



University of Colorado at Denver Department of Computer Science & Engineering

Undergraduate Advising Handbook

Student Guidelines for the B.S. in C.S.E.

University & College Requirements

Student must adhere to the policies, regulations and requirements of the University of Colorado at Denver and the College of Engineering and Applied Science. Relevant information is published annually in the “University of Colorado at Denver 2004-2005 Catalog”.

Advising

Faculty Advisor

Regular visits with faculty advisor are required to verify satisfactory progress toward the B.S. in C.S.E. degree. In addition, students should get to know additional faculty well enough that they can serve as references in the future for employment or graduate school.

FIRST: Transfer Advising 40 hours or less (Advising Center—appointments: 303-352-3520)

- Formal transfer advising can be done only after the CU-Denver Admissions Office has issued an “Applicant Transfer Credit Evaluation” and the student has been admitted to the College of Engineering and Applied Science.

SECOND: Transfer Advising over 50 hours (Dean’s Office—appointments: 303-556-4768)

Two levels of transfer advising are available: informal and formal.

- Informal transfer advising is done on an ad-hoc basis using transcripts and previous school catalogs
- Formal transfer advising can be done only after the CU-Denver Admissions Office has issued an “Applicant Transfer Credit Evaluation” and the student has been admitted to the College of Engineering and Applied Science

THIRD: 30 Hours Senior Checkout (Dean’s Office—appointments: 303-556-4768)

After completing approximately 100 semester hours toward the B.S.C.S.E. degree, each student must request a 30-hour senior checkout. During the 30-hour checkout, the courses needed to complete the student’s study program are highlighted on the study program sheet. A student must have no more than 35 credit hours remaining to graduate before requesting the 30-hour senior checkout.

FOURTH: Graduation Agreement (CSE Office—appointments: 303-556-4314)

Prior to the last semester before graduation each student must request a Graduation Agreement. This agreement specifies the courses that must be satisfactorily completed during the final semester of the student's program. Appointments for the graduation agreement are made through the CSE Department office.

CU-Denver Students Taking Courses Elsewhere

Students admitted to the College of Engineering and Applied Science must obtain prior departmental approval via an approved petition if they wish to take courses outside CU-Denver to be used to meet graduation requirements. The credit hours so earned are included in the students' programs via requests for formal transfer advising (see prior item). The only exception to this pre-approval requirement is any common-pool MSCD course.

Petitions

Any deviations from the published curriculum must be approved before taking the alternate course or taking courses concurrently that are normally taken in sequence. Approval is obtained via an approved CSE Department petition. Petitions requesting a curricular deviation must be submitted to the CSE Department located at NC 2605. Please note that it takes about two weeks to process any petition, especially at the beginning of the semester. Petitions must be filed on-line at www.cse.cudenver.edu

Drop policy

If a student wishes to drop a class after the official deadline, he/she must file a petition with an attached and signed drop/add form. However, no student may drop a class within a three-week period prior to the beginning of final exams.

Grade Point Average

Required Cumulative GPA

To remain in good standing with the College of Engineering and Applied Science each student must maintain a 2.00 cumulative grade point average or greater for all courses.

Required Study-Program GPA

In order to graduate with a degree from the College of Engineering and Applied Science each student must have a 2.00 grade point average or greater for all courses which are counted as part of the study program.

Required Departmental GPA

In order to graduate with a degree from the CSE Department each student must have a 2.00 grade point average or greater for all CSC courses attempted.

Pre-Engineering Students in Other Colleges

Pre-Engineering Advising (Advising Center—appointments: 303-352-3520)

It is important to meet with an academic advisor on a regular basis.

Curriculum

Pre-engineering students are strongly encouraged to follow the CSE curriculum. All pre-engineering students will be obligated to follow the curriculum that is in place at the time they are admitted into the College of Engineering. Please check with an undergraduate advisor, for more information.

Prior to Applying to the College of Engineering

Before applying to the College of Engineering a pre-engineering major must complete the following:

1. 1 year of calculus:
MATH 1401 and MATH 2411
2. 1 year of science:
PHYS 2311/2321 and PHYS 2331/2341
or
PHYS 2311/2321 and CHEM 1130
3. A 2.75 overall grade point average

Applying to the College of Engineering

As a pre-engineering student you apply directly to the College of Engineering by submitting an Intra University Transfer (IUT) application and a copy of your UCD transcript to NC 3028. The IUT application can be picked up from the Student Service Center (NC 1001) or from the Office of Engineering Student Services (NC 3028).

Denied entrance into the College

Applicants that are denied entrance are encouraged to make an appointment with the Associate Dean for Student Affairs (303-556-4768). The Dean will outline the reasons behind your denial and what you can do to improve your application.

Admitted into the College of Engineering (Dean’s Office—appointments: 303-556-4768)

If you have been admitted into the College of Engineering you should meet with an advisor.

Sample Academic Plan-Catalog Year 2004-128 hours

FIRST YEAR

first semester		second semester	
class	hrs	class	hrs
MATH 1401 ANALYTIC GEO. AND CALC. I	4	MATH 2411 ANALYTIC GEO. AND CALC. II	4
CHEM 1130 OR CHEM 2031 AND 2038	5	PHYS 2311 GENERAL PHYSICS I	4
C SC 1410 FUNDAMENTALS OF COMPUTING	3	PHYS 2321 GENERAL PHYSICS LAB I	1
C SC 1411 FUNDAMENTALS OF COMPUTING LAB	0	C SC 2421 DATA STRUCTURES & PROGRAM DESIGN	3
ENGL 1020 CORE COMPOSITION I	3	C SC 2312 ADVANCED C++ PROGRAMMING	3
		C SC 1510 LOGIC DESIGN	3
TOTAL	15	TOTAL	18

SECOND YEAR

first semester		second semester	
class	hrs	class	hrs
MATH 2421 CALC. AND ANALYTIC GEO. III	4	MATH 3195 LINEAR ALGEBRA/DIFF EQ	4
PHYS 2331 GENERAL PHYSICS II	4	C SC 3412 ALGORITHMS	3
PHYS 2341 GENERAL PHYSICS LAB II	1	C SC 2142 CIRCUIT ANALYSIS II	3
C SC 2511 Discrete Structures (replacing 3411)	3	ENGL 2030 or ENGL 3154	3
C SC 2525 ASSEMBLY LANGUAGE	3	CMMU 2101 SPEECHMAKING	3
C SC 2132 CIRCUIT ANALYSIS I	3	C SC 2531 LOGIC LAB	1
TOTAL	18	TOTAL	17

THIRD YEAR

first semester		second semester	
class	hrs	class	hrs
Science Elective (see next page: Science)	3	C SC 3453 OPERATING SYSTEMS	3
C SC 3415 PRINCIPLES OF PROGRAM. LANGUAGES	3	C SC 3645 DISCRETE LINEAR SYSTEMS	3
C SC 3651 DIGITAL HARDWARE DESIGN	3	H&SS ELECTIVE (see core list in packet)	3
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H&SS ELECTIVE (see core list in packet)	3	H&SS ELECTIVE (see core list in packet)	3
TOTAL	15	TOTAL	15

FOURTH YEAR

first semester			second semester		
class	hrs		class	hrs	
MATH 4650 NUMERICAL ANALYSIS I (C SC 4656)	3		C SC 4034 THEORETICAL FOUNDATIONS OF CS	3	
C SC 4508 INTRO TO SOFTWARE ENGINEERING	3		C SC 4735 COMPUTERS, SOCIETY, AND ETHICS	3	
C SC 4535/MATH 3800 APPLIED PROBABILITY FOR C SC	3		C SC 4739 SENIOR DESIGN PROJECT	3	
C SC 4591 COMPUTER ARCHITECTURE	3		Tech. Elective (see next page: Technical Electives)	3	
H&SS ELECTIVE (see core list in packet)	3		H&SS ELECTIVE (see core list in packet)	3	
TOTAL	15		TOTAL	15	

Details of B.S. in C.S.E. + Prerequisite List Fall 2004

The student must satisfactorily complete all the course work in the curriculum shown below, satisfy all University graduation requirements, and maintain at least a 2.0 grade-point average in all C SC courses.

Prerequisite requirements will be strictly enforced for C SC courses. Prerequisite courses must be completed with a letter grade of C- or better. Note: Each student entering the C.S.E. program must sign a prerequisite chart that stipulates the student is aware of the prerequisite requirements and agrees to abide by them.

COMMON CORE CURRICULUM IN ENGINEERING HUMANITIES, SOCIAL SCIENCE AND COMMUNICATION (30 SEMESTER HOURS)

Each engineering student is required to complete all portions of the common core requirements. You can find a list of requirements in this handout. Refer to the current CU-Denver catalog for information and prerequisite requirements for specific courses.

MATHEMATICS (19 SEMESTER HOURS)

MATH 1401-4 Analytic Geometry and Calculus I	Pre=MATH 1120 or 1130; placement exam; Co=MATH 1999
MATH 2411-4 Analytic Geometry and Calculus II	Pre=MATH 1401; Co=MATH 1999
MATH 2421-4 Analytic Geometry and Calculus III	Pre=MATH 2411
MATH 3195-4 Linear Algebra and Differential Equations	Pre=MATH 2411
MATH 4650-3 (C SC 4650-3) Numerical Analysis I	Pre=MATH 2411 & 3195; programming experience

SCIENCE (18 SEMESTER HOURS)

- PHYS 2311-4 General Physics I: Calculus-based Pre=MATH 1401
- PHYS 2321-1 General Physics lab I Co=PHYS 2311
- PHYS 2331-4 General Physics II: Calculus-based Pre=PHYS 2311 & MATH 2411
- PHYS 2341-1 General Physics lab II Pre=PHYS 2321; Co=PHYS 2331
- CHEM 1130-5 Engineering General Chemistry Pre=CHEM 1000 & MATH 1110, or equivalent
- or (CHEM 2031-3 and CHEM 2038-2) Pre=CHEM 1000 & MATH 1110, or equivalent
- Science Elective (3 semester hours): May be a class in GEOL, BIO, Astronomy, or engineering science. For other options ask an advisor in NC 3028. Refer to the current CU-Denver catalog for prerequisite requirements for a specific course.

REQUIRED COMPUTER SCIENCE AND ENGINEERING COURSES (58 SEMESTER HOURS)

- C SC 1410-3 Fundamentals of Computing Co=MATH 1401, C SC 1411
- C SC 1411-0 Fundamentals of Computing Lab Co=C SC 1410
- C SC 2312-3 Advanced C++ Programming Pre=C SC 1410
- C SC 2421-3 Data Structures & Program Design Pre=C SC 1410, 1411, & ENGL 1020; Co=C SC 2312
- C SC 2511-3 Discrete Structures Pre=C SC 2421
- C SC 2525-3 Assembly Language & Computer Organization Pre=C SC 1410 & 1510
- C SC 3412-3 Algorithms Pre=C SC 2511
- C SC 3415-3 Principles of Programming Languages Pre=C SC 2421 & 2525
- C SC 3453-3 Operating Systems Concepts Pre=C SC 3412 & 3415
- C SC 3645-3 Discrete Linear Systems Pre=C SC 2142 & MATH 3195
- C SC 4034-3 Theoretical Foundations of Computer Science Pre=C SC 3412 & 3415
- C SC 4508-3 Introduction to Software Engineering Pre=ENGL 1020, CSC 3412
- C SC 4535/MATH 3800-3 Applied Prob for Comp Science Pre=MATH 2411
- C SC 4591-3 Computer Architecture Pre=C SC 2525 or E E 2651
- C SC 4735-3 Computers, Society, & Ethics Pre=CSC 4508 and ENGL 2030 or ENGL 3154
- C SC 4739-3 Senior Design Project Pre=C SC 4508, ENGL 1020, CMMU 2101C SC/ E E 1510-
- 3 Logic Design Pre=MATH 1120 or equivalent
- C SC/ E E 2531-1 Logic Lab Co=C SC 1510/ E E 1510
- C SC/ E E 2132-3 Circuit Analysis I Co=MATH 2422 & PHYS 2311
- C SC/ E E 2142-3 Circuit Analysis II Pre=C SC 2132/ E E 2132 & ENGL 1020
- C SC/ E E 3651-3 Digital Hardware Design Pre=E E 2651 or C SC 2525, C SC 2531/ E E 2531

TECHNICAL ELECTIVE (3 SEMESTER HOURS)

SELECT 1 FROM THE FOLLOWING CSC OR EE COURSES:

- Any 4000 level CSC course or any EE 4000 level computing engineering course that is not part of the B.S.C.S.E. curriculum

Common Core Requirements Fall 2004

Students graduating from the College of Engineering and Applied Science are required to satisfy the Humanities and Social Science (H&SS) and Communications (Writing/Speech) portions of their Engineering program by taking the following courses from the CU-Denver common core:

Semester hours:

- 6 hrs. **SOCIAL SCIENCES:** (Economics, Political Science, Sociology)
Two (2) courses in the same discipline from:
- ECON 2012-3, Principles of Economics – Macro
ECON 2022-3, Principles of Economics – Micro
- P SC 1001-3, Intro. To Political Science
P SC 1101-3, American Political System
- SOC 1001-3, Intro. To Sociology
SOC 2462-3, Intro. To Social Psychology
- 3 hrs. **BEHAVIORAL SCIENCES:** (Anthropology, Communications, Psychology)
One (1) course from:
- ANTH 2102-3, Culture and Human Experience
CMMU 1011-3, Fundamentals of Communications
CMMU 1021-3, Fundamentals of Mass Comm.
PSY 1000-3, Intro to Psychology I
PSY 1005-3, Intro to Psychology II
- 3 hrs. **MULTICULTURAL DIVERSITY:**
One (1) upper division course from the same Discipline in which 6 hours have been Completed in the Social Sciences or Humanities:
- ECON 3100-3, Economics of Race & Gender
PSC 3034-3, Race, Gender, Law & Public Policy
PSC 3035-3, Political Movements: Race & Gender
SOC 3020-3, Immig and Ethnicity in Am. Hist.
ENGL 3794-3, Ethnic Diversity in Am. Lit.
PHIL 3500-3, Ideology/Power/Culture: Racism and Sexism
HIS 3345-3, Immigration & Ethnicity in American History
ENGR 3400-3, Technology and Culture (matches with all H&SS disciplines above)

Semester hours:

- 6 hrs. **HUMANITIES:** (English Lit. History, Philosophy)
Two (2) courses in the same discipline from:
- HIS 1381-3, Paths to the Present I
HIS 1382-3, Paths to the Present II
- ENGL 1601-3, Telling Tales: Narrative Art in Literature and Film
ENGL 2600-3, Great Works in Brit. & Amer. Lit.
- PHIL 1012-3, Intro. To Philosophy – Relationship of Indiv. To World
PHIL 1020-3, Intro. To Ethics & Society- Person & Community
- 3 hrs. **ARTS:** (Arts, Fine Arts, Music, and Theatre)
One (1) course from:
- ARTS 1000-3, Arts in Our Time
F.A. 1001-3, Intro to Art
PMUS 1001-3, Music Appreciation
THTR 1001-3, Intro to Theatre
- 9 hrs. **COMMUNICATIONS:**
Three (3) courses:
- ENGL 1020-3, Core Composition I, **and**
CMMU 2101-3, Presentational Speaking
- and either**
- ENGL 2030-3, Core Composition II
or
ENGL 3154-3, Technical Writing
or
CMMU 3120-3, Technical Communication

Exceptions to the above are possible; however, such requests must be via written petition in advance.

BS in Computer Science and Engineering Program Sheet

Name _____ Admitted: UCD _____ Engin. _____ Graduated: _____ Page 1

Student No. _____ Email _____

Course ID & Title	CU Denver Credits			Transfer Credits		Comments	Req'd Hrs.
	Hrs	Grade	Semester	Hrs	School/Course#		
Mathematics							
MATH 1401-4: Calculus I							4
MATH 2411-4: Calculus II							4
MATH 2421-4: Calculus III							4
MATH 3195-4: Linear Algebra and Diff Eq							4
MATH 4650/CSC 4650-3: Numerical Analys I							3
Mathematics Subtotals	UCD			Trans		Total	19
Basic Science							
CHEM 1130-5: Chem. for Engr							5
PHYS 2311-4: Physics I							4
PHYS 2321-1: Physics Lab I							1
PHYS 2331-4: Physics II							4
PHYS 2341-1: Physics Lab II							1
Science Elective							3
Basic Science Subtotals	UCD			Trans		Total	18
UCD Core							
Area #1: Social Sciences: 2 courses from one department: ECON or P SC or SOC							
							3
							3
Area #2: Behavioral Sciences: 1 course from: ANTH or CMMU or PSY							
							3
Area #3: Humanities: 2 courses from one department: HIST or ENGL or PHIL							
							3
							3
Area #4: Arts: 1 course from: ARTS or F A or PMUS or THTR							
							3
Area #5: Upper Division: 1 multi-cultural diversity course to match area #1 or area #3							
							3
Area #6: Communications Skills							
ENGL 1020 Comp. I							3
ENGL 2030 or ENGL 3154 or CMMU 3120							3
CMMU 2101: Public Speaking							3
Core Curriculum Subtotals	UCD			Trans		Total	30
Page 1 Totals	UCD			Trans		Total	67

Transfer Credit Approval:

Advisor:	date:
Dean:	date:

Notes: