

DEPARTMENT OF ELECTRICAL ENGINEERING

College of Engineering and Applied Science

University of Colorado Denver

North Classroom 2615 Telephone: (303) 556-2872

Advisement Guide For New Students Beginning Fall 2008

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

Effective Fall 2008

(Approved by Faculty: Spring 2008)

FRESHMAN YEAR

<u>Fall</u>			<u>Spring</u>		
MATH 1401	Anal. Geo. & Calculus I	4	MATH 2411	Anal. Geo. & Calculus II	4
CHEM 1130	General Chemistry	5	PHYS 2311/2321	General Physics I & Lab	5
EE 1201*	Intro. to Electrical Engr.	1	EE 1520	Embedded Systems Engr. I	3
EE 1510	Logic Design	3	EE 2531	Logic Laboratory	1
ENGL 1020	Core Composition I	<u>3</u>	Core Curriculum Course (see p. 4)		<u>3</u>
		16			16

SOPHOMORE YEAR

<u>Fall</u>			<u>Spring</u>		
MATH 2421	Cal. & Anal. Geo. III	4	EE 2142	Circuits Analysis II	3
MATH 3195	Linear Algebra & Dif Eq.	4	EE 2552	Sophomore. Circuits Lab.	1
PHYS 2331	Gen. Physics II	4	EE 2520	Embedded Systems Engr. II	3
EE 2132	Circuits Analysis I	3	Core Curriculum Course (see p. 4)		3
ENGL 2030	Core Composition II	<u>3</u>	Core Curriculum Course (see p. 4)		<u>3</u>
		18			13

JUNIOR YEAR

<u>Fall</u>			<u>Spring</u>		
EE 3133	Electromagnetic Fields	3	EE 3164	Energy Conversion	3
EE 3215	Electronics I	3	EE 3225	Electronics II	3
EE 3715	Electronics Lab	1	EE 3724	Power Lab	1
EE 3316	Linear Systems	3	EE 3735	Junior Lab	1
EE 3651	Digital Hardware Design	3	EE 3817	Engr. Probability & Stats	3
ENGR 3400	Technology and Culture	<u>3</u>	Professional Elective (see p. 3)		3
		16	Core Curriculum Course (see p. 4)		<u>3</u>
					17

SENIOR YEAR

<u>Fall</u>			<u>Spring</u>		
EE 4309	Senior Design Project I	3	EE 4319	Senior Design Project II	3
ENGR Science Elective		3	Core Curriculum Course (see p. 4)		3
EE Specialty (see p. 3)		3	EE Specialty & Lab (see p. 3)		4
EE Specialty (see p. 3)		3	EE Specialty (see p. 3)		3
EE Specialty & Lab (see p. 3)		<u>4</u>	Professional Elective (see p. 3)		<u>3</u>
		16			16

Approved by Faculty:

previous revision: Spring 2007 - Effective Fall 2008

current revision: January 11, 2007

Each Student MUST follow the rules of the EE Department as outlined.

I. Intellectual Competencies (6 semester hours) (see p. 4)

ENGL 1020-3 Core Composition I
ENGL 2030-3 Core Composition II

II. Common Core Courses (18 semester hours) (see p. 4)

SOCIAL SCIENCES: one course
BEHAVIORAL SCIENCES: one course
HUMANITIES: one course
ARTS: one course
CULTURAL DIVERSITY: one course
INTERNATIONAL PERSPECTIVES: one course

III. Mathematics (19 semester hours)

MATH 1401-4 Analytical Geometry and Calculus I
MATH 2411-4 Analytical Geometry and Calculus II
MATH 2421-4 Calculus and Analytical Geometry III
MATH 3195-4 Linear Algebra & Differential Equations
EE 3817-3 Engineering Probability & Statistics

IV. Basic Science (14 semester hours)

PHYS 2311-4 General Physics I
PHYS 2321-1 General Physics Lab I
PHYS 2331-4 General Physics II
CHEM 1130-5 Engineering General Chemistry

V. Engineering Science Elective (3 semester hours)

ENGR 3012-3 Thermodynamics
Or approved Engineering Science special topics course such as: Quantum Electronics and Renewable Energy

VI. Electrical Engineering Required Courses (39 semester hours)

EE 1201-1	Introduction to Electrical Engineering	EE 3133-3	Electromagnetic Fields
EE 1510-3	Logic Design	EE 3164-3	Energy Conversion
EE 1520-3	Embedded Systems I	EE 3215-3	Electronics I
EE 2132-3	Circuit Analysis I	EE 3225-3	Electronics II
EE 2142-3	Circuit Analysis II	EE 3316-3	Linear Systems
EE 2520-3	Embedded Systems II	EE 3651-3	Digital Hardware Design
EE 2531-1	Logic Laboratory	EE 3715-1	Electronics Laboratory
EE 2552-1	Sophomore Circuits Laboratory	EE 3724-1	Power Laboratory
		EE 3735-1	Junior Laboratory

VII. Electrical Engineering Required Senior Design Sequence (6 Semester Hours)

EE 4309-3 Senior Design Project I
EE 4319-3 Senior Design Project II

VIII. EE Elective and Specialty Courses in Association with Design Laboratory (17 semester hours):

Students are required to take at least two (2) laboratories- out of the following six (6) groups. Students on Computer Engineering Option take both Electrical Engineering elective courses with design laboratories from the last group. Theory components are either pre-requisites or co-requisites to the laboratory components. These courses will be staggered, and will not be offered every semester. Depending on the enrollment, these course laboratory components may be offered more frequently. The "Theory Component" (without the laboratory) may be taken as the "Specialty" courses.

EE 4136-3	Control Systems Analysis
EE 4276-3	Digital Control Systems
EE 4406-1	Advanced Control Systems Laboratory
EE 4225-3	Advanced Electronics III
EE 4435-1	Advanced Electronics Laboratory
EE 4247-3	Communication Theory
EE 4248-3	Digital Communication Systems
EE 4467-1	Communications Laboratory
EE 4133-3	Advanced Electromagnetic Fields
EE 4423-1	Microwave Laboratory
EE 4501-3	Microprocessor-based Design
EE 4521-1	Microprocessor-based Laboratory
EE 4511-3	Hardware-Software Interface Design
EE 4561-1	Hardware-Software Laboratory

Other courses available (without any laboratory component) as EE Specialty class include:

EE 4174-3	Industrial Power Electronics
EE 4184-3	Power Systems Analysis
EE 4555-3	VLSI Circuit Simulation

IX. PROFESSIONAL ELECTIVES (6 SEMESTER HOURS):

A professional elective is an upper division technical class that would be beneficial to an engineering career. Classes that fit this description would include any EE 4xxx lecture class, cooperative education (EE 3939) and all graduate level EE classes. EE graduate courses can be taken as EE Specialty courses. See your advisor for details.

Other courses may satisfy the Professional Elective requirement, but PLEASE check with your advisor for departmental approval. ***Only one professional elective can be taken as a non-EE course; effective Spring 2006.*** (This requirement does not apply to students who have taken both professional electives by the end of Fall 2005.)

***** Beginning Spring 2006, any professional elective outside the EE Department must be approved by an EE faculty advisor.***

UNIVERSITY OF COLORADO DENVER
COLLEGE OF ENGINEERING AND APPLIED SCIENCE

Common Core Curriculum Requirements

Students graduating from the College of Engineering and Applied Science are required to satisfy the humanities and social science and writing portions of their Engineering program (a minimum of 24 hrs.) by taking the following courses from the CU-Denver common core curriculum:

3 HOURS OF SOCIAL SCIENCES:

One (1) course from:

ECON	2012-3.	Principles of Economics-Macro
ECON	2022-3.	Principles of Economics-Micro
ENVS	1342-3.	Introduction to Environment and Society
ETST	2000-3.	Introduction to Ethnic Studies
GEOG	1102-3.	World Regional Geography
GEOG	1602-3.	Introduction to Urban Studies
GEOG	2202-3.	Natural Hazards
HBSC	2001-3.	Intro to Community and Population Health Science
P SC	1001-3.	Intro to Political Science: Quest for Freedom to Justice
P SC	1101-3.	American Political System
SOC	1001-3.	Introduction to Sociology
SOC	2462-3.	Introduction to Social Psychology

3 HOURS OF HUMANITIES:

One (1) course from:

CNST	1000-3.	China and the Chinese
ENGL	1601-3.	Telling Tales: Narrative Art in Literature and Film
ENGL	2600-3.	Great Works in British & American Literature
ETST	2155-3.	African American History
FR	1000-3.	Intro to Cultures of the French-Speaking World
GER	1000-3.	Germany and the Germans
HIST	1361-3.	U.S. History to 1876
HIST	1362-3.	U.S. History since 1876
HIST	1381-3.	Paths to the Present I
HIST	1382-3.	Paths to the Present II
PHIL	1012-3.	Intro to Philosophy: Relationship of Individual to World
PHIL	1020-3.	Introduction to Ethics & Society: Person & Community
PHIL	2441-3.	Logic and Language
RLST	1610-3.	Introduction to Religious Studies
RLST	2660-3.	World Religions
SPAN	1000-3.	Intro to Cultures of the Spanish-Speaking World

3 HOURS OF BEHAVIORAL SCIENCES:

One (1) course from:

ANTH	1302-4.	Introduction to Archaeology
ANTH	2102-3.	Culture and the Human Experience
CMMU	1011-3.	Fundamentals of Communication
CMMU	1021-3.	Fundamentals of Mass Communication
PSY	1000-3.	Introduction to Psychology I
PSY	1005-3.	Introduction to Psychology II

3 HOURS OF ARTS:

One (1) course from:

F A	1001-3.	Introduction to Art
PMUS	1001-3.	Music Appreciation
THTR	1001-3.	Introduction to Theatre

3 HOURS OF INTERNATIONAL PERSPECTIVES:

ENGR	3600-3.	International Dimensions of Culture & Technology
HIST	3121-3.	The World at War, 1914-1945
HIST	4032-3.	Globalization in World History Since 1945
P SC	3022-3.	Introduction to Comparative Politics
P SC	3042-3.	Introduction to International Relations

6 HOURS OF INTELLECTUAL COMPETENCIES:

ENGL	1020-3.	Core Composition I
ENGL	1030-3.	Core Composition II

3 HOURS OF CULTURAL DIVERSITY:

ANTH	3142-3.	Cultural Diversity in the Modern World
CMMU	3271-3.	Communication and Diversity
ECON	3100-3.	Economics of Race and Gender
ENGR	3400-3.	Technology and Culture
ETST	3704-3.	Culture, Racism and Alienation
ETST	3794-3.	Ethnic Diversity in American Literature
HIST	3345-3.	Immigration and Ethnicity in U.S. History
MGMT	4100-3.	Managing Cultural Diversity
PHIL	3500-3.	Ideology and Culture: Racism and Sexism
P SC	3034-3.	Race, Gender, Law and Public Policy
P SC	3035-3.	Political Movement: Race and Gender
PSY	4485-3.	Psychology of Cultural Diversity
RLST	4000-3.	Religion and Cultural Diversity
SOC	3020-3.	Race and Ethnicity in the U.S.
THTR	3611-3.	Drama of Diversity

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

Approved by Faculty: Spring 2007 - Effective Fall 2008

May 29, 2009

STUDENT GUIDELINES

- 1) **REGULAR VISITS WITH FACULTY ADVISOR**- Meeting with your faculty advisor every semester to assure that everything is “on track” with regard to satisfactory progress towards the BSEE degree is highly recommended. In addition, most persons do seek employment during and/or after their schooling, and references are customarily a part of job applications. Thus, it is in a student’s best interest that he/she gets to know his/her faculty advisor(s) and other faculty members well enough that they can serve as references in the future.
- 2) **CURRICULUM CHANGES** - Students should obtain a copy of the latest EE Advisement Guide from the EE office for any updates and/or changes. Students are expected to follow the curriculum which was implemented the date they began
- 3) **TRANSFER OF CREDITS INTO EE PROGRAM** – There two levels of transfer advising are available.
 - A) INFORMAL transfer advising is done on an ad-hoc basis using unofficial transcripts, catalogs, and so forth.
 - B) FORMAL documented transfer advising is done only AFTER the UCD Admissions Office has issued an “Applicant Transfer Credit Evaluation,” and the student has been admitted to the College of Engineering and Applied Science. The formal transfer of credit into the EE program must be requested, or initiated, by the student. It is recommended that this should be done as soon as the student has been accepted into the EE program. Appointments for either form of transfer advising are made through the departmental office.
- 4) **30-HOUR SENIOR CHECKOUT** - After completing approximately 100 semester hours toward the BSEE degree (junior year of program), each student must request that a 30-hour senior checkout be done by the department. (Should the student have some applicable transfer credits, he/she should first request a FORMAL transfer evaluation. (See Item 3.) During the 30-hour senior checkout the courses needed to complete the student’s study program are specified on the 30-hour checkout form. A 30-hour checkout is only valid for two years. If a student does not graduate during this time period, another checkout must be requested. Appointments for 30-hour checkouts are made through the departmental office.
- 5) **GRADUATION AGREEMENT** - Immediately prior to the last semester before graduation each student must request that a graduation agreement be completed. This agreement specifically states the exact courses that must be satisfactorily completed during the final semester of the student’s program. Appointments for graduation agreements are made through the departmental office.
- 6) **PRE-APPROVAL OF ANY CURRICULAR DEVIATIONS (OR PETITIONS)** - Any deviation from the approved curriculum **must be approved BEFORE** taking the course or lab. Approval is obtained via a departmental petition. It is recommended that all petitions be submitted for departmental approval at least four (4) weeks in advance before the “LAST DAY TO REGISTER, DROP OR ADD” that is published in the Schedule of Classes for that semester. Curricular deviations requested after this date will be denied or disapproved.
- 7) **REQUIRED GRADES IN PREREQUISITES** - Students are required to successfully complete the courses with a C-(or higher) grade in any pre-requisite course before taking the subsequent course. Students may **NOT** register for credit in a course in which they already have received a grade of C- or higher. (They may enroll for a “NC” grade only.) Students must supply the information requested in each class regarding pre-/co-requisites so that the department can monitor each student’s preparation for the class.
- 8) **PRE-ENGINEERING STUDENTS IN OTHER COLLEGES** - All potential EE students attending UC-Denver should obtain a copy of the latest EE Printed Advisement Guide from the EE Office on a regular basis and should follow its curriculum. (See Item 2.) Students needing additional information may make an appointment to see an advisor through the departmental office.

- 9) **TAKING COURSES ELSEWHERE** - Students admitted to the College of Engineering and Applied Science must obtain **prior departmental approval via petition** if they wish to take courses (except for common-pool courses) outside UCDHSC that are to be used to meet graduation requirements.
- 10) **COURSES RESTRICTED TO EE STUDENTS** - Many upper-division courses in EE are restricted. Thus, it is imperative that students enroll in the College of Engineering and Applied Science as early as possible, so that the restricted courses may be taken in a timely manner.
- 11) **GRADE POINT AVERAGE (GPA) REQUIREMENTS** - To remain in good standing within the College of Engineering and Applied Science, each student must maintain a 2.00 (or greater) cumulative average in all courses attempted within the CU system. In order to graduate with a degree from the College of Engineering and Applied Science each student must have a 2.00 (or greater) grade point average for all CU system courses **that are counted as part of his/her study program**. In order to graduate with a degree from the EE Department, each student must achieve a 2.00 (or greater) average **in all EE courses attempted**.
- 12) **ADDITIONAL COLLEGE RULES AND REGULATIONS** - Each student should be aware that there are rules, regulations, and requirements within the College of Engineering and Applied Science, which are published annually in the UCD catalog.

*University of Colorado Denver
College of Engineering and Applied Science*

*Department of Electrical Engineering
Campus Box 110UCD
P.O. Box 173364
Denver, Colorado 80217-3364
Office: (303) 556-2872
Fax: (303) 556-2383*

*1200 Larimer Street
North Classroom Room 2615*

*Dr. Mike Radenkovic
Department Chair
miloje.radenkovic@ucdenver.edu*

*Janiece Hockaday
Administrative Assistant III
janiece.hockaday@ucdenver.edu*