prerequisite errors, corequisite errors & restricted section errors. Below are department contacts for some common course subject abbreviations:

- ACCT   Accounting Department: BLB 213 or (940) 565-3080
- BCIS   Info. Tech. & Decision Science Department: BLB 208 or (940) 565-3110
- BIOL   Biological Sciences Department: BIOL 210 or (940) 565-2011
- BLAW   Finance, Insurance, Real Estate, Law Depart.: BLB 212 or (940) 565-3050
- BMEN   Biomedical Engineering Department: DP B-131 or (940) 565-3338
- 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
- LTEC   Learning Technologies Department: DP G-150 or (940) 565-2057
- 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
- TECM   Technical Communications Department: AUDB 317 or (940) 565-4458
- Any other courses   UNT Directory: (940) 565-2000 & ask to be transferred to the appropriate department that teaches the course in question.

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 must elect either the Traditional Tuition Plan or the Eagle Express Tuition Plan before your 1st semester/term begins. Information on both plans can be found at **studentaccounting.unt.edu**.

You have numerous options available to pay. These include financial aid, scholarships, grants, loans, & student employment. Refer to **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 **financialaid.unt.edu/satisfactory-academic-progress-requirements** for information.

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 **studentaccounting.unt.edu**.

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 **studentaccounting.unt.edu.**

Excessive Hours Regarding Financial Aid:
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.

Taking Courses at Another Institution: Concurrent Enrollment

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

- The course(s) you plan to enroll in 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.

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.

Degree Audit (Plan)

The degree audit is an official document that lists all the courses & requirements you need to complete to earn your degree. It also shows the application of completed courses, credits, & requirements toward graduation. A degree audit must be created for you in order to progress toward graduation. Your degree audit will be created & emailed to your UNT email account orientation once you have completed sufficient coursework and degree requirements. Please contact the Advising Office for any questions or concerns regarding your degree audit.

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. Graduation can usually be achieved 4 years after you are enrolled in Calculus I (MATH 1710) & follow the correct requisite sequencing, follow the correct semester scheduling path, earn passing grades each semester/term, & complete approximately 30 degree accountable credits per year to progress to a timely graduation date. Please note that you cannot enroll in another institution during your final semester/term or else your graduation will be delayed. Please note that graduation often occurs within 5-6 years for most students.

You must apply for graduation at the beginning of your final semester via your Student Center in MyUNT at **my.unt.edu**. Refer to **registrar.unt.edu** for more information & the application deadline. Failure to apply by the deadline listed in your final semester will result in your failure to graduate or earn your degree even if you complete of your degree requirements.

Graduation Ceremony

Commencement is UNT's formal graduation ceremony. UNT offers 1 commencement in May for students who graduated in December, May, or August. In addition to commencement, the College of Engineering offers a college recognition ceremony in December & May for engineering students who graduated in December, May or August. In order to attend commencement and/or the college recognition ceremony, you must have applied for & been approved for graduation at the beginning of your final semester. Refer to **unt.edu/commencement** for more information.

Advising

Academic Advisors:
Academic advisors are full-time advisors who focus on academic information & educational goal planning. These advisors are available to meet with students by appointment. Please allow at least 3 weeks for an available appointment opening. Please note that you will lose your appointment meeting if you arrive late. You can schedule an appointment via the Engineering Advising Office in Discovery Park A-101 or by calling 940-565-4201.

Services provided to students include (but are not limited to):

Clarify UNT policies & procedures	Clarify degree requirements
Confirm application of earned credit	Plan appropriate semester/term schedules
Clarify course prerequisites & corequisites	Clarify course sequencing
Approve or deny pass/no pass grading option	Approve or deny concurrent enrollment
Create & update your degree audit	Approve your graduation application
Make appropriate on or off campus referrals	Support long-term academic goals

Academic advisors can provide courtesy paperwork such as recommendation letters, sponsored letters, verification letters, etc. based on their discretion & time availability. Please note that courtesy paperwork requires a minimum of 2 weeks for completion after initial student request.

Services that **CANNOT** be provided include:

Access your in progress grades during the semester	Advise you on aid or scholarship eligibility
Create semester course offerings or time selections	Add you to a course waitlist
Override your registration holds	Override you into a full course
Override you into a course for which you do not meet prerequisite and/or corequisite	

Faculty Advisors:
Faculty advisors are full-time professors who assist with advising. Contact information for faculty advisors can be found on the following curriculum checklist pages.

Career Advisors:
Career advisors are full-time advisors who help you with career planning, resume writing, interviewing skills, internship securement, & full-time employment securement. You can schedule an appointment with a career advisor via the Career Center in Discovery Park C-111 or Chestnut Hall 103 or 940-565-2105.

BIOMEDICAL ENGINEERING

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

This degree and major is available to first time in college students only

Biomedical Engineering Department
Discovery Park B-131; (940) 565-3338
Faculty Advisor: Dr. Vijay Vaidyanathan
Vijay.Vaidyanathan@unt.edu

Engineering Advising Office
Discovery Park A-101; (940) 565-4201
Academic Advisor: TBD by Track Selection

University Core

COMMUNICATION
- ❑ 3 Hours approved course
Grade of "C" or better is required.

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

GOVERNMENT/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 courses.

CREATIVE ARTS
- ❑ 3 Hours approved course

LANGUAGE, PHILOSOPHY, & CULTURE
- ❑ 3 Hours approved course

SOCIAL & BEHAVIORAL SCIENCE
- ❑ 3 Hours approved course

DISCOVERY
- ❑ Should be fulfilled by BMEN 1300, Discover Biomed.

Major Requirements
Grades of C or better.

TECHANICAL COMMUNIICATIONS
- ❑ TECM 2700, Technical Writing (3 Hours)

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

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

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

Major Requirements
Grades of C or better.

BIOMEDICAL ENGINEERING
- ❑ BMEN 1300, Discover Biomedical Engineering (3 Hours)
- ❑ BMEN 2210, DAQ Practices (2 Hours)
- ❑ BMEN 2320, Biomedical Instrumentation I (4 Hours)
- ❑ BMEN 3310, Engr. Measurements from Human Systems (3 Hours)
- ❑ BMEN 3311, Biomedical Signal Analysis (3 Hours)
- ❑ BMEN 3312, Introduction to Biomechanics (3 Hours)
- ❑ BMEN 3321, Biomaterials (3 Hours)
- ❑ BMEN 4310, Biomedical Modeling (3 Hours)
- ❑ BMEN 4212, Senior Design I (1 Hours)
- ❑ BMEN 4222, Senior Design II (3 Hours)
- ❑ BMEN 4311, Advanced Topic in BMEN (3 Hours)
- ❑ BMEN 4321, Advanced Topic in BMEN (3 Hours)

ELECTRICAL ENGINEERING
- ❑ EENG 2610, Circuit Analysis (3 Hours)
- ❑ EENG 2710, Logic Design (3 Hours)

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

BIOMEDICAL ENGINEERING ELECTIVE TRACK
Choose an elective track & complete a minimum of 6 courses (18 Hours) from the approved options below:

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

Biomedical Instrumentation Elective Track:
EENG 2620, EENG 2910 **or** 2920, EENG 3510, EENG 4*** level course.

Please note that completion of the above UNT EENG courses will earn a minor in Electrical Engineering.

Biomechanics Elective Track:
MEEN 2301, 2302, 2210, 2332, & 2 courses (6 hours) chosen MEEN 3*** and/or 4*** level courses. See advisor for specific course choices.

Please note that completion of a MEEN 3*** and/or 4*** specific course in additional to the above UNT MEEN courses will earn a minor in Mechanical and Energy Engineering.

Bioinformatics Elective Track:
CSCE 1040, 2100, 2110, 3850, 4810, 4820

Please note that completion of the above UNT CSCE courses will earn a minor in Computer Science and Engineering.

Biomaterials Elective Track:
ENGR 3450, MTSE 3010, 3030, 3050, 3070, and 1course (3 Hours) chosen from MTSE 3*** or 4*** level course.

Please note that completion of the above UNT courses will earn a minor in Materials Science and Engineering.

Biotechnology (Pre-Medical) Elective Track:
BIOL 1710, 1760, BIOL 1720 or BIOL 2041 & 2042, plus additional courses chosen in consultation with your advisor.

This is an unofficial simplified checklist effective Fall 2016. Degree requirements may change. You may need elective courses to help reach a minimum of 120 Total Hours & 36 Advanced Hours. Check with an advisor.

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BIOMEDICAL ENGINEERING

Sample Four-Year Schedule
Required prerequisite(s) indicated in parentheses & notes

FRESHMAN YEAR

FALL		**SPRING**	
MATH 1710, Calculus I (see note 1)	4	MATH 1720, Calculus II (MATH 1710)	3
CHEM 1410 or 1415, Chemistry (see note 2)	3	PHYS 1710, Mechanics (MATH 1710)	3
CHEM 1430 or 1435, Chemistry Lab (see note 2)	1	PHYS 1730, Mechanics Lab (MATH 1710)	1
BMEN 1300, Discover BMEN (MATH 1650)	3	CSCE 1030, Computer Science I (see note 3)	4
Communication Core course	3	TECM 2700, Tech. Writing (Communication Core)	3
University Core course	3	University Core course	3
Total Hours	17	Total Hours	17

SOPHOMORE YEAR

FALL		**SPRING**	
MATH 2730, Multivariable Calculus (MATH 1720)	3	MATH 2700, Linear Algebra (MATH 1720)	3
PHYS 2220, E. & M. (MATH 1720, PHYS 1710, 1730)	3	BMEN 2320, Biomed. Instrum. I (BMEN 1300, EENG 2610)	4
PHYS 2240, E. & M. Lab (MATH 1720, PHYS 1710, 1730)	1	EENG 2710, Logic Design	3
BMEN 2210, DAQ Practices (BMEN 1300)	2	Elective Track Course (see note 5)	3
EENG 2610, Circuits (see note 4)	3	University Core course	3
Elective Track Course (see note 5)	3	Total Hours	16
Total Hours	15		

JUNIOR YEAR

FALL		**SPRING**	
MATH 3410, Differential Equations (MATH 1720)	3	MATH 3680, Statistics and Probability (MATH 1720)	3
BMEN 3311, Biomedical Signal Analysis (BMEN 2320)	3	BMEN 3321, Biomaterials (coreq BMEN 3312)	3
BMEN 3310, Human Systems (BMEN 1300)	3	BMEN 3312, Intro to Biomech. (BMEN 2320, PHYS 1710)	3
Elective Track course (see note 5)	3	Elective Track course (see note 5)	3
University Core course	3	University Core course	3
Total Hours	15	Total Hours	15

SENIOR YEAR

FALL		**SPRING**	
BMEN 4310, Biomedical Modeling (BMEN 3321)	3	BMEN 4321, Adv. Topic in BMEN (BMEN 3311, 3312)	3
BMEN 4212, Senior Design I (Coreq BMEN 4310)	1	BMEN 4222, Senior Design II (BMEN 4212)	3
BMEN 4311, Adv. Topic in BMEN (BMEN 3311, 3312)	3	Elective Track course (see note 5)	3
Elective Track course (see note 5)	3	University Core course	3
University Core course	3	Total Hours	12
University Core course	3		
Total Hours	15		

Notes:

Note 1: MATH 1710 requires one of the following as prerequisite: completion of MATH 1650 with a grade of "C" or higher; or completion of MATH 1610 with a grade of "C" or higher; or Freshman Math Group Level 3; or approval authorized by score via mathematics testing; 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 1710, Calculus I(or higher) as prerequisite.

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

Note 5: Elective Track Courses depend on your chosen BMEN track. See BMEN curriculum page and/or BMEN Booklet and/or check with your advisor for options.

Must earn at least a grade of "C" and a minimum 2.5 GPA in BMEN 1300, BMEN 2210, BMEN 2320, MATH 1710, and TECM 2700 as foundations to enroll in advanced BMEN courses.

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

*This degree and major is available to first time in college students only"

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.

COMPUTER ENGINEERING

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

Department of Computer Science & Engineering
Discovery Park F-201; (940) 565-2767
Faculty Advisors: Dr. Ryan Garlick, Mr. David Keathly
ryan.garlick@unt.edu, david.keathly@unt.edu

Engineering Advising Office
Discovery Park A-101; (940) 565-4201
Academic Advisors: Heather Burrow, Beverly Wilks
heather.burrow@unt.edu, beverly.wilks@unt.edu

University Core

COMMUNICATON
❑ 3 Hours approved course
Grade of "C" or better is required.

AMERICAN HISTORY
❑ HIST 2610, U.S. History To 1865 (3 Hours)
❑ HIST 2620, U.S. History From 1865 (3 Hours)

GOVERNMENT/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 courses.*

CREATIVE ARTS
❑ 3 Hours approved course

LANGUAGE, PHILOSOPHY, & CULTURE
❑ 3 Hours approved course

SOCIAL & BEHAVIORAL SCIENCE
❑ 3 Hours approved course

DISCOVERY
❑ 3 Hours approved course

Major Requirements
Grades of C or better.

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

MATHEMATICS
❑ MATH 1710, Calculus I (4 Hours)
❑ MATH 1720, Calculus II (3 Hours)
❑ MATH 1780, Probability Models (3 hours)
❑ MATH 2700, Linear Algebra & Vector Geometry (3 Hours)
❑ MATH 2730, Multivariable Calculus (3 Hours)

SCIENCES
❑ PHYS 1710, Mechanics (3 Hours) &
   PHYS 1730, Mechanics Lab (1 Hour)
❑ PHYS 2220, Electricity & Magnetism (3 Hours) &
   PHYS 2240, Electricity & Magnetism Lab (1 Hour)
❑ CHEM 1410, General Chemistry I (3 Hours) &
   CHEM 1430, General Chemistry I Lab (1 Hour)
                or
   CHEM 1415, Chemistry for Engineers (3 Hours) &
   CHEM 1435, Chemistry for Engineers Lab (1 Hour)

Major Requirements
Grades of C or better.

ADVANCED MATHEMATICS OR SCIENCE ELECTIVE
❑ 1 advanced Math or Science elective course (3 Hours) chosen
   from MATH 3***, MATH 4***, PHYS 3***, CHEM 3***, BIOL 3***, BIOL
   4***, GEOG 3***, or GEOG 4***. Check with your advisor for
   approved options.

ELECTRICAL ENGINEERING
❑ ENGR 2405, Circuit Analysis (3 Hours) &
   ENGR 2415, Circuit Analysis Lab (1 Hour)
❑ ENGR 2720, Digital Logic Design (3 Hours) &
   ENGR 2730, Digital Logic Lab (1 Hour)
❑ EENG 3510, Electronics I (3 Hours)

COMPUTER SCIENCE and ENGINEERING
❑ CSCE 1030, Computer Science I (4 Hours)
❑ CSCE 1040, Computer Science II (3 Hours)
❑ CSCE 2100, 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)

SPECIALTY AREA
Choose a specialty area & complete 3 courses from the approved
options below:

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

Real-time & Embedded Systems Specialty Area (Choose 3 courses):
ELET 3750, CSCE 4440, 4444, 4600, 4610, 4620, 4730, 4890

VLSI & Electronics Specialty Area: (Choose 3 courses)
ELET 3750, 4300, 4340, PHYS 4500, CSCE 4610, 4730, 4890

Communications & Networks Specialty Area (Choose 3 courses):
CSCE 3420, 3530, 4510, 4520, 4530, 4550, 4560, 4890

Computer Systems Specialty Area (Choose 3 courses):
CSCE 3030, 4050, 4240, 4600, 4610, 4620, 4650, 4730, 4890

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

COMPUTER ENGINEERING

Sample Four-Year Schedule
Required prerequisite(s) indicated in parentheses & notes

FRESHMAN YEAR

FALL		**SPRING**	
MATH 1710, Calculus I (see note 1)	4	MATH 1720, Calculus II (MATH 1710)	3
CHEM 1410 or 1415, Chemistry (see note 2)	3	PHYS 1710, Mechanics (MATH 1710)	3
CHEM 1430 or 1435, Chemistry Lab (see note 2)	1	PHYS 1730, Mechanics Lab (MATH 1710)	1
CSCE 1030, Computer Science I (see note 3)	4	CSCE 1040, Comp. Science II (CSCE 1030, MATH 1710)	3
Communication Core course	3	TECM 2700, Tech. Writing (Communication Core)	3
Total Hours	15	University Core course	3
		Total Hours	16

SOPHOMORE YEAR

FALL		**SPRING**	
MATH 2730, Multivariable Calculus (MATH 1720)	3	MATH 1780, Probability Models (MATH 1710)	3
PHYS 2220, E. & M. (MATH 1720, PHYS 1710, 1730)	3	MATH 2700, Linear Algebra (MATH 1720)	3
PHYS 2240, E. & M. Lab (MATH 1720, PHYS 1710, 1730)	1	CSCE 2110, Computing Foundations II (CSCE 2100)	3
CSCE 2100, Computing Foundations I (CSCE 1040)	3	CSCE 2610, Assembly & Org. (CSCE 2100, ENGR 2720)	3
ENGR 2720, Digital Logic	3	ENGR 2405, Circuit Analysis (see note 4)	3
ENGR 2730, Digital Logic Lab	1	ENGR 2415, Circuit Analysis Lab (see note 4)	1
University Core course	3	Total Hours	16
Total Hours	17		

JUNIOR YEAR

FALL		**SPRING**	
EENG 3510, Electronics I (ENGR 2405)	3	CSCE 3020, Comm. (CSCE 3010)	3
CSCE 3010, Signals & Systems (ENGR 2405, MATH 2730)	3	CSCE 3612, Embed. Sys. Design (ENGR 2720, CSCE 2610)	3
CSCE 3600, Systems Programming (CSCE 2100)	3	CSCE Specialty Area Elective course (see note 5)	3
CSCE 3730, Reconfigurable Logic (CSCE 2610)	3	Advanced Math or Science Elective	3
University Core course	3	University Core course	3
Total Hours	15	Total Hours	15

SENIOR YEAR

FALL		**SPRING**	
CSCE 4910, Design I (CSCE 3612, EENG 3510)	3	CSCE 4915, Design II (CSCE 4910)	3
CSCE Specialty Area Elective course (see note 5)	3	CSCE 4011, Engineering Ethics (CSCE 3600)	3
CSCE Specialty Area Elective course (see note 5)	3	University Core course	3
University Core course	3	University Core course	3
University Core course	3	Advanced Level General Elective (see note 6)	3
Total Hours	15	Total Hours	15

Notes:

Note 1: MATH 1710 requires one of the following as prerequisite: completion of MATH 1650 with a grade of "C" or higher; or completion of MATH 1610 with a grade of "C" or higher; or Freshman Math Group Level 3; or approval authorized by score via mathematics testing; 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 1710, Calculus I(or higher) as prerequisite.

Note 4: EENG 2610 or ENGR 2405 & ENGR 2415 lab requires completion of MATH 1720 and either completion of or co-enrollment in PHYS 2220 & 2240 as prerequisite.

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

Note 6: Advanced level general elective may be needed to reach 42 total advanced hours. Please check with an advisor.

Must earn at least a grade of "C" and a minimum 2.5 GPA in CSCE 1030, CSCE 1040, CSCE 2100, MATH 1710, PHYS 1710, PHYS 1730, TECM 2700, and CHEM 1410, CHEM 1430 or CHEM 1415, CHEM 1435 as foundations to enroll in advanced CSCE courses.

Must earn at least a grade of "C" in each course above except for most University Core 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.

COMPUTER SCIENCE

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

Department of Computer Science & Engineering
Discovery Park F-201; (940) 565-2767
Faculty Advisors: Dr. Ryan Garlick, Mr. David Keathly
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Engineering Advising Office
Discovery Park A-101; (940) 565-4201
Academic Advisors: Heather Burrow, Beverly Wilks
heather.burrow@unt.edu, beverly.wilks@unt.edu

University Core

COMMUNICATION
- ❑ 3 Hours approved course
Grade of "C" or better is required.

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

GOVERNMENT/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 courses.*

CREATIVE ARTS
- ❑ 3 Hours approved course

LANGUAGE, PHILOSOPHY, & CULTURE
- ❑ 3 Hours approved course

SOCIAL & BEHAVIORAL SCIENCE
- ❑ 3 Hours approved course

DISCOVERY
- ❑ 3 Hours approved course

Major Requirements
Grades of C or better.

TECHNICAL COMMUNICATION
- ❑ TECM 2700, Technical Writing (3 Hours)
- ❑ 1 advanced TECM course chosen from:
  TECM 4100, Writing Grants & Proposals (3 Hours)
  TECM 4180, Advanced Technical Writing (3 Hours)
  TECM 4190, Technical Editing (3 Hours)
  TECM 4200, Research Methods (3 Hours)
  TECM 4250, Writing Procedures & Manuals (3 Hours)
  TECM 4700, Writing in the Sciences (3 Hours)

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

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

Major Requirements
Grades of C or better.

SCIENCES (Continued)
- ❑ 2 Lab sciences (8 Hours) chosen from:
  CHEM 1410, General Chemistry I (3 Hours) &
  CHEM 1430, General Chemistry I Lab (1 Hour)
  CHEM 1415, Chemistry for Engineers (3 Hours) &
  CHEM 1435, Chemistry for Engineers Lab (1 Hour)
  CHEM 1420, General Chemistry II (3 Hours) &
  CHEM 1440, General Chemistry II Lab (1 Hour)
  BIOL 1710, Biology I (3 Hours) &
  BIOL 1760, Biology Lab (2 Hours)
  BIOL 1720, Biology II (3 Hours) &
  BIOL 1760, Biology Lab (2 Hours)

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

COMPUTER SCIENCE and ENGINEERING
- ❑ CSCE 1030, Computer Science I (4 Hours)
- ❑ CSCE 1040, Computer Science II (3 Hours)
- ❑ CSCE 2100, Computing Foundations I (3 Hours)
- ❑ CSCE 2110, Computing Foundations II (3 Hours)
- ❑ CSCE 2610, Assembly Lang. & Computer Organization (3 Hours)
- ❑ CSCE 3110, Data Structures (3 Hours)
- ❑ CSCE 3600, Principles of Systems Programming (3 Hours)
- ❑ CSCE 4010, Social Issues in Computing (3 Hours)
- ❑ CSCE 4110, Algorithms (3 Hours)
- ❑ CSCE 4444, Software Engineering (3 Hours)
- ❑ CSCE 4901, Computer Science Capstone (3 Hours) **or**
  CSCE 4999, Senior Thesis (3 Hours)

COMPUTER SCIENCE and ENGINEERING CORE ELECTIVES
- ❑ 1 CSCE Core course (3 Hours) chosen from list options below
- ❑ 1 CSCE Core course (3 Hours) chosen from list options below

  CSCE 4115, Formal Lang., Automata & Computability (3 Hours)
  CSCE 4430, Programming Languages (3 Hours)
  CSCE 4600, Introduction to Operating Systems (3 Hours)
  CSCE 4610, Computer Architecture (3 Hours)
  CSCE 4650, Introduction to Compilation Techniques (3 Hours)

COMPUTER SCIENCE and ENGINEERING BREADTH ELECTIVES
- ❑ 1 CSCE Breadth course (3 Hours) chosen from list options below
- ❑ 1 CSCE Breadth course (3 Hours) chosen from list options below

  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)

COMPUTER SCIENCE and ENGINEERING FREE ELECTIVES
- ❑ CSCE 3*** or 4*** (3 Hours) course not already applied above
- ❑ CSCE 3*** or 4*** (3 Hours) course not already applied above
- ❑ CSCE 3*** or 4*** (3 Hours) course not already applied above

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

COMPUTER SCIENCE

Sample Four-Year Schedule
Required prerequisite(s) indicated in parentheses & notes

FRESHMAN YEAR

FALL		SPRING	
MATH 1710, Calculus I (see note 1)	4	MATH 1720, Calculus II (MATH 1710)	3
CHEM 1410 or 1415, Chemistry (see note 2)	3	CSCE 1040, Comp. Science II (CSCE 1030, MATH 1710)	3
CHEM 1430 or 1435, Chemistry Lab (see note 2)	1	TECM 2700, Tech. Writing (Communication Core)	3
CSCE 1030, Computer Science I (see note 3)	4	BIOL 1710, Biology I (see note 2)	3
Communication Core course	3	BIOL 1760, Biology Lab (see note 2)	2
Total Hours	15	Total Hours	14

SOPHOMORE YEAR

FALL		SPRING	
MATH 2700, Linear Algebra (MATH 1720)	3	MATH 1780, Probability Models (MATH 1710)	3
PHYS 1710, Mechanics (MATH 1710)	3	PHYS 2220, E. & M. (MATH 1720, PHYS 1710, 1730)	3
PHYS 1730, Mechanics Lab (MATH 1710)	1	PHYS 2240, E. & M. Lab (MATH 1720, PHYS 1710, 1730)	1
CSCE 2100, Computing Foundations I (CSCE 1040)	3	CSCE 2110, Computing Foundations II (CSCE 2100)	3
EENG 2710, Digital Logic Design	3	CSCE 2610, Assembly & Org. (CSCE 2100, EENG 2710)	3
University Core course	3	University Core course	3
Total Hours	16	Total Hours	16

JUNIOR YEAR

FALL		SPRING	
CSCE 3110, Data Structures (CSCE 2110)	3	CSCE 4010, Social Issues (CSCE 3600)	3
CSCE 3600, Systems Programming (CSCE 2100)	3	CSCE Elective course (see note 5)	3
CSCE Elective course (see note 5)	3	CSCE Elective course (see note 5)	3
TECM course (TECM 2700)	3	CSCE Elective course (see note 5)	3
University Core course	3	University Core course	3
Total Hours	15	Total Hours	15

SENIOR YEAR

FALL		SPRING	
CSCE 4110, Analysis of Algorithms (CSCE 3110)	3	CSCE 4901, Capstone, or CSCE 4999, Thesis	3
CSCE 4444, Software Engineering (CSCE 2110)	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	University Core course	3
University Core course	3	University Core course	3
Total Hours	15	Total Hours	15

Notes:

Note 1: MATH 1710 requires one of the following as prerequisite: completion of MATH 1650 with a grade of "C" or higher; or completion of MATH 1610 with a grade of "C" or higher; or Freshman Math Group Level 3; or approval authorized by score via mathematics testing; or earned credit for a math course at or above the MATH 1710 level.

Note 2: BIOL 1710 & 1760 has no prerequisite. 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 1710, Calculus I(or higher) as prerequisite.

Note 4: 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 5: Must complete appropriate prerequisite(s) for each CSCE Core, Breadth and/or Free elective course.

Must earn at least a grade of "C" and a minimum 2.5 GPA in CSCE 1030, CSCE 1040, CSCE 2100, MATH 1710, MATH 2700, PHYS 1710, PHYS 1730, TECM 2700, and CHEM 1410, CHEM 1430 or CHEM 1415, CHEM 1435, or BIOL 1710, BIOL 1760 as foundations to enroll in advanced CSCE courses.

Must earn at least a grade of "C" in each course above except for most University Core 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.

CONSTRUCTION ENGINEERING TECHNOLOGY

Bachelor of Science in Engineering Technology (B.S.E.T) degree with a major in Construction Engineering Technology

Department of Engineering Technology
Discovery Park F-115; (940) 565-2022
Faculty Advisor: Dr. Michael Shenoda
Michael.Shenoda@unt.edu

Engineering Advising Office
Discovery Park A-101; (940) 565-4201
Academic Advisor: Ashley Hubbard
Ashley.Hubbard@unt.edu

University Core

COMMUNICATION
❑ 3 Hours approved course
Grade of "C" or better required.

AMERICAN HISTORY
❑ HIST 2610, U.S. History to 1865 (3 Hours)
❑ HIST 2620, U.S. History from 1865 (3 Hours)

GOVERNMENT/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 courses.

CREATIVE ARTS
❑ 3 Hours approved course

LANGUAGE, PHILOSOPHY, & CULTURE
❑ 3 Hours approved course

SOCIAL & BEHAVIORAL SCIENCE
❑ Fulfilled by ECON 1100, Microeconomics

DISCOVERY
❑ Fulfilled by ENGR 1030, Technological Systems

Major Requirements
Grades of C or better.

TECHANICAL COMMUNIICATIONS
❑ TECM 2700, Technical Writing (3 Hours)

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

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

Major Requirements
Grades of C or better.

CONSTRUCTION ENGINEERING TECHNOLOGY
❑ 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)

❑ ENGR 1030, Technical Systems (3 Hours)
❑ ENGR 1060, Communications & Ethics (3 Hours)
❑ ENGR 2301, Statics (3 Hours)
❑ ENGR 2332, Mechanics of Materials (4 Hours)

BUSINESS
❑ ACCT 2010, Accounting Principles I (3 Hours)
❑ BCIS 3610, Basic Information Systems (3 Hours)
❑ BLAW 3430, Legal & 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)

TECHNICAL ELECTIVES
❑ Any level course chosen from appropriate elective options (3 Hours)
❑ Any level course chosen from appropriate elective options (2 Hours)

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

MATH 1600	MFET 3110	LSCM 3960	CSCE 1030
MATH 1610	MGMT 3330	MKTG 3010	CHEM 1420
MATH 1650	MGMT 3720	MKTG 3650	PHYS 3010
MATH 3410	MGMT 3820	ENGR 1304	
MATH 3680	MGMT 3850	ENGR 2302	
ACCT 2020	MGMT 4470	ENGR 3450	

This is an unofficial simplified checklist effective Fall 2016. 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
Required prerequisite(s) indicated in parentheses & notes

FRESHMAN YEAR

FALL		SPRING	
MATH 1710, Calculus I (see note 1)	4	MATH 1720, Calculus II (MATH 1710)	3
CHEM 1410 or 1415, Chemistry (see note 2)	3	PHYS 1710, Mechanics (MATH 1710)	3
CHEM 1430 or 1435, Chemistry Lab (see note 2)	1	PHYS 1730, Mechanics Lab (MATH 1710)	1
CNET 1160, Const. Methods & Materials	3	CNET 2180, Const. Methods & Surveying (CNET 1160)	4
ENGR 1030, Technological Systems	3	ENGR 1060, Comm. & Ethics (English Composition)	3
Communication Core course	3	TECM 2700, Technical Writing (Communication Core)	3
Total Hours	17	Total Hours	17

SOPHOMORE YEAR

FALL		SPRING	
PHYS 2220, E. & M. (MATH 1720, PHYS 1710, 1730)	3	ACCT 2010, Accounting Principles I (ECON 1100)	3
PHYS 2240, E. & M. Lab (MATH 1720, PHYS 1710, 1730)	1	BCIS 3610, Basic Information Systems	3
CNET 2300, Arch. Drawing (CNET 1160)	2	ENGR 2332, Mechanics of Materials (ENGR 2301)	4
ENGR 2301, Statics (MATH 1710, PHYS 1710, 1730)	3	MGMT 3830, Operations Management	3
ECON 1100, Microeconomics	3	University Core course	3
University Core course	3	Total	16
Total Hours	15		

JUNIOR YEAR

FALL		SPRING	
CNET 3150, Const. Contract Doc. (CNET 2180)	2	CNET 3190, Const. Scheduling (CNET 3160)	3
CNET 3160, Const. Cost Estimating (CNET 1160, 2300)	3	CNET 3440, Steel Structures (CNET 3430)	3
CNET 3430, Structural Analysis (ENGR 2332)	3	CNET 3460, Soils & Foundations (CNET 2180, ENGR 2332)	3
BLAW 3430, Legal & Ethical Env. (PSCI 1040, PSCI 1050)	3	CNET 3410, Occupational Safety & Liability	3
University Core course	3	University Core course	3
Total Hours	14	Total Hours	15

SENIOR YEAR

FALL		SPRING	
CNET 3480, Structural Design (CNET 2180, CNET 3430)	3	CNET 4180, Problems in Project Mgmt. (CNET 4170)	3
CNET 4170, Const. Management (CNET 3160)	3	CNET 4620, Adv. Design (CNET 3440)	3
CNET 4780, Senior Design I (see note 3)	1	CNET 4790, Senior Design II (CNET 4780)	3
BLAW 4770, Real Estate Law & Contracts	3	University Core course	3
University Core course	3	Technical elective course	3
Technical elective course	2	Total Hours	15
Total Hours	15		

Notes:

Note 1: MATH 1710 requires one of the following as prerequisite: completion of MATH 1650 with a grade of "C" or higher; or completion of MATH 1610 with a grade of "C" or higher; or Freshman Math Group Level 3; or approval authorized by score via mathematics testing; 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.

Must earn at least a grade of "C" and a minimum 2.5 GPA in ENGR 1030, PHYS 1710, CNET 1160, CNET 2180, and CNET 2300 as foundations to enroll in advanced CNET courses.

Must earn at least a grade of "C" in each course above except for most University Core 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

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

Department of Electrical Engineering
Discovery Park B-252; (940) 891-6872
Faculty Advisor: Dr. Gayatri Mehta
gayatri.mehta@unt.edu

Engineering Advising Office
Discovery Park A-101; (940) 565-4201
Academic Advisor: Ashley Hubbard
Ashley.Hubbard@unt.edu

University Requirements

COMMUNICATION
- ❑ 3 Hours approved course
Grade of "C" or better is required.

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

GOVERNMENT/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 courses.*

CREATIVE ARTS
- ❑ 3 Hours approved course

LANGUAGE, PHILOSOPHY, & CULTURE
- ❑ 3 Hours approved course

SOCIAL & BEHAVIORAL SCIENCE
- ❑ 3 Hours approved course

DISCOVERY
- ❑ Fulfilled by EENG 1910, Learning to Learn

Major Requirements
Grades of C or better.

TECHANICAL COMMUNIICATIONS
- ❑ TECM 2700, Technical Writing (3 Hours)

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

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

Major Requirements
Grades of C or better.

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

OR

CHEM 1415, Chemistry for Engineers (3 Hours) &
CHEM 1435, Chemistry for Engineers Lab (1 Hour)

ELECTRICAL ENGINEERING
- ❑ 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)
- ❑ EENG 4**** Elective (3 Hours)
- ❑ EENG 4**** Elective (3 Hours)
- ❑ EENG 4**** Elective (3 Hours)
- ❑ EENG 4**** Elective(3 Hours)

*EENG 4*** level elective can be chosen from: EENG 4010, 4310,
4330, 4340, 4350, 4410, 4710, 4760, 4810, 4850, & 4900,
EENG 4010 is a topics course & the content of 4010 varies 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.*

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

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

*A minor in Business Foundations will fulfill the management
requirement.*

*This is an unofficial simplified checklist effective Fall 2016. Degree requirements may change. You may need elective
courses to help reach a minimum of 128 Total Hours & 42 Advanced Hours. Check with an advisor.*

ELECTRICAL ENGINEERING

Sample Four-Year Schedule
Required prerequisite(s) indicated in parentheses & notes

FRESHMAN YEAR

FALL		**SPRING**	
MATH 1710, Calculus I (see note 1)	4	MATH 1720, Calculus II (MATH 1710)	3
CHEM 1410 or 1415, Chemistry (see note 2)	3	PHYS 1710, Mechanics (MATH 1710)	3
CHEM 1430 or 1435, Chemistry Lab (see note 2)	1	PHYS 1730, Mechanics Lab (MATH 1710)	1
EENG 1910, Project I	3	EENG 1920, Intro. to EE (EENG 1910, MATH 1710)	3
Communication Core course	3	EENG 2710, Digital Logic	3
CSCE 1030, Computer Science 1 (MATH 1650)	4	TECM 2700, Tech. Writing (Communication Core)	3
Total Hours	18	Total Hours	16

SOPHOMORE YEAR

FALL		**SPRING**	
MATH 2730, Multivariable Calculus (MATH 1720)	3	MATH 2700, Linear Algebra (MATH 1720)	3
PHYS 2220, E. & M. (MATH 1720, PHYS 1710, 1730)	3	MATH 3410, Diff. Equ. (MATH 1720 coreq MATH 2700)	3
PHYS 2240, E. & M. Lab (MATH 1720, PHYS 1710, 1730)	1	EENG 2620, Signals & Systems (EENG 2610, MATH 2730)	3
EENG 2610, Circ. (MATH 1720, coreq PHYS 2220, 2240)	3	EENG 2920, Analog Circ. Des. (EENG 1920, EENG 2610)	3
EENG 2910, Digital System (EENG 2710)	3	University Core course	3
University Core course	3	Total Hours	15
Total Hours	16		

JUNIOR YEAR

FALL		**SPRING**	
MATH 3680, Statistics (MATH 1710, coreq MATH 1720)	3	EENG 3520, Electronics II (EENG 3510)	3
EENG 3410, Electromagnetics (EENG 2610, MATH 3410)	3	EENG 3710, Computer Org. (EENG 2710, CSCE 1030)	3
EENG 3510, Electronics I (EENG 2610)	3	EENG 3810, Comm. Sys. (EENG 2620, 3510, MATH 3680)	3
EENG 3910, DSP System Design (EENG 2620)	3	EENG 3920, Modern Comm. Sys. (coreq EENG 3520)	3
University Core course	3	University Core course	3
University Core course	3	Total Hours	15
Total Hours	18		

SENIOR YEAR

FALL		**SPRING**	
EENG Elective (see note 4)	3	EENG Elective (see note 4)	3
EENG Elective (see note 4)	3	EENG Elective (see note 4)	3
EENG 4910, Senior Design I (EENG 3810, 3910, 3920)	3	EENG 4990, Senior Design II (EENG 4910)	3
MGMT 3830, Operations Management	3	MGMT 3850, Entrepreneurship	3
University Core course	3	University Core course	3
Total Hours	15	Total Hours	15

Notes:

Note 1: MATH 1710 requires one of the following as prerequisite: completion of MATH 1650 with a grade of "C" or higher; or completion of MATH 1610 with a grade of "C" or higher; or Freshman Math Group Level 3; or approval authorized by score via mathematics testing; 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: Must complete prerequisite(s) for each EENG Elective course.

Must earn at least a grade of "C" and a minimum 2.5 GPA in MATH 1710, PHYS 1710, PHYS 1730, EENG 1910, EENG 2610, and TECM 2700 as foundations to enroll in advanced EENG courses.

Must earn at least a grade of "C" in each course above except for most University Core 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

Department of Engineering Technology
Discovery Park F-115; (940) 565-2022
Faculty Advisor: Dr. Robert Hayes
robert.hayes@unt.edu

Engineering Advising Office
Discovery Park A-101; (940) 565-4201
Academic Advisor: Ashley Hubbard
Ashley.Hubbard@unt.edu

University Core

COMMUNICATION
- ❑ 3 Hours approved course
- **Grade of "C" or better required.**

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

GOVERNMENT/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 courses.*

CREATIVE ARTS
- ❑ 3 Hours approved course

LANGUAGE, PHILOSOPHY, & CULTURE
- ❑ 3 Hours approved course

SOCIAL & BEHAVIORAL SCIENCE
- ❑ 3 Hours approved course

DISCOVERY
- ❑ Fulfilled by ENGR 1030, Technological Systems

Major Requirements
Grades of C or better.

TECHANICAL COMMUNIICATIONS
- ❑ TECM 2700, Technical Writing (3 Hours)

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

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

Major Requirements
Grades of C or better.

ELECTRICAL ENGINEERING TECHNOLOGY
- ❑ ENGR 1030, Technological Systems (3 Hours)
- ❑ ENGR 1060, Communication and Ethics (3 Hours)
- ❑ 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, Electronic Communications I (4 Hours)
- ❑ ELET 4720, Control Systems (3 Hours)
- ❑ ELET 4780, Senior Design I (1 Hour)
- ❑ ELET 4790, Senior Design II (3 Hours)

COMPUTER PROGRAMMING
- ❑ CSCE 1030, Computer Science I (4 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.
- ❑ Advanced level (3*** or 4*** 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
  (2 Hours)

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

MATH 1600	ECON 1100	MKTG 3010
MATH 1610	ECON 1110	MKTG 3650
MATH 1650	MGMT 3330	MFET 3110
MATH 3410	MGMT 3720	EENG 3710
MATH 3680	MGMT 3820	ENGR 1304
ACCT 2010	MGMT 3830	ENGR 2301
BLAW 3430	MGMT 3850	CHEM 1410
BLAW 4770	MGMT 4470	PHYS 3010

*This is an unofficial simplified checklist effective Fall 2016. Degree requirements may change. You may need elective
courses to help reach a minimum of 120 Total Hours & 36 Advanced Hours. Check with an advisor.*

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ELECTRICAL ENGINEERING TECHNOLOGY
Sample Four-Year Schedule
Required prerequisite(s) indicated in parentheses & notes

FRESHMAN YEAR

FALL

MATH 1710, Calculus I (see note 1)	4
ENGR 2720, Logic Design	3
ENGR 2730, Logic Design Lab	1
ELET 1720, Intro. to Electronics (see note 2)	3
ENGR 1030, Technological Systems	3
Communication Core course	3
Total Hours	17

SPRING

MATH 1720, Calculus II (MATH 1710)	3
PHYS 1710, Mechanics (MATH 1710)	3
PHYS 1730, Mechanics Lab (MATH 1710)	1
ELET 2740, Elect. Devices (ELET 1720, coreq MATH 1710)	4
TECM 2700, Technical Writing (Communication Core)	3
Total Hours	14

SOPHOMORE YEAR

FALL

PHYS 2220, E. & M. (MATH 1720, PHYS 1710, 1730)	3
PHYS 2240, E. & M. Lab (MATH 1720, PHYS 1710, 1730)	1
ENGR 2405, Circuits (MATH 1720, co/pre PHYS 2220)	3
ENGR 2415, Circuits Lab (see above)	1
ENGR 2750, Intro to Microprocessors (ENGR 2720, 2730)	4
University Core course	3
Total Hours	15

SPRING

ENGR 1060, Comm. & Ethics (English Composition)	3
ELET 3980, Dig. Control (MATH 1650 or higher)	3
ELET 3750, Embedded C-Prog. (ENGR 2750)	4
University Core course	3
University Core course	3
Total Hours	16

JUNIOR YEAR

FALL

ELET 3700, Adv. Circuit Analysis (ENGR 2405, 2415)	4
CSCE 1030, Computer Science I (MATH 1650)	4
University Core Course	3
Technical Elective	3
Total Hours	14

SPRING

ELET 3220, Intro. to Power Sys. Analysis (ENGR 2405)	3
ELET 3760, Design of DSP Systems (ELET 3700, ELET 3750)	4
ELET 4340, Digital Logic Design Tech. (ELET 3750)	3
Technical Elective	2
University Core course	3
Total Hours	15

SENIOR YEAR

FALL

ELET 4300, Embedded System Org. (ELET 4340)	3
ELET 4710, Electronic Comm I (ELET 3700)	4
ELET 4720, Control Systems (ELET 3700)	3
ELET 4780, Senior Design I (ELET 3760, Senior Standing)	1
University Core course	3
Total Hours	14

SPRING

ELET 4320, Electronic Comm II (ELET 4710)	3
ELET 4330, Instrumentation Sys. Design (ELET 3760)	3
ELET 4790, Senior Design II (ELET 4780)	3
Advanced Technical Elective	3
University Core course	3
Total Hours	15

Notes:

Note 1: MATH 1710 requires one of the following as prerequisite: completion of MATH 1650 with a grade of "C" or higher; or completion of MATH 1610 with a grade of "C" or higher; or Freshman Math Group Level 3; or approval authorized by score via mathematics testing; or earned credit for a math course at or above the MATH 1710 level.

Note 2: ELET 1720 requires MATH 1100, College Algebra, or a higher MATH course as prerequisite.

Must earn at least a grade of "C" and a minimum 2.5 GPA in MATH 1710, ENGR 1030, ENGR 2720, ENGR 2730, ELET 2740, and TECM 2700 as foundations to enroll in advanced ELET courses.

Must earn at least a grade of "C" in each course above except for most University Core 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.

INFORMATION TECHNOLOGY

Bachelor of Arts (B.A.) degree with a major in Information Technology

Department of Computer Science & Engineering
Discovery Park F-201; (940) 565-2767
Faculty Advisors: Dr. Ryan Garlick, Mr. David Keathly
ryan.garlick@unt.edu, david.keathly@unt.edu

Engineering Advising Office
Discovery Park A-101; (940) 565-4201
Academic Advisor: Nancy Van Hoy
nancy.vanhoy@unt.edu

University Core

COMMUNICATION
- ❑ 3 Hours approved course

Grade of "C" or better is required.

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

GOVERNMENT/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 courses.*

CREATIVE ARTS
- ❑ 3 Hours approved course

LANGUAGE, PHILOSOPHY, & CULTURE
- ❑ 3 Hours approved course

SOCIAL & BEHAVIORAL SCIENCE
- ❑ 3 Hours approved course

DISCOVERY
- ❑ 3 Hours approved course

Major Requirements
Grades of C or better.

TECHNICAL COMMUNIICATIONS
- ❑ TECM 2700, Technical Writing (3 Hours)

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

SCIENCES
- ❑ PHYS 1710, Mechanics (3 Hours) &
  PHYS 1730, Mechanics Lab (1 Hour)
- ❑ CHEM 1410, General Chemistry I (3 Hours) &
  CHEM 1430, General Chemistry I Lab (1 Hour)
  or
  CHEM 1415, Chemistry for Engineers (3 Hours) &
  CHEM 1435, Chemistry for Engineers Lab (1 Hour)
  or
  BIOL 1710, Biology I (3 Hours) &
  BIOL 1760, Biology Lab (2 Hours)

Major Requirements
Grades of C or better.

COMPUTER SCIENCE and ENGINEERING
- ❑ CSCE 1030, Computer Science I (4 Hours)
- ❑ CSCE 1040, Computer Science II (3 Hours)
- ❑ CSCE 2100, 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 3615, Enterprise Systems Arch., Analysis & Design (3 Hours)
- ❑ CSCE 4010, Social Issues in Computing (3 Hours)
- ❑ CSCE 4350, Introduction to Database Systems Design (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)

ADMIN CONCENTRATION AREA
- ❑ CSCE 3535, Network Administration (3 Hours)
- ❑ CSCE 3605, Systems Administration (3 Hours)
- ❑ CSCE 4355, Database Administration (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:*

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

*Completion of CSCE 2610, 3530, 4550, & 4560 for Supporting Area
earns a Security Certificate from the Committee on National
Security Systems.*

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

*This is an unofficial simplified checklist effective Fall 2016. Degree requirements may change. You may need elective
courses to help reach a minimum of 121 Total Hours & 42 Advanced Hours. Check with your advisor.*

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INFORMATION TECHNOLOGY

Sample Four-Year Schedule
Required prerequisite(s) indicated in parentheses & notes

FRESHMAN YEAR

FALL		SPRING	
MATH 1710, Calculus I (see note 1)	4	MATH 1680 or MATH1780, Probability (MATH 1710)	3
CHEM 1410 or 1415 or BIOL 1710 (see note 2)	3	PHYS 1710, Mechanics (MATH 1710)	3
CHEM 1430 or 1435 or BIOL 1760 (see note 2)	1	PHYS 1730, Mechanics Lab (MATH 1710)	1
CSCE 1030, Computer Science I (see note 3)	4	CSCE 1040, Comp. Science II (CSCE 1030, MATH 1710)	3
Communication Core course	3	TECM 2700, Technical Writing (Communication Core)	3
Total Hours	15	University Core course	3
		Total Hours	16

SOPHOMORE YEAR

FALL		SPRING	
CSCE 2100, Computing Foundations I (CSCE 1040)	3	CSCE 2110, Computing Foundations II (CSCE 2100)	3
Supporting Area course (see note 4)	3	CSCE 3600, Systems Programming (CSCE 2100)	3
University Core course	3	Supporting Area course (see note 4)	3
University Core course	3	University Core course	3
University Core course	3	University Core course	3
Total Hours	15	Total Hours	15

JUNIOR YEAR

FALL		SPRING	
CSCE 3055, IT Project Management (CSCE 2100)	3	CSCE 4010, Social Issues (CSCE 3600)	3
CSCE 3220, Human Computer Interfaces (CSCE 2110)	3	CSCE 3605, Systems Administration (CSCE 3600)	3
CSCE 3420, Internet Programming (CSCE 2110)	3	CSCE 3615, Enterprise Systems Arch. (CSCE 2100)	3
CSCE 3530, Computer Networks (CSCE 3600)	3	CSCE 4350, Database Systems (CSCE 2110)	3
Supporting Area course (nee note 4)	3	University Core course	3
Total Hours	15	Total Hours	15

SENIOR YEAR

FALL		SPRING	
CSCE 3535, Network Administration (CSCE 3530)	3	CSCE 4925, Capstone II (CSCE 4905)	3
CSCE 4355, Database Administration (CSCE 4350)	3	Supporting Area course (see note 4)	3
CSCE 4550, Computer Security (CSCE 3600)	3	Supporting Area course (see note 4)	3
CSCE 4905, Capstone I (CSCE 3055)	3	Supporting Area course (see note 4)	3
Supporting Area course (see note 4)	3	University Core course	3
Total Hours	15	Total Hours	15

Notes:

Note 1: MATH 1710 requires one of the following as prerequisite: completion of MATH 1650 with a grade of "C" or higher; or completion of MATH 1610 with a grade of "C" or higher; or Freshman Math Group Level 3; or approval authorized by score via mathematics testing; or earned credit for a math course at or above the MATH 1710 level.
Note 2: BIOL 1710 & 1760 has no prerequisite. 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 1710, Calculus I(or higher) as prerequisite.
Note 4: Must enroll in Supporting Area courses approved by an advisor & complete prerequisite(s) for approved courses.

Must earn at least a grade of "C" and a minimum 2.5 GPA in CSCE 1030, CSCE 1040, CSCE 2100, MATH 1710, & CHEM 1410, 1430 or CHEM 1415, 1435 or BIOL 1710, 1760 as foundations to enroll in advanced CSCE courses.

Must earn at least a grade of "C" in each course above except for most University Core 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

Department of Materials Science & Engineering
Discovery Park E-132; (940) 565-3260
Faculty Advisor: Dr. Marcus Young
marcus.young@unt.edu

Engineering Advising Office
Discovery Park A-101; (940) 565-4201
Academic Advisor: Nancy Van Hoy
nancy.vanhoy@unt.edu

University Core

COMMUNICATION
- ❑ 3 Hours approved course
- **Grade of "C" or better is required.**

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

GOVERNMENT/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 courses.

CREATIVE ARTS
- ❑ 3 Hours approved course

LANGUAGE, PHILOSOPHY, & CULTURE
- ❑ 3 Hours approved course

SOCIAL & BEHAVIORAL SCIENCE
- ❑ 3 Hours approved course

DISCOVERY
- ❑ Fulfilled by MTSE 1100, Discover How & Why Materials Matter

Major Requirements
Grades of C or better.

TECHNICAL COMMUNICATIONS
- ❑ TECM 2700, Technical Writing (3 Hours)

MATHEMATICS
- ❑ MATH 1710, Calculus I (4 Hours)
- ❑ MATH 1720, Calculus II (3 Hours)
- ❑ MATH 2700, Liner Algebra & Vector Geometry (3 Hours)
- ❑ MATH 3410, Differential Equations (3 Hours)

Major Requirements
Grades of C or better.

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

MATERIALS SCIENCE & ENGINEERING

- ❑ ENGR 2301, Statics (3 Hours)

- ❑ MTSE1100, Discover How & Why Materials Matter
- ❑ MTSE 3000, Fundamentals of Materials Science & Engr. I (3)
- ❑ MTSE 3001, Fundamentals of Materials Science & Engr. II (3)
- ❑ 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 4030, Ceramic Science & Engineering (3 Hours)
- ❑ MTSE 4050, Polymer Science & Engineering (3 Hours)
- ❑ MTSE 4060, Materials Selection & Performance (3 Hours)
- ❑ MTSE 4090, Senior Research Project I (3 Hours)
- ❑ MTSE 4100, Senior Research Project II (3 Hours)

MATERIALS SCIENCE & ENGINEERING ELECTIVES
- ❑ 1 MTSE 4*** elective (3 Hours) chosen from list options below
- ❑ 1 MTSE 4*** elective (3 Hours) chosen from list options below

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

This is an unofficial simplified checklist effective Fall 2016. 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.

MATERIALS SCIENCE & ENGINEERING

Sample Four-Year Schedule
Required prerequisite(s) indicated in parentheses & notes

FRESHMAN YEAR

FALL		**SPRING**	
MATH 1710, Calculus I (see note 1)	4	MATH 1720, Calculus II (MATH 1710)	3
CHEM 1410, General Chemistry I (see note 2)	3	CHEM 1420, General Chemistry II (CHEM 1410, 1430)	3
CHEM 1430, General Chemistry I Lab (see note 2)	1	PHYS 1710, Mechanics (MATH 1710)	3
Communication Core course	3	PHYS 1730, Mechanics Lab (MATH 1710)	1
MTSE 1100, Discover How & Why Materials Matter	3	TECM 2700, Tech. Writing (Communication Core)	3
Total Hours	14	University Core course	3
		Total Hours	16

SOPHOMORE YEAR

FALL		**SPRING**	
MATH 2700, Linear Algebra (MATH 1720)	3	MATH 3410, Diff. Equ. (MATH 1720, coreq MATH 2700)	3
PHYS 2220, E. & M. (MATH 1720, PHYS 1710, 1730)	3	PHYS 3010, Modern Physics (PHYS 2220, 2240)	3
PHYS 2240, E. & M. Lab (MATH 1720, PHYS 1710, 1730)	1	MTSE 3001, Fundamentals II (MTSE 3000)	3
ENGR 2301, Statics (MATH 1710, PHYS 1710, 1730)	3	University Core course	3
MTSE 3000, Fundamentals I (see note 3)	3	University Core course	3
University Core course	3	Total Hours	15
Total Hours	16		

JUNIOR YEAR

FALL		**SPRING**	
MTSE 3010, Bonding & Structure (MTSE 3001)	3	MTSE 3050, Mechanical Properties (MTSE 3001)	3
MSTE 3020, Micro & Characterization (MTSE 3001)	3	MTSE 3060, Phase Transform. (MTSE 3010, 3030, 3040)	3
MTSE 3030, Thermo & Phase Diagrams (MTSE 3001)	3	MTSE 3070, Elect., Opt,, & Mag, Properties (MTSE 3001)	3
MTSE 3040, Transport Phen. (MTSE 3001, MATH 3410)	3	MTSE 3080, Materials Processing (MTSE 3040)	3
MTSE 3090, Laboratory I (MTSE 3001)	1	MTSE 3100, Laboratory II (MTSE 3090)	1
University Core course	3	University Core course	3
Total Hours	16	Total Hours	16

SENIOR YEAR

FALL		**SPRING**	
MTSE 4010, Phys. Metallurgy Prin. (MTSE 3010, 3030, 3040)	3	MTSE Advanced Level MTSE Elective (see note 5)	3
MTSE 4030, Ceramic Sci. & Engr. (MTSE 3010, 3020, 3040)	3	MTSE Advanced Level MTSE Elective (see note 5)	3
MTSE 4050, Polymer Sci. & Engr. (MTSE 3001)	3	MTSE 4060, Selection & Perform. (MTSE 3030, 3040, 3050)	3
MTSE 4090, Senior Research Project I (see note 4)	3	MTSE 4100, Senior Research Project II (MTSE 4090)	3
University Core course	3	Total Hours	12
Total Hours	15		

Notes:

Note 1: MATH 1710 requires one of the following as prerequisite: completion of MATH 1650 with a grade of "C" or higher; or completion of MATH 1610 with a grade of "C" or higher; or Freshman Math Group Level 3; or approval authorized by score via mathematics testing; 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: MTSE 3000 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" and a minimum 2.5 GPA in MTSE 1100, MATH 1710, MATH 1720, CHEM 1410, CHEM 1430, CHEM 1420, PHYS 1710, PHYS 1730, TECM 2700, and ENGR 3450 as foundations to enroll in advanced MTSE courses.

Must earn at least a grade of "C" in each course above except for most University Core 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

Department of Mechanical & Energy Engineering
Discovery Park F-101; (940) 565-2400
Faculty Advisors: Dr. Xiaohua Li, Dr. Cherish Qualls
xiaohua.li@unt.edu, cherish.qualls@unt.edu

Engineering Advising Office
Discovery Park A-101; (940) 565-4201
Academic Advisors: Rachel Smith, Adrian Stephens
rachel.smith@unt.edu, adrian.stephens@unt.edu

University Core

COMMUNICATION
❑ 3 Hours approved course
Grade of "C" or better is required.

AMERICAN HISTORY
❑ HIST 2610, U.S. History To 1865 (3 Hours)
❑ HIST 2620, U.S. History From 1865 (3 Hours)

GOVERNMENT/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 courses.*

CREATIVE ARTS
❑ 3 Hours approved course

LANUAGUE, PHILOSOPHY, & CULTURE
❑ 3 Hours approved course

SOCIAL & BEHAVIORAL SCIENCE
❑ 3 Hours approved course

DISCOVERY
❑ Fulfilled by MEEN 1000, Discover Mechanical & Energy

Major Requirements
Grades of C or better.

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

MATHEMATICS
❑ MATH 1710, Calculus I (4 Hours)
❑ 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)

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

Major Requirements
Grades of C or better.

MECHANICAL & ENERGY ENGINEERING
❑ MEEN 1000, Discover Mechanical & Energy (3 Hours)
❑ MEEN 2110, Engineering Data Analysis (2 Hours)
❑ MEEN 2210, Thermodynamics I (3 Hours)
❑ MEEN 2240, Programming for Mechanical Engr. (3 Hours)
❑ MEEN 2301, Mechanics I (3 Hours)
❑ MEEN 2302, Mechanics II (3 Hours)
❑ MEEN 2332, Mechanics III (3 Hours)
❑ MEEN 3100, Manufacturing Processes (3 Hours)
❑ MEEN 3110, Thermodynamics II (3 Hours)
❑ MEEN 3120, Fluid Mechanics (3 Hours)
❑ MEEN 3130, Machine Elements (3 Hours)
❑ MEEN 3210, Heat Transfer (3 Hours)
❑ MEEN 3230, System Dynamics & Controls (3 Hours)
❑ MEEN 3240, Laboratory I (2 Hours)
❑ MEEN 3242, Laboratory II (1 Hour)
❑ MEEN 3250, Analytical Methods (3 Hours)
❑ MEEN 4150, Design I (3 Hours)
❑ MEEN 4250, Capstone Design (3 Hours)

❑ ENGR 1304, Engineering Graphics (3 Hours)
❑ ENGR 2405, Circuit Analysis (3 Hours)
        or
  EENG 2610, Circuit Analysis (3 Hours)
❑ ENGR 3450, Engineering Materials (3 Hours) &
  ENGR 3451, Engineering Materials Lab (1 Hour)
        or
  MTSE 3000, Fundamentals of Materials Sci.& Engr. I (3 Hours)
  MTSE 3030, Fundamentals I Lab 1(Hour)

ENERGY ELECTIVES
❑ 1 Energy Elective course (3 hours) chosen from list below
❑ 1 Energy Elective course (3 Hours) chosen from list below

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

TECHNICAL ELECTIVES
❑ 1 Technical Elective course (3 hours) chosen from list below
❑ 1 Technical Elective course (3 Hours) chosen from list below

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

*Detailed information about energy & technical elective courses
is located at www.mee.unt.edu or www.catalog.unt.edu*

*This is an unofficial simplified checklist effective Fall 2016. 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
Required prerequisite(s) indicated in parentheses & notes

FRESHMAN YEAR

FALL		**SPRING**	
MATH 1710, Calculus I (see note 1)	4	MATH 1720, Calculus II (MATH 1710)	3
CHEM 1410 or 1415, Chemistry (see note 2)	3	PHYS 1710, Mechanics (MATH 1710)	3
CHEM 1430 or 1435, Chemistry Lab (see note 2)	1	PHYS 1730, Mechanics Lab (MATH 1710)	1
MEEN 1000, Discover Mech. & Energy (see note 3)	3	ENGR 1304, Engineering Graphics	3
Communication Core course	3	TECM 2700, Tech Writing (Communication Core)	3
University Core course	3	University Core course	3
Total Hours	17	Total Hours	16

SOPHOMORE YEAR

FALL		**SPRING**	
MATH 2730, Multivariable Calculus (MATH 1720)	3	MATH 3410, Diff. Equ. (MATH 1720, coreq MATH 2700)	3
PHYS 2220, E.& M. (MATH 1720, PHYS 1710, 1730)	3	MEEN 2210, Thermodynamics I (MATH 1720, PHYS 1710)	3
PHYS 2240, E. & M. Lab (MATH 1720, PHYS 1710, 1730)	1	MEEN 2302, Mech II (MEEN 2301, MATH 1720)	3
MEEN 2301, Mech I (MATH 1710, PHYS 1710, 1730)	3	MEEN 2332, Mech III (MEEN 2301)	3
MEEN 2110, Engr. Data Analysis (MATH 1710)	2	EENG 2610 or ENGR 2405, Circuit Analysis (see note 4)	3
MATH 2700, Linear Algebra (MATH 1720)	3	MEEN 2240, Program. for Mech. Engr. (MATH 2700)	3
Total Hours	15	Total Hours	18

JUNIOR YEAR

FALL		**SPRING**	
MEEN 3110, Thermodynamics II (MEEN 2210)	3	University Core course	3
MEEN 3120, Fluids (MATH 2730, MATH 3410)	3	MEEN 3130, Machine Elements (MEEN 1000, MEEN 2332)	3
MEEN 3240, Laboratory I (MEEN 2210, MATH 3410)	2	MEEN 3210, Heat Transfer (MEEN 3120)	3
MEEN 3250, Analy. (ENGR 1304, MEEN 2240, MATH 3410)	3	MEEN 3230, Dyna. & Controls (MEEN 2302, MATH 3410)	3
ENGR 3450 or MTSE 3000, Materials (see note 7)	3	MEEN 3242, Laboratory II (MEEN 3240)	1
ENGR 3451 or MTSE 3030, Materials Lab (see note 7)	1	University Core course	3
Total Hours	15	Total Hours	16

SENIOR YEAR

FALL		**SPRING**	
MEEN 3100, Manufact. (MEEN 2332, ENGR 3450, 3451)	3	MEEN 4250, Capstone Design (MEEN 4150)	3
MEEN 4150, Design I (see note 5)	3	Energy Elective (see note 6)	3
Energy Elective (see note 6)	3	Technical Elective (see note 6)	3
Technical Elective (see note 6)	3	University Core course	3
University Core course	3	University Core course	3
Total Hours	15	Total Hours	15

Notes:

Note 1: MATH 1710 requires one of the following as prerequisite: completion of MATH 1650 with a grade of "C" or higher; or completion of MATH 1610 with a grade of "C" or higher; or Freshman Math Group Level 3; or approval authorized by score via mathematics testing; 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. 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 appropriate prerequisite(s) for energy & technical electives. Please check with an advisor.

Note 7: ENGR 3450, 3451 or MTSE 3000, 3030 requires PHYS 1710 and CHEM 1410, 1430 or CHEM 1415, 1435 as prerequisite.

Must earn at least a grade of "C" & a minimum 2.5 GPA in MATH 1710, PHYS 1710, PHYS 1730, MEEN 1000, MEEN 2210, MEEN 2302, & TECM 2700 as foundations to enroll in advanced MEEN courses.

Must earn at least a grade of "C" in each course above except for most University Core 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 ENGINEERING TECHNOLOGY

Bachelor of Science in Engineering Technology (B.S.E.T.) degree with a major in Mechanical Engineering Technology

Department of Engineering Technology
Discovery Park F-115; (940) 565-2022
Faculty Advisor: Dr. Robert Hayes
robert.hayes@unt.edu

Engineering Advising Office
Discovery Park A-101; (940) 565-4201
Academic Advisors: Rachel Smith, Adrian Stephens
rachel.smith@unt.edu, adrian.stephens@unt.edu

University Core

COMMUNICATION
❑ 3 Hours approved course
Grade of "C" or better required.

AMERICAN HISTORY
❑ HIST 2610, U.S. History to 1865 (3 Hours)
❑ HIST 2620, U.S. History from 1865 (3 Hours)

GOVERNMENT/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 courses.

CREATIVE ARTS
❑ 3 Hours approved course

LANGUAGE, PHILOSOPHY, & CULTURE
❑ 3 Hours approved course

SOCIAL & BEHAVIORAL SCIENCE
❑ 3 Hours approved course

DISCOVERY
❑ Fulfilled by ENGR 1030, Technological Systems

Major Requirements
Grades of C or better.

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

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

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

Major Requirements
Grades of C or better.

MECHANICAL ENGINEERING TECHNOLOGY
❑ ENGR 1030, Technological Systems (3 Hours)
❑ ENGR 1060, Communication and Ethics (3 Hours)
❑ 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)

❑ ELET 3980, Digital Control of Industrial Processes (3 Hours)

❑ MEET 3650 , Design of Mechanical Components (3 Hours)
❑ MEET 3940, Fluid Mechanics Applications (3 Hours)
❑ MEET 3990, Applied Thermodynamics (3 Hours)
❑ MEET 4050, Mechanical Design (3 Hours)
❑ MEET 4350, Heat Transfer Applications (3 Hours)
❑ MEET 4360, Experimental Thermal Sciences (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 3 Hours)

COMPUTER PROGRAMMING
❑ CSCE 1030, Computer Science I (4 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 (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)

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

MATH 1600	MGMT 3330	MKTG 3010
MATH 1610	MGMT 3720	MKTG 3650
MATH 1650	MGMT 3820	BLAW 3430
MATH 3410	MGMT 3830	BLAW 4770
MATH 3680	MGMT 3850	PHYS 3010
ACCT 2010	MGMT 4470	CHEM 1420
BCIS 3610	LSCM 3960	

This is an unofficial simplified checklist effective Fall 2016. 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.

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MECHANICAL ENGINEERING TECHNOLOGY

Sample Four-Year Schedule
Required prerequisite(s) indicated in parentheses & notes

FRESHMAN YEAR

FALL		SPRING	
MATH 1710, Calculus I (see note 1)	4	MATH 1720, Calculus II (MATH 1710)	3
CHEM 1410 or 1415, Chemistry (see note 2)	3	PHYS 1710, Mechanics (MATH 1710)	3
CHEM 1430 or 1435, Chemistry Lab (see note 2)	1	PHYS 1730, Mechanics Lab (MATH 1710)	1
ENGR 1030, Technological Systems	3	ENGR 1060, Comm. & Ethics (English Composition)	3
ENGR 1304, Engineering Graphics	3	TECM 2700, Tech. Writing (Communication Core)	3
Communication Core course	3	University Core course	3
Total Hours	17	Total Hours	16

SOPHOMORE YEAR

FALL		SPRING	
PHYS 2220, E. & M. (MATH 1720, PHYS 2220, 2240)	3	ENGR 2302, Dynamics (ENGR 2301)	3
PHYS 2240, E. & M. Lab (MATH 1720, PHYS 2220, 2240)	1	ENGR 2332, Mechanics of Materials (ENGR 2301)	4
ENGR 2301, Statics (MATH 1710, PHYS 1710, 1730)	3	ENGR 2405, Circuit (MATH 1720, PHYS 2220, 2240)	3
CSCE 1030, Computer Science I (MATH 1650)	4	ENGR 2415, Circuit Lab (MATH 1720, PHYS 2220, 2240)	1
University Core course	3	University Core course	3
University Core course	3	University Core course	3
Total Hours	17	Total Hours	17

JUNIOR YEAR

FALL		SPRING	
ENGR 3450, Materials (PHYS 1710, CHEM Reqt.)	3	ELET 3980, Digital Controls (MATH 1650 or higher)	3
ENGR 3451, Materials Lab (PHYS 1710, CHEM Reqt.)	1	MEET 3650, Design of Mech. Components (ENGR 2332)	3
MEET 3940, Fluid Mechanics (ENGR 2302, MATH 1720)	3	MFET 4190, Quality Assurance (MATH 1720)	3
MEET 3990, Thermo. (ENGR 2332 ,CHEM Reqt.)	3	MFET 4210, CAD/CAM System Operations (see note 3)	3
MFET 3110, Mach. Principles & Processes	4	Technical Elective	3
Total Hours	14	Total Hours	15

SENIOR YEAR

FALL		SPRING	
MEET 4050, Mechanical Design (MEET 3650)	3	MEET 4790, Senior Design II (MEET 4780)	3
MEET 4350, Heat Transfer Appl (MEET 3940, 3990)	3	MEET 4360, Exper. Thermal Sci. (MEET 3940, 3990, 4350)	2
MEET 4780, Senior Design I (see note 4)	1	Advanced Technical Elective	3
MFET 4200, Engineering Costs Analysis (MATH 1720)	2	Advanced Technical Elective	2
Advanced Technical Elective	3	University Core course	3
University Core course	3	Total Hours	13
Total Hours	15		

Notes:

Note 1: MATH 1710 requires one of the following as prerequisite: completion of MATH 1650 with a grade of "C" or higher; or completion of MATH 1610 with a grade of "C" or higher; or Freshman Math Group Level 3; or approval authorized by score via mathematics testing; 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.
CHEM 1415 & 1435 requires MATH 1650, Pre-Calculus, or placement into a higher level math course as prerequisite.

Note 3: MFET 4210 requires MFET 3110, ENGR 1304, & completion of all MATH, PHYS, & CHEM requirements as prerequisite.

Note 4: MEET 4780 requires completion of or concurrent enrollment in MEET 4050 and MEET 4350.

Must earn at least a grade of "C" & a minimum 2.5 GPA in MATH 1710, PHYS 1710, PHYS 1730, ENGR 1304, ENGR 2301, & TECM 2700 as foundations to enroll in advanced MEEN courses.

Must earn at least a grade of "C" in each course above except for most University Core 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.

University Core Information

COMMUNICATION (3 Hours)
ENGL 1310, College Writing I
ENGL 1311, Honors College Writing I
ENGL 1315, Writing about Literature I
TECM 1312, Intro. to Writing For International Students
TECM 1700, Intro. to Professional, Science, & Tech. Writing

AP English Language & Composition score of 3, 4 or 5
IB English A: Language & Literature score of 5, 6, or 7

AMERICAN HISTORY (6 Hours)
HIST 2610, US to 1865 **or**
HIST 2675, Honors US History to 1865
HIST 2620, US from 1865 **or**
HIST 2685, Honors US History from 1865
HIST 4700, Texas History

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

GOVT./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. Gov. & Politics score of 3, 4 or 5
CLEP American Government
Fulfills PSCI 1050 or PSCI 1051

CREATIVE ARTS (3 Hours)
ART 1300, Art Appreciation
ART 1301, Honors Art Appreciation
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 3, 4 or 5
IB Dance score of 4 or higher*

LANGUAGE, PHIL. & CULTURE (3 Hours)
AGER 2250, Aging in Film & Lit.
ANTH 3101 American Culture & Society
ANTH 3110, North American Indians
ANTH 3120, Indians Southwest
ANTH 3140, Latinos in the U.S.
ANTH 3200, Latin American
ANTH 3210, Meso America
ANTH 3220, Mayan Culture
ANTH 3300, Peoples of the Pacific
ANTH 3400, Peoples of Africa
ANTH 3500, Middle Eastern Culture
ANTH 3700, South Asian Culture
ENGL 2210, World Literature I
ENGL 2211, Honors World Literature I

LANGUAGE, PHIL. & CULTURE Cont'd (3 Hours)
ENGL 2220, World Literature II
ENGL 2221, Honors World Literature
FREN 3040, Adv. Reading French Culture
FREN 4060, Studies in French Literature
FREN 4310, French Civilization & Culture
GERM 3040, Topics in German Culture
GERM 3050, Topics in German Literature
HDFS 2313, Courtship & Marriage
HIST 1050, World History to 16th Century
HIST 1060, World History from 16th Century
ITAL 3040, Topics in Italian Culture
ITAL 3050, Italian Culture Thru Film
ITAL 3070, Intro. to Italian Literature
JAPN 3020, Advanced Japanese I
JAPN 3030, Advanced Japanese II
MUET 3030, Music Cultures of the World
PHIL 1050, Introduction to Philosophy
PHIL 1400, Contemporary Moral Issues
PHIL 2050, Introduction to Logic
PHIL 2070, Great Religions
PHIL 2100, Intro. To Judaism
PHIL 2310, Intro. To Ancient Philosophy
PHIL 2400, Religion in American Society
PHIL 2600, Ethics in Science

AP English Literature & Composition score of 3, 4 or 5
AP World History score of 3, 4 or 5
IB History score of 4 or higher*
IB Philosophy score of 5, 6, or 7
IB English Language A: Literature score of 5, 6, or 7

SOCIAL & BEHAVIORAL SCIENCE (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.
EADP 4050, Special Pop. in Disasters
ECON 1100, Microeconomics
ECON 1110, Macroeconomics
GEOG 1200, Global Societies
HDFS 1013, Human Development
HLTH 2200, Family Life & Human Sexuality
JOUR 1210, Mass Comm. & Society
MDSE 2750, Consumers in Global Market
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 Geography 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)
AGER 2250, Aging in Film & Literature
ANTH 1100, World Cultures
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 1000, Discover Life Science
BIOL 1750/1755, Intro. Research Lab I & II
BMEN 1300, Discover Biomedical Engr.
BUSI 1340, Managing Business Enterprise
CHEM 1400, Discover Chemistry
COMM 1010, Intro. to Communication
COMM 1440, Honors Classical Argument
COMM 2040, Public Speaking
COMM 2140, Rhetoric & Argument
COUN 2620, Diversity & Cultural Awareness
DANC 1100, Stress Reduct. Thru Movement
EENG 1910, Learning to Learn
ENGL 3000, Literary Analysis & Interpretation
ENGR 1030, Technological Systems
FREN 1610, French Influence in North Am.
FREN 1620, French Language in Canada
GEOG 1500, Geography of DFW Metroplex
HDFS 2033, Parenting in Diverse Families
HDFS 3423, Family, Schools, Communities
HMGT 1450, Principles of Nutrition
HNRS 1100, The Good Society
HNRS 1500, Intro. to Research
INST 2100, Intro. to International Studies
ITAL 1610, Italian Influences in the U.S.
LANG 1610, World Ling. Landscapes
LING 2050, Language of Now
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
MTSE 1100, Discover Materials
PHED 1000, Health Related Fitness
PHIL 1800, Philosophy of Self
PHIL 2400, Religion in American Society
PHIL 2500, Contemp. Environmental Issues
PSCI 1010, Politics and Pop Culture
PSYC 1500, Mythbusting
RHAB 3000, Microcounseling
SOCI 2070, Race & Ethnic Relations
SOWK 4540, Human Diversity
TECM 1500, New Media for College Career
WGST 2100, Women & Society

*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.

Mathematics, Sciences & Programming Information

TEXAS SUCCESS INTITIATIVE (TSI)

TSI is a program legislated by the State of Texas to improve the success of students in college. Students must prove they are TSI complete in reading, writing, & mathematics via exemptions, SAT, ACT, or transfer credit. If a student is not TSI complete, testing must be completed prior to enrollment in UNT courses. Successful TSI mathematics testing will allow entry into MATH 1100. Meet with the Learning Center in Sage Hall for more information.

MATH PRE-PLACEMENT FOR FRESHMEN

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 1 or No Math Level: MATH 1100
- ❑ Math Level 2: MATH 1600 or 1650
- ❑ MATH Level 3: MATH 1710

MATH PLACEMENT TESTING OPTIONS

If you feel that you are capable of beginning your math courses at a higher level than your Math Group Level or qualification based on earned math credit, you can seek approval into a higher math course via 3 options:
- ❑ **Pearson MyMathTest** – free online test. Must score a minimum of 70 to enter MATH 1710. Must score a minimum 10 to enter MATH 1650.
- ❑ **Accuplacer** – free on campus test. The test is available Mondays through Fridays from 8:30 A.M. to 3:00 P.M. in the General Academic Building (GAB) 443. Must score a minimum of 101 to enter MATH 1710. Must score a minimum of 86 to enter MATH 1650.
- ❑ **ALEKS** – online test which requires a small fee & completion of a 6 week long tutorial. Must score a minimum of 70 to enter MATH 1710. Must score a minimum of 50 to enter MATH 1650.

Please see math.unt.edu or contact the Math Department at (940) 565-2155 or General Academic Building (GAB) 440 for more testing information.

PREREQUISITIE MATH COURSES TO ENTER CALCULUS I
- ❑ MATH 1100, College Algebra, Minimum C grade ->
- ❑ MATH 1650, Pre-Calculus, Minimum C grade ->
- ❑ MATH 1710, Calculus I
               or
- ❑ MATH 1100, College Algebra, Minimum C grade ->
- ❑ MATH 1600, Trigonometry, Minimum C grade ->
- ❑ MATH 1610, Functions, Graphs, Appls, Minimum C grade ->
- ❑ MATH 1710, Calculus I

MATH CREDITS
AP Statistics score of 3, 4, 5: MATH 1680 (prereq for MATH 1100)
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 1710,1720
IB Mathematic Studies: Elective
IB Mathematics - Calculus: MATH 1710
Transfer College Algebra: MATH 1100
Transfer Statistics: MATH 1680 (prerequisite for MATH 1100)
Transfer Trigonometry credit: MATH 1600
Transfer Business Calculus: MATH 1190 (prereq for MATH 1600 or 1650)

BIOLOGY CREDITS
AP Biology score of 3: BIOL 1112,1122
AP Biology score of 4, 5: BIOL 1710,1720,1760
CLEP General Biology: BIOL 1710,1720
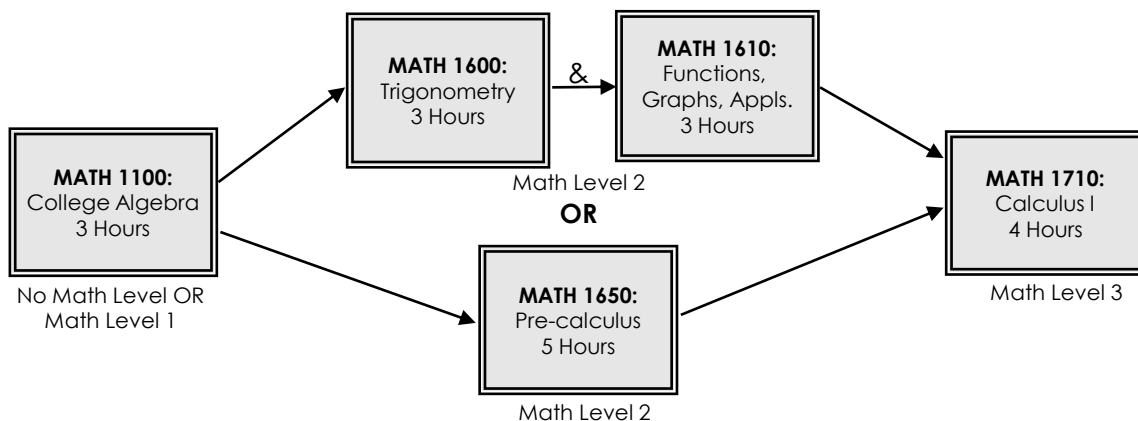IB Biology: BIOL 1710,1720,1760

CHEMISTRY CREDITS
AP Chemistry score of 3: CHEM 1360
AP Chemistry score of 4: CHEM 1410,1430
AP Chemistry score of 5: CHEM 1410,1430 & 1420,1440
CLEP General Chemistry: CHEM 1410,1420
IB Chemistry: CHEM 1410,1430 & 1420,1440

PHYSICS CREDITS
AP Physics 1 score of 3: PHYS 1210
AP Physics 1 score of 4, 5: PHYS 1410,1430
AP Physics 2 score of 3: PHYS 1315
AP Physics 2 score of 4, 5: PHYS 1420,1440
AP Physics C (Mechanics) score of 3: PHYS 1410,1430
AP Physics C (Mechanics) score 4, 5: PHYS 1710,1730
AP Physics C (Electricity & Magnetism) score of 3: PHYS 1420,1440
AP Physics C (Electricity & Magnetism) score of 4, 5: PHYS 2220,2240

COMPUTER SCIENCE/PROGRAMMING CREDITS
AP Computer Science A score of 3: CSCE 1010
AP Computer Science A score of 4, 5: CSCE 1030
AP Computer Science Principles score of 3, 4, 5: CSCE 1010
IB Computer Science: CSCE 1030,1040

MATH 1100: College Algebra 3 Hours — No Math Level OR Math Level 1

MATH 1600: Trigonometry 3 Hours — Math Level 2

& **MATH 1610:** Functions, Graphs, Appls. 3 Hours

OR

MATH 1650: Pre-calculus 5 Hours — Math Level 2

MATH 1710: Calculus I 4 Hours — Math Level 3

Grades of C or better is required in each course.

Minor Information

BUSINESS FOUNDATIONS GENERAL TRACK MINOR (18 Hours)
ACCT 2010, Accounting Principles I (3 Hours)
ACCT 2020, Accounting Principles II (3 Hours)
FINA 3770, Finance (3 Hours)
MKTG 3650, Foundations of Marketing (3 Hours)
MGMT 3780, Organizational Behavior, (3 Hours)
    or
MGMT 3820, Management Concepts (3 Hours)
Plus 3 advanced hours (1 course) chosen from any 3*** or 4***
    level business course. Options available in the UNT
    catalog located at catalog.unt.edu.

BUSINESS FOUNDATIONS MBA PREP TRACK MINOR (18 Hours)
ACCT 2010, Accounting Principles I (3 Hours)
ACCT 2020, Accounting Principles II (3 Hours)
Plus 12 advanced hours (4 courses) chosen from:
    BCIS 3610, Basic Information Systems (3 Hours)
    BLAW 3430, Legal & Ethical Environment (3 Hours)
    DSCI 3710, Business Statistics (3 Hours)
    FINA 3770, Finance (3 Hours)
    MGMT 3830, Operations Management (3 Hours)
    MKTG 3650, Foundations of Marketing (3 Hours)

CHEMISTRY MINOR (20 Hours)
CHEM 1410, General Chemistry I (3 Hours)
CHEM 1430, General Chemistry I Lab (1 Hour)
CHEM 1420, General Chemistry II (3 Hours)
CHEM 1440, General Chemistry II Lab (1 Hour)
CHEM 2370, Organic Chemistry I (3 Hours)
CHEM 3210, Organic Chemistry I Lab (1 Hour)
CHEM 2380, Organic Chemistry II (3 Hours)
CHEM 3220, Organic Chemistry Lab (1 Hour)
Plus 4 hours chosen from a list of options available in the UNT
    catalog located at catalog.unt.edu

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)

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)

FOREIGN LANGUAGE MINORS (18-21 Hours)
Minors are offered in Arabic, Chinese, French, German, Italian,
Japanese, Latin, Russian, & Spanish. Some languages require
18 hours (6 courses) whereas some languages require 21 hours
(7 courses). Specific course requirements are located in the
UNT catalog at catalog.unt.edu. Grades of "C" or better are
required.

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.

MATERIALS SCIENCE & ENGINEERING MINOR (18 Hours)
ENGR 3450, Engineering Materials (3 Hours)
6 advanced hours (2 courses chosen from;
    MTSE 3010, Bonding & Structure (3 hours)
    MTSE 3030, Thermodynamics & Phase Diagrams (3 Hours)
    MTSE 3050, Mechanical Properties of Materials
    MTSE 3070, Electrical, Optic, & Magnetic Properties (3 Hours)
Plus 9 advanced hours (3 courses) chosen from options above or from
    any MTSE 3***, MTSE 4*** level courses. Options are located in
    the UNT catalog at catalog.unt.edu

MATHEMTICS MINOR (19 Hours)
MATH 1710, Calculus I (4 Hours)
MATH 1720, Calculus II (3 Hours)
MATH 2730, Multivariable Calculus (3 Hours)
MATH 1780, Probability Models (3 Hours)
    or
MATH 2700, Linear Algebra & Vector Geometry (3 Hours)
MATH 3*** or MATH 4***
MATH 3*** or MATH 4***

MECHANICAL AND ENEGRY ENGINEERING MINOR (18 Hours)
MEEN 2210, Thermodynamics I (3 Hours)
MEEN 2302, Mechanics II, (3 Hours)
MEEN 2332. Mechanics III (3 Hours
9 advanced hours chosen from:
    MEEN 3100, Manufacturing Processes (3 Hours)
    MEEN 3110, Thermodynamics II (3 Hours)
    MEEN 3120, Fluid Mechanics (3 Hours)
    MEEN 3130, Machine Elements (3 Hours)
    MEEN 3210, Heat Transfer (3 Hours)
    MEEN 3230, Systems Dynamics & Controls (3 Hours)
    MEEN 3240, MEE Lab I (2 Hours)
    MEEN 3242, MEE Lab II (1 Hour)
    MEEN 4110, Alternative Energy (3 Hours)
    MEEN 4140, Finite Element Analysis (3 Hours)
    MEEN 4160, Mechanical Vibrations (3 Hours)

STATISTICS MINOR (19 Hours)
MATH 1710, Calculus I (4 Hours)
MATH 1720, Calculus II (3 Hours)
MATH 2730, Multivariable Calculus (3 Hours)
MATH 3680, Applied Statistics (3 Hours)
MATH 4610, Probability (3 Hours)
MATH 4650, Statistics (3 Hours)
Plus 3 advanced hours (1 course) chosen from a list of specific options
    which is located in the UNT catalog at catalog.unt.edu.

Must complete appropriate prerequisites.

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

*UNT offers many more minors than those listed on this page.
Information on all available minor options & requirements can
be found in the UNT catalog located at catalog.unt.edu.*

Certificate Information

CRIMINALISTICS CERIFICATE (18 Hours)
CJUS 3110, Survey of Forensic Investigation (3 Hours)
CJUS 3330, Intro. to Criminalistics (3 Hours)
CJUS 4390, Crime Science Investigation Theory (3 Hours)
CJUS 4370, Advanced Criminalistics I (3 Hours)
    or
CJUS 4380, Advanced Criminalistics II (3 Hours)
Plus 6 hours (2 courses) chosen from
        BIOL 3331, Biomedical Criminalistics (3 Hours)
        CJUS 3340, Computer Crime (3 Hours)
        CJUS 4360, Criminal Investigation (3 Hours)
        CJUS 4370, Advanced Criminalistics I (3 Hours)
        CJUS 4380, Advanced Criminalistics II (3 Hours)
        CJUS 4860, Studies in Criminal Justice (3 Hours)

ENERGY ASSESSMENT OF BUILDINGS CERTIFICATE (15 Hours)
MEEN 3220, Thermal Fluid Science for Buildings(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)

ENTREPRENEURSHIP CERTIFICATE (12 Hours)
MGMT 3850, Entrepreneurship (3 Hours)
Plus 9 advanced hours (3 courses) chosen from
        MGMT 3810, Principles of Family Business (3 Hours)
        MGMT 3915, Creativity & Opportunity Dev. (3 Hours)
        MGMT 4210, E-Management (3 Hours)
        MGMT 4220, Advanced Entrepreneurship (3 Hours)
        MGMT 4235, Social Entrepreneurship (3 Hours)
        MGMT 4335, Technology & Innovation Mgmt. (3 Hours)
        MGMT 4560, Topics in Entrepreneurship (3 Hours)

FORENSIC SCIENCE CERTIFICATE (19 Hours)
CJUS 4360, Criminal Investigation (3 Hours)
BIOL 3331, Biomedical Criminalistics (3 Hours)
BIOL 4240, Forensic Microscopy (3 Hours)
BIOL 4590, Forensic Molecular Biology Lab (3 Hours)
CHEM 4351, Forensic Chemistry (3 Hours)
CHEM 4631, Instrumental Analysis (3 Hours)
CHEM 4632, Instrumental Analysis Lab (1 Hour)
Plus completion of the Forensic Science Aptitude Test offered
        through the American Board of Criminalistics.

GEOGRAPHIC INFORMATION SYSTEMS CERTIFICATE (18 Hours)
GEOG 3500, Intro. to Geographic Info. Systems (3 Hours)
GEOG 4520, Intermediate Geographic Info. Systems (3 Hours)
GEOG 4550, Advanced Geographic Info. Systems (3 Hours)
GEOG 4560, Introduction to GIS Programming (3 Hours)
GEOG 4570, Special Topics in GIS (3 Hours)
GEOG 4590, Advanced GIS Programming (3 Hours)

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)

MANUFACTURING ENGINEERING TECHNOLOGY CERTIFICATE (15 Hours)
MFET 3110, Machining Principles and Processes (4 Hours)
MFET 4190, Quality Assurance (3 Hours)
MFET 4200, Engineering Cost Analysis (2 Hours)
MFET 4210, CAD/CAM System Operations (3 Hours)
MFET 4220, CNC Programming and Operation (3 Hours)

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 9 advanced hours (3 courses) courses chosen from a specific list
    of options which is located in the UNT catalog at
    catalog.unt.edu.

SECURITY CERTIFICATE (18 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)

STATISTICS CERTIFICATE (12 Hours)
MATH 3680, Applied Statistics (3 Hours)
MATH 4610, Probability (3 Hours)
MATH 4650, Statistics (3 Hours)
Plus 3 advanced hours (1 course) chosen from a specific list of
    options which is located in the UNT catalog at
    catalog.unt.edu.

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)

Grades of "B" or better required for each course.

Must complete appropriate prerequisites.

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

*UNT offers many more certificates than those listed on this page.
Information on all available certificate options & requirements
can be found in the UNT catalog located at catalog.unt.edu.*

Resource Information

Advising	engineering.unt.edu/advising & (940) 565-4201 & NTDP A-101
Catalog	catalog.unt.edu
Computer Access Labs	gacl.unt.edu

Counseling & Health Services
    Child and Family Resource Clinic
    Counseling & Human Development Center
    Counseling & Testing Service
    Health & Wellness Center
    Psychology Clinic
	
	coe.unt.edu/child-and-family-resource-clinic
	coe.unt.edu/counseling-and-human-development-center
	unt.edu/cat
	healthcenter.unt.edu
	psychology.unt.edu/clinic

Deadlines (Registration, Drop, Withdrawal, Payment, etc.)	unt.edu/registration my.unt.edu
Dean of Students (Withdrawal Process, Complaints, etc.)	deanofstudents.unt.edu
Email Account (EagleConnect)	eagleconnect.unt.edu or unt.edu/helpdesk
Engineering Student Organizations & Honor Societies	engineering.unt.edu/ceo/home

Employment, Internships, & Job Skills:
    Career Center
    InRoads Internships
    InternMatch
    Texas Internships
	
	careercenter.unt.edu
	inroads.org
	nternmatch.com
	texasinternships.jobs

Financial Assistance
    Financial Aid & Scholarships Office
    Student Accounting
    Money Management Center
	
	financialaid.unt.edu
	essc.unt.edu/saucs
	moneymanagement.unt.edu

Libraries	library.unt.edu
Office of Disability Accommodations	disability.unt.edu
Registrar (General Information, Drop, Excessive Hours, Graduation, Registration, Transcripts)	essc.unt.edu/registrar
Registration	my.unt.edu unt.edu/registration
Scholarships	engineering.unt.edu/students/scholarships-and-grants financialaid.unt.edu searchforcolleges.org
Student Activities & Organizations	studentactivities.unt.edu
Student Government Association	sga.unt.edu
Student Legal Services	studentlegal.unt.edu
Texas Success Initiative: Learning Center	learningcenter.unt.edu

Tutoring & Academic Improvement Services:
    Chemistry Resource Center (CRC)
    Chegg (online)
    Computer Class Help Lab
    Coursera (online)
    Educator (online)
    Edx (online)
    Khan Academy (online)
    Learning Center (online)
    Math Lab & Private Tutor List
    Mathway (online)
    Physics Instructional Center (PIC)
    Quizlet (online)
    That Tutor Guy (online)
    Thinkwell (online)
    Wolf Ram Alpha (online)
    Writing Lab
	
	chemistry.unt.edu
	chegg.com
	cse.unt.edu
	coursera.org
	educator.com
	edx.org
	khanacademy.org
	learningcenter.unt.edu
	math.unt.edu/mathlab
	mathway.com
	phys.unt.edu/PIC
	quizlet.com
	thattutorguy.com
	thinkwell.com
	wolframalpha.com
	ltc.unt.edu/labs

Veteran Center & Services	veteranscenter.unt.edu or unt.edu/veterans & registrar.unt.edu