



Department of Computer Science and Engineering

BS in Computer Science BS in Computer Engineering

- Advising Information
- Core Curriculum
- Course Descriptions
- Degree Plan Information

UNT Discovery Park (NTDP) F201
(940) 565-2767

www.cse.unt.edu

Valid beginning Fall 2009

Bachelor of Science

Bachelor of Science

- A Minimum of 123 semester hours required for graduation.
- 45 advanced (3000-4000 level) hours required for degree (minimum of 24 must be taken at UNT).
- A minimum of 31 semester hours must be completed at UNT.

THIS IS A SIMPLIFIED GUIDE TO SELECTING COURSES – PLEASE MEET WITH YOUR ADVISOR AND CHECK THE UNDERGRADUATE CATALOG FOR ALL COURSE OPTIONS IN EACH CATEGORY

College of Engineering Core

LABORATORY SCIENCES (15-16 Hours; 4 courses [with labs])

PHYS 1710-1730 (4 hours) _____
 PHYS 2220-2240 (4 hours) _____
 BIOL 1710,1720, CHEM 1410, or 1415 & lab _____
 above or ARCH 2800, GEOG 1710, GEOL 1610 _____

See catalog for details on approved sciences.

Must earn at least a "C" in 3 courses and a 2.5 GPA

MATHEMATICS (16 Hours)

MATH 1710 – Calculus I (4 hours) _____
 MATH 1720 – Calculus II(3 hours) _____
 MATH 1780 – Probability (3 hours) _____
 MATH 2770 – Discrete Math (3 hours) _____

And MATH 2700, 3350, or 3410

Must earn at least a "C" in 2 courses and a 2.5 GPA

ORAL / ADVANCED WRITTEN COMMUNICATIONS (6 Hours)

(Satisfies University English II & Communications Requirement)
 ENGL 2700 _____ (satisfies second English requirement)
 ENGR 2060 _____ (satisfies University requirement)

Must earn at least a "C" in both courses and a 2.5 GPA

CSE Department Required Courses

COMPUTER SCIENCE (45 Hours minimum with 32 advanced hours, 12 of which must be at UNT)

Group I. CSCE Required Courses (27 hours)

1030 (4 Hours) _____
 1040 (3 Hours) _____
 2050 (3 Hours) _____
 2610 (3 Hours) _____
 3110 (3 Hours) _____
 3600 (3 Hours) _____
 4010 (2 Hours) _____
 4110 (3 Hours) _____
 4410 (3 Hours) _____

Group II. CSCE Optional Courses (18 hours)

(3 Hours) _____ (advanced)
 (3 Hours) _____ (advanced)
 (3 Hours) _____ (advanced)
 (3 Hours) _____ (advanced)
 (3 Hours) _____ (advanced)
 (3 Hours) _____ (advanced)

A maximum of 6 hours of credit can be received in CSCE 4890, 4920, 4940, 4950 or 4980.

ELECTRICAL ENGINEERING (3 Hours)

CSCE 2610 requires EENG 2710
 EENG 2710 _____ Digital Logic

ADVANCED TECHNICAL WRITING (3 Hours)

1 of ENGL 4180, ENGL 4190, or ENGL 4250.
A 2nd and 3rd advanced Tech Writing course will earn the Student a certificate in Tech Writing. _____

ELECTIVE COURSES (To reach 123 Hrs with 45 Advanced Hrs.)

It is strongly recommended that students seek to take Advanced courses in the core areas to satisfy the 45 advanced hours requirement within the 123 hour minimum.

University Core

ENGLISH (3 Hours)

ENGL 1310,1311,1312, or 1313 _____
 Second English fulfilled by ENGL 2700

UNITED STATES HISTORY (6 Hours)

HIST 2610 or 2620 _____
 HIST 4700 _____

NOTE: Honors equivalents or History 4700 (Texas History) or any advanced US-Topic History course(s) may substitute for either of the US History survey courses.

POLITICAL SCIENCE (6 Hours)

PSCI 1040 _____
 PSCI 1050 _____

NOTE: If you are transferring credit for either PSCI course, please check with your advisor. Do not assume that your "first" course elsewhere is the same as PSCI 1040. An out-of-state American Government course cannot be equivalent to PSCI 1040 but may be equivalent to PSCI 1050. Any advanced US- Topic Political Science course may substitute for PSCI 1050 only.

SOCIAL AND BEHAVIORAL SCIENCES (3 Hours)

VISUAL / PERFORMING ARTS (3 Hours) _____
 (MUET 3000 or 3010 recommended)

HUMANITIES (3 Hours) _____

Understanding the Human Community (3 Hours)

(MUET 3020, 3030 PSCI 3810, SOCI 4160 or SMHM 4750 recommended)

NOTE: The student is required to maintain a 2.75 GPA in all upper division CSCE courses.

Taking CSCE 3530, CSCE 4550, and CSCE 4560 will earn the student a certificate from the Committee on National Security Systems

Check with your advisor concerning elective courses

In case of conflicting information, the catalog (the Big Green Book) prevails. This guide is for catalog year 2009-10 and does not apply to other catalog years.

Bachelor of Science Major in Computer Science

suggested four-year degree plan.

Students are encouraged to see their advisor each semester for program decisions and enrollment.

FRESHMAN YEAR

FALL

CSCE 1030, Computer Science I	4
ENGL 1310 College Writing I	3
PSCI 1040, American Government	3
MATH 1710, Calculus I	4
Laboratory Science	<u>4</u>
Total Hours	18

SPRING

CSCE 1040, Computer Science II	3
ENGL 2700, Technical Writing	3
MATH 2770, Discrete Mathematical Structures	3
PSCI 1050, American Government	3
Laboratory Science	<u>4</u>
Total Hours	16

SOPHOMORE YEAR

FALL

CSCE 2050, Computer Science III	3
EENG 2710, Digital Logic	3
ENGR 2060 Professional Presentations	3
MATH 1720, Calculus II	3
PHYS 1710 / 1730 Mechanics	<u>4</u>
Total Hours	16

SPRING

CSCE 2610, Computer Organization	3
CSCE 3110, Data Structures	3
Understanding Human Comm. (PSCI 3810)	3
MATH 1780, Probability Models	3
PHYS 2220 / 2240 Electricity and Magnetism	<u>4</u>
Total Hours	16

JUNIOR YEAR

FALL

CSCE 3600, Principles of Systems	3
MATH 2700 or 3350 or 3410	3
HIST 2610, United States History to 1865	3
CSCE Option (advanced)	3
Visual and Performing Arts (MUMH 3000)	<u>3</u>
Total Hours	15

SPRING

CSCE Option (advanced)	3
CSCE Option (advanced)	3
ENGL 4180 or 4190 or 4250	3
Social and Behavioral Sciences	3
HIST 4700 Texas History	<u>3</u>
Total Hours	15

SENIOR YEAR

FALL

CSCE 4110, Analysis of Algorithms	3
CSCE 4410 Software Development I	3
CSCE Option (advanced)	3
CSCE 4890 Directed Study	<u>4</u>
Total Hours	13

SPRING

CSCE 4010	2
CSCE Option (advanced)	3
CSCE Option (advanced)	3
CSCE Option (advanced)	3
Humanities (World Lit. I Recommended)	<u>3</u>
Total Hours	14

Bachelor of Science

Bachelor of Science

- A Minimum of 123 semester hours required for graduation.
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- A minimum of 31 semester hours must be completed at UNT.

THIS IS A SIMPLIFIED GUIDE TO SELECTING COURSES – PLEASE MEET WITH YOUR ADVISOR AND CHECK THE UNDERGRADUATE CATALOG FOR ALL COURSE OPTIONS IN EACH CATEGORY

College of Engineering Core

LABORATORY SCIENCES (12 Hours; 3 courses)

- PHYS 1710-1730 (4 hours) _____
- PHYS 2220-2240 (4 hours) _____
- CHEM 1410 or 1415(3 hours) _____

Must earn at least a “C” in all courses and a 2.5 GPA

MATHEMATICS (22 Hours)

- MATH 1710 – Calculus I (4 hours) _____
- MATH 1720 – Calculus II (3 hours) _____
- MATH 1780 - Probability (3 hours) _____
- MATH 2770 – Discrete Math (3 hours) _____
- MATH 2700 – Linear Algebra(3 hours) _____
- MATH 2730 – MultiVar Calc.(3 hours) _____
- Adv. MATH or SCIENCE ELECTIVE _____

Must earn at least a “C” in 2 courses and a 2.5 GPA

ORAL / ADVANCED WRITTEN COMMUNICATIONS (6 Hours)

- (Satisfies University English II & Communications Req.)
- ENGL 2700 _____(satisfies second English req.)
- ENGR 2060 _____(satisfies University Req.)

Must earn at least a “C” in both courses and a 2.5 GPA

CSE Department Required Courses

COMPUTER SCIENCE and ENGINEERING (42 Hours)

- CSCE 1030 – CS1 (4 Hours) _____
- CSCE 1040 – CS2 (3 Hours) _____
- CSCE 2050 – CS3 (3 Hours) _____
- CSCE 2610 – Comp. Org (3 Hours) _____
- CSCE 3010 – Signals & Sys (3 Hours) _____
- CSCE 3020 – Comm Theory (3 Hours) _____
- CSCE 3612 – Embed Systems(3 Hours) _____
- CSCE 3730 – Reconfig Logic (3 Hours) _____
- CSCE 4910 – Senior Design 1(3 Hours) _____
- CSCE 4915 – Senior Design 2(3 Hours) _____
- CSCE 4010 - Ethics (2 Hours) _____

- CSCE Specialty Elective _____
- CSCE Specialty Elective _____
- CSCE Specialty Elective _____
- See next page for details

- Technical Elective _____
- Technical Elective _____

Tech Electives may be any upper-division courses from the College of Engineering, College of Business, or the departments of Biology, Chemistry, Economics, Mathematics, or Physics. Advisor approval needed.

ENGINEERING (9 Hours)

- EENG 2710 _____ Digital Logic
- EENG 3510 _____ Electronics I
- EENG 2610 _____ Circuit Analysis

ELECTIVE COURSES (To reach 123 Hrs with 45 Advanced Hrs.)

It is strongly recommended that students take advanced courses in the core areas to satisfy the 45 advanced hours requirement within the 123 hour minimum.

University Core

ENGLISH (3 Hours)

- ENGL 1310,1311,1312, or 1313 _____
- Second English fulfilled by ENGL 2700

UNITED STATES HISTORY (6 Hours)

- HIST 2610 or 2620 _____
- HIST 4700 _____

NOTE: Honors equivalents or History 4700 (Texas History) or any advanced US-Topic History course(s) may substitute for either of the US History survey courses.

POLITICAL SCIENCE (6 Hours)

- PSCI 1040 _____
- PSCI 1050 _____

NOTE: If you are transferring credit for either PSCI course, please check with your advisor. Do not assume that your “first” course elsewhere is the same as PSCI 1040. An out-of-state American Government course cannot be equivalent to PSCI 1040 but may be equivalent to PSCI 1050. Any advanced US- Topic Political Science course may substitute for PSCI 1050 only.

SOCIAL AND BEHAVIORAL SCIENCES (3 Hours)

- VISUAL / PERFORMING ARTS** (3 Hours) _____
- (MUET 3000 or 3010 recommended)

- HUMANITIES** (3 Hours) _____

Understanding the Human Community (3 Hours)

_____ (MUET 3020, 3030 PSCI 3810, SOCI 4160 or SMHM 4750 recommended)

NOTE: The student is required to maintain a 2.75 GPA in all upper division CSCE courses.

Taking CSCE 3530, CSCE 4550, and CSCE 4560 will earn the student a certificate from the Committee on National Security Systems

Check with your advisor concerning elective courses

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Computer Engineering Specialty Area Electives

Specialization Area: Real-time and Embedded Systems

ELET 3750: Digital Systems (*junior yr spring*)

CSCS 4620: Real-Time Operating systems (*senior yr fall*)

And one more from the following:

CSCS 4730: VLSI Design (*senior yr spring*)

CSCS 4440: Real-Time Software Development (*senior yr spring*)

CSCS 4610: Computer Systems Architecture (*senior yr spring*)

Specialization Area: VLSI and Electronics

CSCS 4730: VLSI Design (*senior yr fall*)

CSCS 4750: VLSI Testing (*senior yr spring*)

And one more from the following:

CSCS 4610: Computer Systems Architecture (*junior yr spring*)

ELET 3750: Digital Systems (*junior yr spring*)

PHYS 4500: Introduction to Solid State Physics (*junior yr spring*)

Specialization Area: Communications and Networks

CSCS 3510: Introduction to Wireless Comm. (*junior or senior yr*)

CSCS 3530: Introduction to Computer Networks (*junior yr spring*)

And one more from the following:

CSCS 4520: Wireless Networks and Protocols (*senior yr*)

CSCS 4530: Computer Network Design (*senior yr*)

CSCS 4540: TCP/IP Protocols (*senior yr*)

Specialization Area: Computer Systems

CSCS 3650: Introduction to Compilation Techniques (*junior or senior yr*)

CSCS 4610: Computer Systems Architecture (*junior or senior yr*)

And one more from the following:

CSCS 3030: Parallel Programming (*junior or senior yr*)

CSCS 4600: Intro to Operating Systems (*junior or senior yr*)

CSCS 4620: Real-Time Operating Systems (*senior yr*)

Bachelor of Science Major in Computer Engineering

suggested four-year degree plan.

Students are encouraged to see their advisor each semester for program decisions and enrollment.

FRESHMAN YEAR

FALL

CSCE 1030 Computer Science I	4
ENGL 1310 or 1313 College Writing I	3
HIST 2610 United States History to 1865	3
MATH 1710 Calculus I	4
CHEM 1410 General Chemistry	<u>3</u>
Total Hours	17

SPRING

CSCE 1040 Computer Science II	3
ENGL 2700 Technical Writing	3
HIST 4700 Texas History	3
MATH 1720 Calculus II	3
PHYS 1710 Mechanics	3
PHYS 1730 Laboratory in Mechanics	<u>1</u>
Total Hours	16

SOPHOMORE YEAR

FALL

CSCE 2050 Computer Science III	3
EENG 2710 Digital Logic	3
EENG 2610 Fundamentals of Elect. Engineering	3
ENGR 2060 Professional Presentations	3
MATH 2700 Linear Algebra and Vect. Geom.	<u>3</u>
Total Hours	15

SPRING

PHYS 2220 Electricity and Magnetism	3
PHYS 2240 Lab in Electricity & Magnetism	1
CSCE 2610 Computer Organization	3
MATH 1780 Probability Models	3
MATH 2730 Multivariable Calculus	3
MATH 2770 Discrete Mathematical Structures	<u>3</u>
Total Hours	16

JUNIOR YEAR

FALL

CSCE 3010 Signals and Systems	3
Social and Behavioral Sciences Elective	3
CSCE 3612 Embedded Sys	3
PSCI 1040 American Government	3
Technical Elective (advanced)	<u>3</u>
Total Hours	15

SPRING

CSCE 3020 Fund. of Comm. Theory	3
CSCE 3730 Reconfigurable Logic	3
EENG 3510 Electronics I	3
PSCI 1050 American Government	3
CSCE Specialty Area Elective	<u>3</u>
Total Hours	15

SENIOR YEAR

FALL

CSCE 4910 Computer Engineering Design I	3
CSCE Specialty Area Elective	3
Adv. Mathematics or Science Elective	3
Visual and Performing Arts (MUET 3000)	3
CSCE Option (advanced)	<u>3</u>
Total Hours	15

SPRING

CSCE 4915 Computer Engineering Design II	3
CSCE Specialty Area Elective	3
CSCE 4010 Eng. Ethics	2
Understanding Human Comm. (PSCI 3810)	3
Humanities Elective	<u>3</u>
Total Hours	14

Pre-requisite Structure BS in Computer Engineering

CSCE 4920
Co-op

See Undergraduate catalog for requirements

CSCE 2900
Special Problems

Elective credit only

CSCE 1010
Intro to CS

Not for CSCE major credit

Special Problems and Topics /
Directed Study
See Undergraduate catalog for requirements

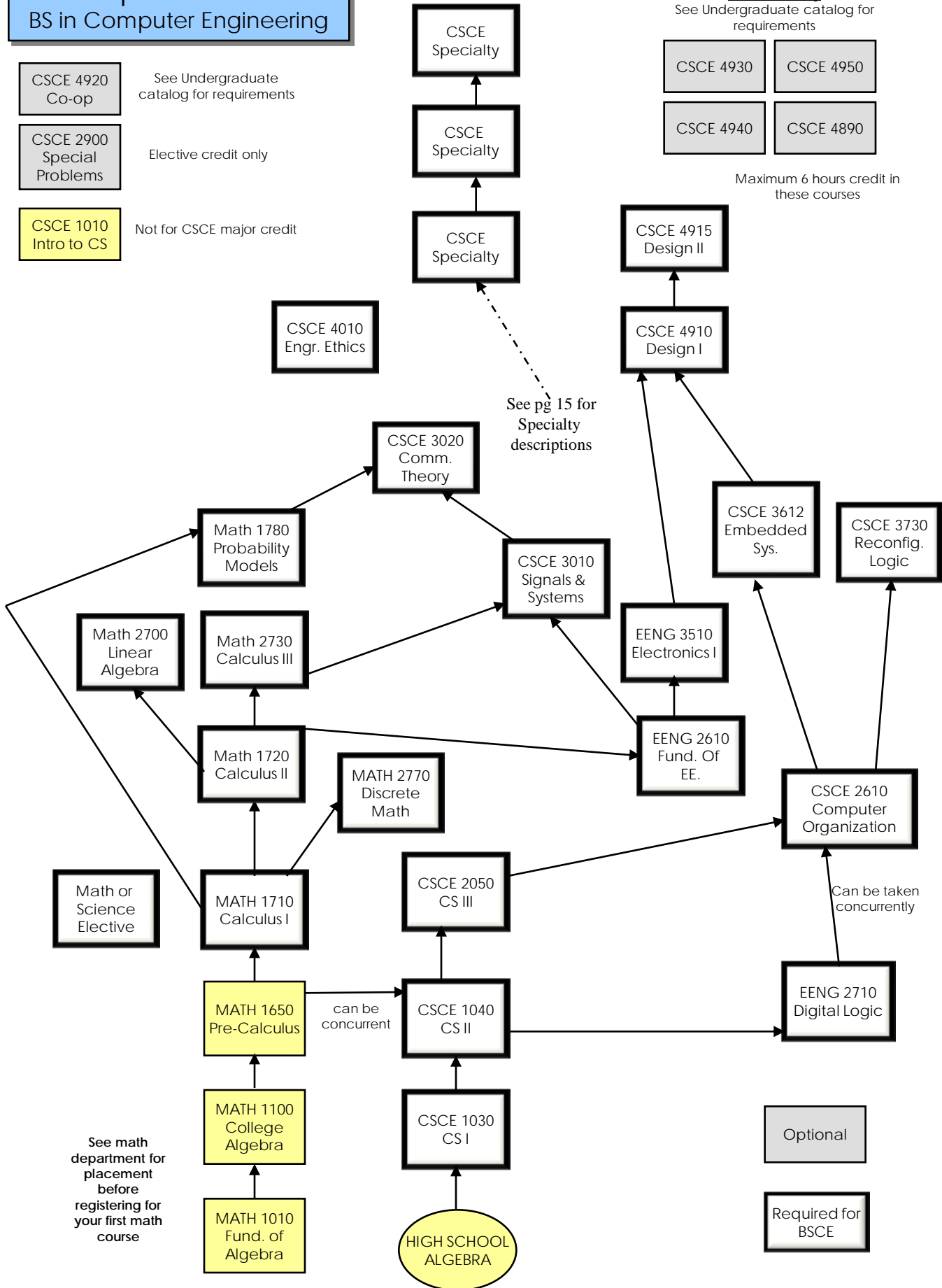
CSCE 4930

CSCE 4950

CSCE 4940

CSCE 4890

Maximum 6 hours credit in these courses



Accepted Course Offering for University of North Texas Core Requirements

ENGLISH

Composition I

- ENGL 1310 College Writing I
1313 Computer Assisted College Writing I
1311 Honors Composition I
1312 Gram. & Comp. For International Students
1315 Computer Assisted Writing About Lit. I

VISUAL AND PERFORMING ARTS

- ART 1300 Art Appreciation
2360 Art History Survey II
DANC 1200 Appreciation of Dance
MUMH 1600 Music in Human Imagination
2040 Music Appreciation
3000 Nineteenth-Century Music
3010 Twentieth-Century Music
THEA 1340 Aesthetics of the Theatre
1375 The Actor and the Text
2340 Theater Appreciation

HUMANITIES

- AGER 2250 Images of Aging in Film and Literature
ENGL 2210 World Literature I
2211 Honors World Literature I
2220 World Literature II
2221 Honors World Literature II
2322 British Literature to 1780
2323 British Literature from 1780 to Present
2327 American Literature to 1870
2328 American Literature from 1870 to Present
2352 Lit. for International Students I
2362 Lit. for International Students II
PHIL 1050 Introduction to Philosophy
1400 Intro. To Contemporary Moral Issues
2050 Introduction to Logic
2310 Intro. To Ancient Philosophy
2330 Intro. To Modern Philosophy
2500 Intro. To Contemporary Environ. Issues

UNITED STATES HISTORY

- HIST 2610 US to 1865
2675 Honors US History to 1865
2620 US from 1865 or Advanced US History
2685 Honors US History from 1865

AMERICAN GOVERNMENT

- PSCI 1040 American Government
1041 Honors American Government
1050 American Government
1051 Honors American Government
1060 American Government: Topics

SOCIAL & BEHAVIORAL SCIENCES

- ANTH 1010 General Anthropology
2250 Intro. To Socio-cultural Anthropology
BEHV 2300 Behavior Principles I
CJUS 2100 Crime and Justice in the United States
DFST 1013 Human Development
ECON 1100 Microeconomics
1110 Macroeconomics
GEOG 1170 Culture, Environment, and Society
ENGR 1030 Technological Systems
PHIL 2600 Ethics in Science
PSCI 3120 Women and Politics
3310 Political Theory: Socrates to 18th Century
3320 Political Theory: 18th Cent to Present
PSYC 1630 General Psychology I
1650 General Psychology II
RHAB 3100 Disability and Society
SOC1 1510 Individuals in Society
1520 Contemporary Social Problems
2100 Crime and Justice in the United States
(same as CJUS 2100)

UNDERSTANDING THE HUMAN CONDITION

- AGER 4560 Minority Aging
4800 The Social Context of Aging
ANTH 2045 Gender Across Cultures
2100 World Cultures Through Film
2150 World Cultures
2350 Cultural Diversity in the U. S.
4050 Contemporary Ethnic Groups
ART 2350 Art History Survey I
BIOL 1024 Biological Principles of Women's Health
BUSI 1340 The Free Enterprise System
CJUS 2600 Diversity Issues in Criminal Justice
COMM 1010 Introduction to Communication
1440 Honors Classical Argument
2020 Interpersonal Communication
2040 Public Speaking
2060 Performance of Literature
4260 Performance and Culture
DANC 1100 Stress Reduction through Movement
2800 Survey of Dance
DFST 2033 Parenting in Diverse Families
EDEE 2000 Exploring Diversity through Social Action
EDSP 2500 Human Exceptionality
ENGL 3450 Short Story
3920 Survey of Ethnic Literature
4300 Modern Drama
GEOG 1200 World Regional Geography
3100 Geography in the U.S. and Canada
3750 Geography of Contemp. Africa
HIST 1050 World Civilization to the 16th Century
1075 Honors World Civ. To the 16th Century
1060 World Civilization from the 16th Century
1085 Honors World Civ. From the 16th Century
HLTH 1100 School & Community Health Services
2200 Family Life and Human Sexuality
JOUR 1210 Mass Communications and Society
4250 Race, Gender, and the Media
KINE 2000 History and Philosophy of Sport
2050 Sociology of Sport (same as SOCI 2050)
MKTG 2650 Global Marketing Concepts
3010 Professional Selling
MUAG 1500 Occupational Health: Lessons from Music
MUET 3020 Popular Music in American Culture
3030 Music Cultures of the World
PADM 2100 Diversity in Urban Governance
PHED 1000 Health Related Fitness
PHIL 2070 Introduction to Great Religions
2400 Religion & American Society
PSCI 3500 Introduction to Peace Studies
3810 International Relations
4520 International Human Rights
4660 Democracy and Democratization
4710 Middle East Politics
4720 Ethnicity in World Politics
4850 Critical Issues in World Politics
PSYC 2580 Health Psychology
RECR 2550 Leisure and Society
RHAB 3000 Microcounseling
SMHM 1450 Principles of Nutrition
2750 Consumers in a Global Market
3450 Presentation Techniques
4750 Managing a Diverse Workforce
SOC1 2010 Race, Class, Gender, Ethnicity
2050 Sociology of Sport (same as KINE 2050)
2070 Introduction to Race & Ethnic Relations
4160 Developing Societies
4540 Race and Ethnic Minorities
SOWK 4540 Human Diversity for the Helping Professions
THEA 3030 World Theatre to 1700
3040 World Theatre after 1700
WMST 2100 Woman & Society: Intro to Women's Studies
2420 Race, Class, Gender and Ethnicity
2620 Biological Principles of Women's Health

Computer Science / Computer Engineering University of North Texas

Transfer Student Guide

The tables below indicate the University Core, College of Engineering and Departmental course requirements that are available to take at area community colleges before transferring to UNT Denton or UNT Dallas. Courses that are taken at area community colleges after transferring to UNT Denton or UNT Dallas must be approved from a UNT advisor and may be different than what is listed on these tables.

Core Classes

UNT Course	Title	DCCCD	CCCC	TCC	NCTC	Notes
ENGL 1310	Composition I	ENGL 1301	ENGL 1301	ENGL 1301	ENGL 1301	
ENGL 2700	Technical Writing	ENGL 2311	ENGL 2311	ENGL 2311	ENGL 2311	
ENGR 2060	Professional Presentations	SPCH 1321	SPCH 1321	SPCH 1321	SPCH 1321	
HIST 2610	US History I	HIST 1301	HIST 1301	HIST 1301	HIST 1301	
HIST 2620	US History II	HIST 1302	HIST 1302	HIST 1302	HIST 1302	
PSCI 1040	State and Local Govt.	GOVT 2301	GOVT 2301	GOVT 2306	GOVT 2306	
PSCI 1050	US Govt.	GOVT 2302	GOVT 2302	GOVT 2305	GOVT 2305	
Social & Behavioral Science	From approved list	From approved list	From approved list	From approved list	From approved list	
Visual/Performing Arts	From approved list	From approved list	From approved list	From approved list	From approved list	
Humanities	From approved list	From approved list	From approved list	From approved list	From approved list	
Understanding the Human Condition	From approved list	From approved list	From approved list	From approved list	From approved list	

College of Engineering Core
Grades of 'D' are not accepted

3 sciences from choices below plus the two math courses

UNT Course	Title	DCCCD	CCCC	TCC	NCTC	Notes
BIOL 1710/1730	General Biology I	BIOL 1406	BIOL 1406	BIOL 1406	BIOL 1406	UNT-D reqd
PHYS 1710/1730	Physics I – Mechanics	PHYS 2425	PHYS 2425	PHYS 2425	PHYS 2425	UNT-D reqd
PHYS 2220/2240	Physics II – Electricity and Magnetism	PHYS 2426	PHYS 2426	PHYS 2426	PHYS 2426	UNT-D reqd
CHEM 1410/1430	Gen Chemistry I	CHEM 1411	CHEM 1411	CHEM 1411	CHEM 1411	UNT-D reqd
BIOL 1720/1740	Gen Biology II	BIOL 1407	BIOL 1407	BIOL 1407	BIOL 1407	UNT-D reqd
MATH 1710	Calculus I	MATH 2513	MATH 2413	MATH 2513	MATH 2413	UNT-D reqd
MATH 2770	Discrete Mathematics	MATH 2305	MATH 2305	MATH 2305	MATH 2305	UNT-D reqd

Departmental Requirements

UNT Course	Title	DCCCD	CCCC	TCC	NCTC	Notes
CSCE 1030	Programming Fundamentals I	COSC 1436	COSC 1436	COSC 1436	COSC 1436	UNT-D reqd
CSCE 1040	Programming Fundamentals II	COSC 1437	COSC 1437	COSC 1437	COSC 1437	UNT-D reqd
CSCE 2050	Programming Fundamentals III	COSC 2436	COSC 2436	COSC 2436	COSC 2436	UNT-D reqd
CSCE 2610	Computer Organization	COSC 2425	COSC 2425	COSC 2425	COSC 2425	UNT-D reqd