



# Department of Computer Science and Engineering

## **BA in Information Technology**

- 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 only for those on Catalog Year 2016-17

**ADVISING INFORMATION:**  
<http://www.cse.unt.edu/site/node/418>

UNIVERSITY *of* NORTH TEXAS

# Educational Objectives

## **Educational Objectives for the B.A. in Information Technology**

*Graduates will:*

- Pursue graduate studies in information technology, computer science or related disciplines, and/or a career in a technology field utilizing skills from the information technology areas studied during the undergraduate program.
- Act responsibly and ethically in their professional conduct and successfully engage in lifelong learning.
- Work effectively in multi-disciplinary teams and exhibit the ability to communicate effectively.
- Complete professional work assignments that exhibit the ability to design, develop, manage, maintain and implement information systems while applying IT and computing principles and practices to the solution of real problems.

# 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 COMMUNICATIONS

- TECM 2700, Technical Writing (3 Hours)

### MATHEMATICS

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

### SCIENCES

- PHYS 1410, 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.

# Bachelor of Arts Major in Information Technology

## Sample Focus Areas

Students are encouraged to consult their advisor concerning transferability of courses.

The focus area does not appear on your diploma.

Focus areas involve a clearly defined set of courses in the Concentration and Supporting Areas

These courses may not be used as part of a minor.

Concentration area courses must be CSCE. Supporting area courses can be CSCE or from other disciplines. Approved courses and their pre-requisites will work for the Concentration / Supporting Areas

**These are just a few samples of the many options available to you. Please consult your advisor.**

### Game Development

#### CS Concentration Area Courses (9 Hours)

CSCE 4210 Game Programming I  
CSCE 4220 Game Programming II  
CSCE 4215 Programming Math & Physics for Games

#### Suggested Supporting Area Courses

Math 2700 Linear Algebra  
CSCE 4230 Intro. to Computer Graphics  
CSCE 4310 Intro to Artificial Intelligence  
CSCE 4890.716 Directed Study in Game Dev  
CSCE 4250 Topics in Game Development  
Advanced Digital Art / Modeling Courses

### Business (Pre-MBA)

#### CS Concentration Area Courses (9 Hours)

CSCE 4310 Intro. To Artificial Intelligence  
CSCE 4560 Secure Electronic Commerce  
CSCE 4520 Wireless Networks and Protocols

#### Suggested Supporting Area Courses

ACCT 2010  
ACCT 2020  
FINA 3770  
MKTG 3650  
MGMT 3820  
BLAW 3430  
Any 3000-4000 level College of Business course

### Security & Networking

#### CS Concentration Area Courses (9 Hours)

CSCE 3110 Data Structures  
CSCE 4560 Secure Electronic Commerce  
CSCE 4050 Cryptography

#### Suggested Supporting Area Courses

CSCE 4520 Wireless Networks and Protocols  
CSCE 4050 Applications of Cryptography  
CSCE 3510 Introduction to Wireless Comm.  
Advanced BCIS Security or e-Commerce  
CSCE 4890 Directed Study in Security  
Advanced BCIS Security or e-Commerce  
Advanced CJUS Course

### Pre-Law

#### CS Concentration Area Courses (9 Hours)

CSCE 3110 Data Structures  
CSCE 4560 Secure Electronic Commerce  
CSCE 4890 Directed Study / Topics in Security  
Recommended: Digital Forensics

#### Suggested Supporting Area Courses

Choose 21 hours from the following courses depending on legal focus area  
Political Sci. 3200, 3210, 4200, 4210, 4220, 4810  
Criminal Justice 3201, 4250, 2100, 3210, 3700  
Business Law 2000, 3430, 4200, 4430, 4450, 4480, 4600, 4770

### Teaching Certification

#### CS Concentration Area Courses (9 Hours)

Course suggestions based on teaching area:  
Theory: CSCE 3110, 4110, 4115  
Security: CSCE 4050, 4240, 4560  
Biocomputing: CSCE 3850, 4810, 4820  
Systems: CSCE 4115, 4600, 4650  
Etc...

#### Suggested Supporting Area Courses

TNTX 1100, TNTX 1200, PHIL 2600, EDSE 3500, EDSE 4000, EDSE 4500, EDSE 4608, EDSE 4618, EDSE 4628  
Must have these 22 hours, a 2.5 GPA and be recommended for certification. Students should contact the Teach North Texas program office for more information.  
All state certification requirements and information on required examinations is available on the web site of the State Board for Educator Certification (SBEC), [www.tea.state.tx.us](http://www.tea.state.tx.us).

# Prerequisite Structure BA in Information Technology

Special Problems / Directed Study  
See Undergraduate catalog for requirements

CSCE 4920  
Co-op

See Undergraduate catalog for requirements

CSCE 2900  
Special Problems

Elective credit only

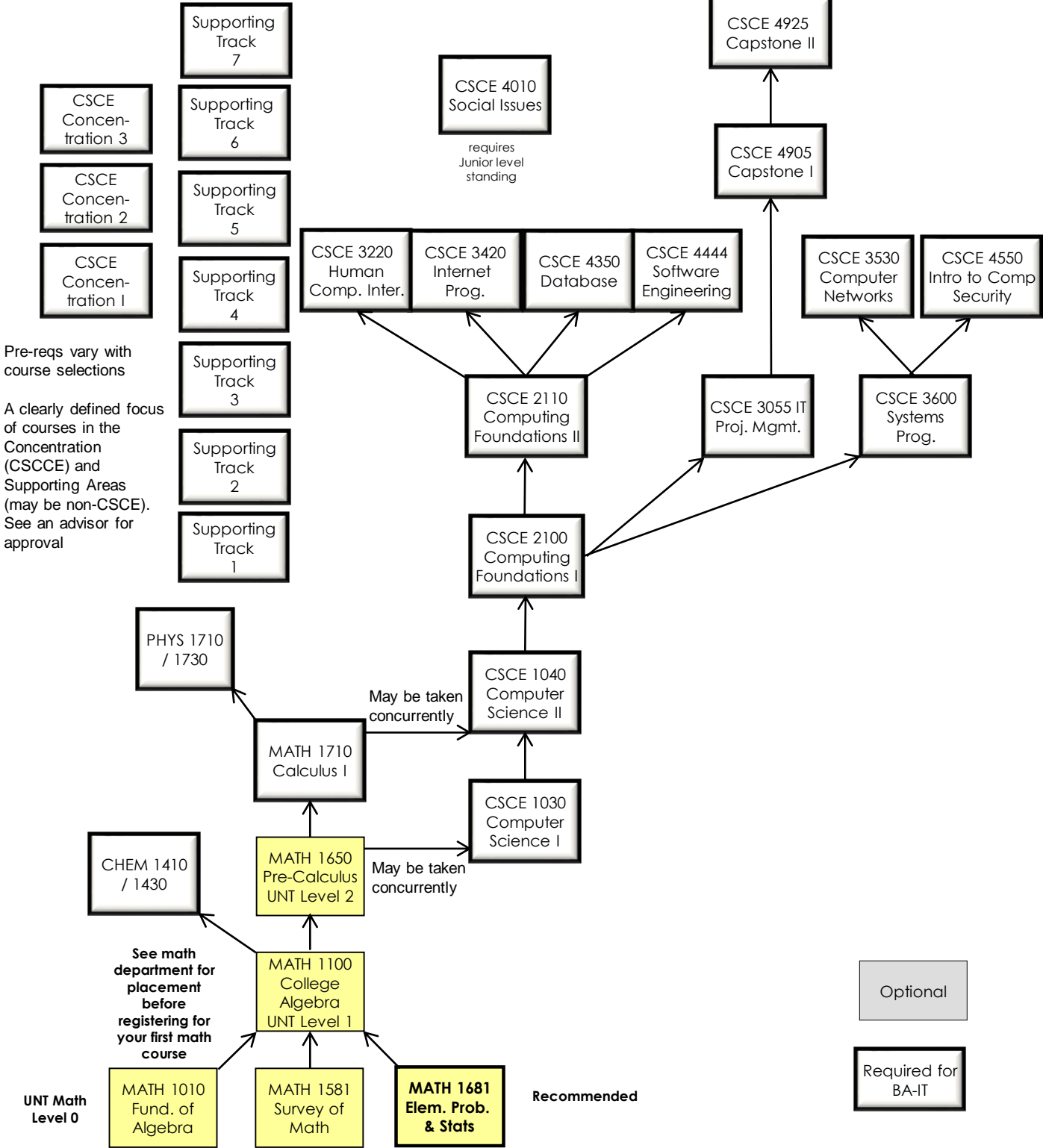
CSCE 4890

CSCE 4920

CSCE 4940

CSCE 4950

Maximum 6 hours credit in these courses



# Suggested 4 Year Schedule BA in Information Technology

Freshman		Sophomore	
Semester	Course	Semester	Course
Fall	CSCE 1030	Fall	Discovery
	Communications		CSCE 2100
	LAB. Science		Visual and Perf. Arts
	Math 1710		Supporting Area Course
			PSCI 1050
Spring	Phys 1710/1730	Spring	CSCE 2110
	TECM 2700		HIST 2610
	CSCE 1040		Humanities
	PSCI 1040		Supporting Area Course
	Math 1680		Social Behav. Science
Junior		Senior	
Semester	Course	Semester	Course
Fall	CSCE 3055	Fall	CSCE 4444
	CSCE 3220		CSCE 4905
	CSCE 3420		CSCE Concentration Area
	Supporting Area Course		Supporting Area Course
	CSCE Concentration Area		CSCE 4550
Spring	CSCE 3530	Spring	CSCE 4010
	CSCE 3600		HIST 4700
	CSCE 4350		CSCE 4925
	CSCE Concentration Area		Supporting Area Course
	Supporting Area Course		Supporting Area Course

# UNT 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 4 or 5 fulfills this category*

## **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

*AP U.S. History score of 3, 4 or 5*

*CLEP History of United States I*

*CLEP History of United States II*

*fulfills this category*

## **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. Government & 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 4 or 5*

*IB Dance score of 4 or higher\**

*fulfills this category*

## **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  
 DFST 2313, Courtship & Marriage

## **LANGUAGE, PHIL. & CULTURE Cont'd** (3 Hours)

ENGL 2210, World Literature I  
 ENGL 2211, Honors World Literature I  
 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  
 GERM 4310, Topics Adv. German Culture  
 HIST 1050, World History to 16<sup>th</sup> Century  
 HIST 1060, World History from 16<sup>th</sup> 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 4 or 5 fulfills this category*

*AP World History score of 3, 4 or 5*

*IB History score of 4 or higher\**

*fulfills this category*

## **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.  
 DFST 1013, Human Development  
 EADP 4050, Special Pop. in Disasters  
 ECON 1100, Microeconomics  
 ECON 1110, Macroeconomics  
 GEOG 1200, Global Societies  
 HLTH 2200, Family Life & Human Sexuality  
 JOUR 1210, Mass Comm. & Society  
 MDSE 2750, Consumers in Global Market  
 MDSE 3370, Fashion Theory & Trend Analysis  
 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 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*

*fulfills this category*

## **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  
 DFST 2033, Parenting in Diverse Families  
 DFST 3423, Family, Schools, Communities  
 EENG 1910, Learning to Learn  
 ENGL 2500, 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  
 HMGD 1450, Principles of Nutrition  
 HNRS 1100, The Good Society  
 HNRS 1500, Intro. to Research  
 INST 2100, Intro. to International Studies  
 ITAL1610, 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  
 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  
 WMST 2100, Women & Society

## **CAPSTONE** (3 Hours)

Fulfilled by a required course in your major

*\*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.*

## BA in Information Technology 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	Collin	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	
Creative Arts	From approved list	From approved list	From approved list	From approved list	From approved list	
Language, Philosophy & Culture	From approved list	From approved list	From approved list	From approved list	From approved list	
Discovery	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	Collin	TCC	NCTC	Notes
PHYS 1710/1730	Physics I – Mechanics	PHYS 2425	PHYS 2425	PHYS 2425	PHYS 2425	
CHEM 1410/1430	Gen Chemistry I	CHEM 1411	CHEM 1411	CHEM 1411	CHEM 1411	
MATH 1710	Calculus I	MATH 2413	MATH 2413	MATH 2413	MATH 2413	
MATH 1680	Elem. Prob & Statistics	MATH 2342	MATH 1342	MATH 1342	MATH 1342	

Departmental Requirements

UNT Course	Title	DCCCD	Collin	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 2100 or CSCE 2110 if CSCE 2100 complete	Foundations I	COSC 2436	COSC 2436	COSC 2436	COSC 2436	
CSCE 2100 or CSCE 2110 if CSCE 2100 complete	Foundations II	MATH 2305	MATH 2305	MATH 2305	MATH 2305	