



# 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](http://www.cse.unt.edu)

Valid beginning Fall 2010

# 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 (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 1 of MATH 2700, 3350, or 3410 \_\_\_\_\_

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

### ORAL / ADVANCED WRITTEN COMMUNICATIONS (3 Hours)

TECM 2700 \_\_\_\_\_ (satisfies second English requirement)

**Must earn at least a "C" in TECM 2700**

## 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 TECM 4180, TECM 4190, or TECM 4250. \_\_\_\_\_

**A 2<sup>nd</sup> and 3<sup>rd</sup> 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 TECM 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 (6 Hours)

\_\_\_\_\_

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

TAKE UPPER DIVISION (3xxx & 4xxx) COURSES WHERE POSSIBLE

**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 earns a certificate from the Committee on National Security Systems**

**Completing the four-course sequence CSCE 4210, 4215, 4220, and 4250 earns a Certificate in Game Programming**

**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 2010-11 and does not apply to other catalog years.**

# Bachelor of Science Major in Computer Science

Course rotation schedule.

	Course Title	Fall	Spring
1010	Introduction to Computer Science Non Majors	x	x
1020	Program Development Non Majors	x	x
1030	Computer Science I	x	x
1035	Information Systems I	x	x
1040	Computer Science II	x	x
1045	Information Systems II	x	x
2050	Computer Science III	x	x
2410	Programming Laboratory	x	
2610	Computer Organization	x	x
2615	Enterprise Architecture and Design		x
2900	Special Problems in CSE	x	x
3010	Signals & Systems	x	EE
3020	Fundamentals of Communication Theory	EE	x
3030	Parallel Programming		x
3055	IT Project Management	x	
3110	Data Structures & Algorithms	x	x
3210	Symbolic Processing	x	
3300	File Organization/Process	x	
3410	Advanced Programming	x	x
3510	Introduction to Wireless Communication		x
3520	Data Communications		x
3530	Introduction to Computer Networks	x	
3535	Network and Security Management		x
3600	Principles of Systems Programming	x	x
3605	IT Systems/Management	x	
3612	Embedded System Design	x	
3650	Introduction to Compilation Techniques		x
3730	Reconfigurable Logic	x	
4010	Engineering Ethics (2 hr)	x	x
4110	Algorithms	x	x
4210	Game Programming I	x	
4215	Programming Math and Physics for Games	x	
4220	Game Programming II		x
4230	Introduction Computer Graphics		x
4250	Topics in Game Development		x
4310	Introduction to Artificial Intelligence		x
4350	Introduction to Database Systems Design	x	
4355	Database Design and Information Integration	x	
4410	Software Develop I	x	x
4420	Software Develop II		x
4430	Programming Languages		x
4440	Real-Time Software Development		x
4520	Wireless Networks & Protocols	x	
4530	Computer Network Design		x
4540	TCP/IP Protocols		x
4550	Introduction to Computer Security	x	
4560	Secure E Commerce		x
4600	Introduction to Operating Systems		x
4610	Computer Architecture		x
4620	Real-Time Operating Systems	x	
4730	VLSI Design		x
4750	VLSI Testing	x	
4905	Capstone I	x	
4910	Computer Engineering Design I	x	
4915	Computer Engineering Design II		x
4925	Capstone II		x

# Prerequisite Structure BA / BS in Computer Science

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 / Directed Study  
See Undergraduate catalog for requirements

CSCE 4950

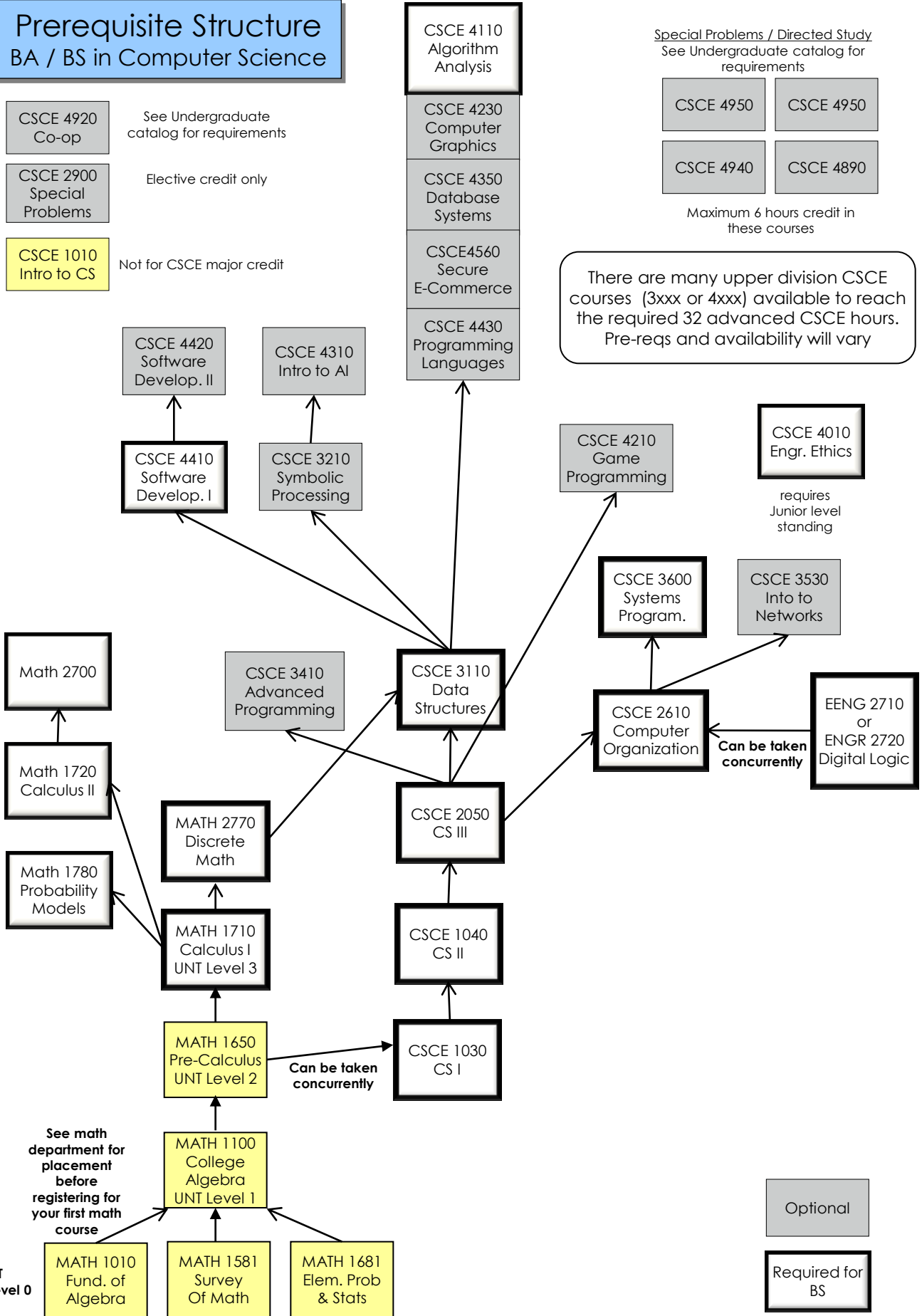
CSCE 4950

CSCE 4940

CSCE 4890

Maximum 6 hours credit in these courses

There are many upper division CSCE courses (3xxx or 4xxx) available to reach the required 32 advanced CSCE hours. Pre-reqs and availability will vary



Optional

Required for BS

UNT  
Math Level 0

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** (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 All courses and a 2.5 GPA**

**ORAL / ADVANCED WRITTEN COMMUNICATIONS** (3 Hours)

- TECM 2700 \_\_\_\_\_(satisfies second English req.)

**Must earn at least a "C" in TECM 2700**

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) \_\_\_\_\_ or EENG 2620
- CSCE 3020 – Comm Theory (3 Hours) \_\_\_\_\_ or EENG 3810
- 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 TECM 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** (6 Hours)

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

TAKE UPPER DIVISION (3xxx & 4xxx) COURSES WHERE POSSIBLE

**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 earns a certificate from the Committee on National Security Systems**

**Completing the four-course sequence CSCE 4210, 4215, 4220, and 4250 earns a Certificate in Game Programming**

**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 2010-11 and does not apply to other catalog years.**

## Computer Engineering Specialty Area Electives

### **Specialization Area: Real-time and Embedded Systems (choose 3 courses)**

ELET 3750: Digital Systems  
CSCE 4620: Real-Time Operating systems  
CSCE 4730: VLSI Design  
CSCE 4440: Real-Time Software Development  
CSCE 4610: Computer Systems Architecture

### **Specialization Area: VLSI and Electronics (choose 3 courses)**

CSCE 4730: VLSI Design  
CSCE 4750: VLSI Testing  
CSCE 4610: Computer Systems Architecture  
ELET 3750: Digital Systems  
PHYS 4500: Introduction to Solid State Physics

### **Specialization Area: Communications and Networks (choose 3 courses)**

CSCE 3510: Introduction to Wireless Communication  
CSCE 3530: Introduction to Computer Networks  
CSCE 4520: Wireless Networks and Protocols  
CSCE 4530: Computer Network Design  
CSCE 4540: TCP/IP Protocols

### **Specialization Area: Computer Systems (choose 3 courses)**

CSCE 3650: Introduction to Compilation Techniques  
CSCE 4610: Computer Systems Architecture  
CSCE 3030: Parallel Programming  
CSCE 4600: Intro to Operating Systems  
CSCE 4620: Real-Time Operating Systems

# 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

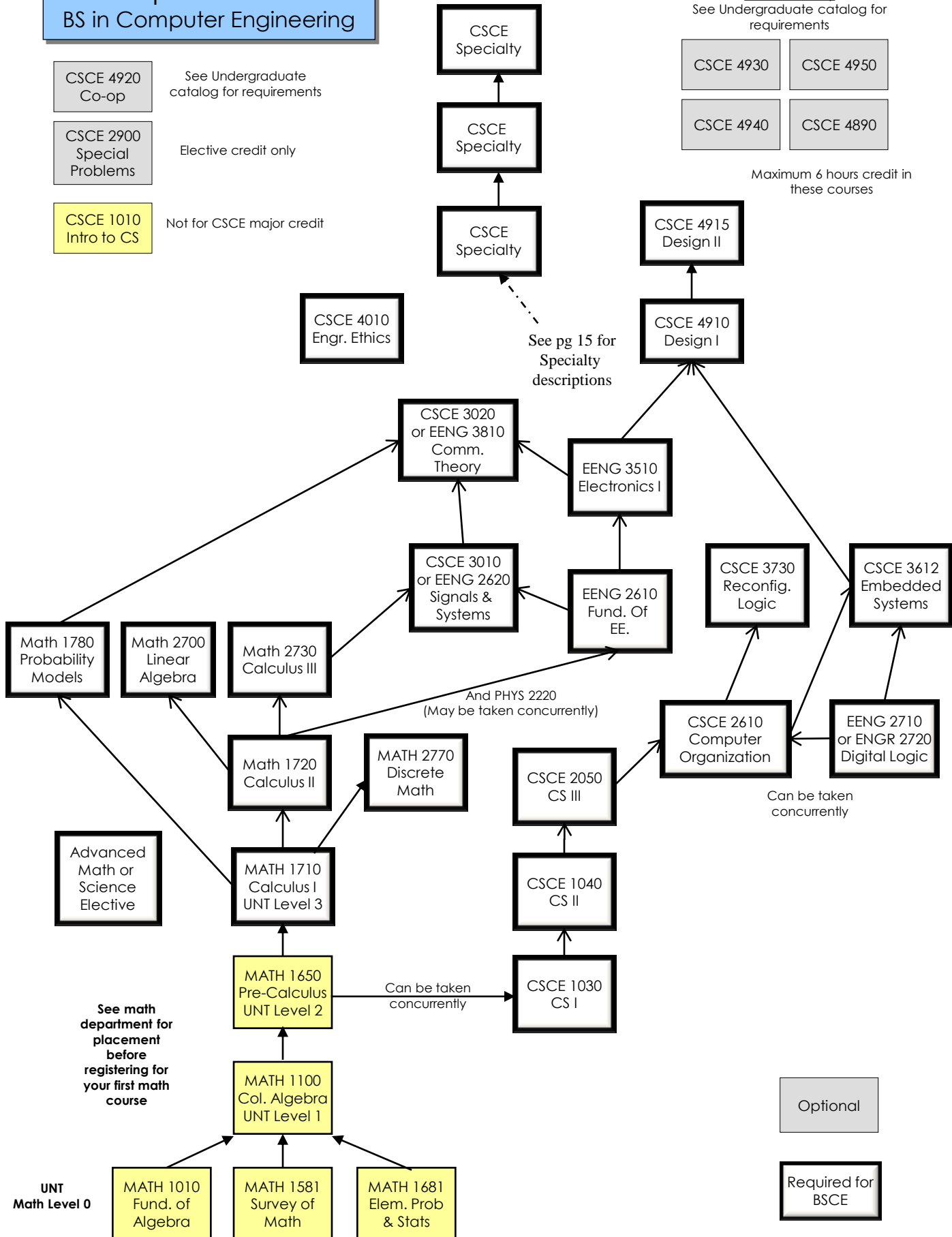
CSCE 4930

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

## **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  
4700 Texas History

## **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  
2300 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 18<sup>th</sup> Century  
3320 Political Theory: 18<sup>th</sup> Cent to Present  
PSYC 1630 General Psychology I  
1650 General Psychology II  
RHAB 3100 Disability and Society  
SOC 1510 Individuals in Society  
1520 Contemporary Social Problems  
2100 Crime and Justice in the United States  
(same as CJUS 2100)

## **UNDERSTANDING THE HUMAN COMMUNITY**

### **Any Foreign Language: 1010, 1020, 2040, or 2050**

- AGER 4560 Minority Aging  
4800 The Social Context of Aging  
ANTH 2200 Gender Across Cultures  
1150 World Cultures Through Film  
1100 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 16<sup>th</sup> Century  
1075 Honors World Civ. To the 16<sup>th</sup> Century  
1060 World Civilization from the 16<sup>th</sup> Century  
1085 Honors World Civ. From the 16<sup>th</sup> 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  
SOCI 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	
TECM 2700	Technical Writing	ENGL 2311	ENGL 2311	ENGL 2311	ENGL 2311	
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 Community	From approved list	From approved list	From approved list	From approved list	From approved list	

Please see the College of Engineering Advisers in Discovery Park  
BEFORE enrolling in courses at another institution

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

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

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