

# *Undergraduate Curriculum Committee Agenda*

## *October 13, 2009*

To: Elaine Beason, Joan Brumm, Raul Cruz-Cano, Tom Wagy, Tommie Hughes, Victor Govindaswamy, Carla Snyder, Kristi Johnson-Cobb, Pat Black, Rosanne Stripling and Scott Lent

From: Peter Racheotes, Chairman

Date: October 8, 2009

Re: Agenda

Undergraduate Curriculum Committee (UCC) will meet on **Tuesday, October 13, 2009, at 10:00 am in ACAD 227N.**

### **AGENDA:**

#### **Page #'s**

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1. Agenda
2. Meeting called to order by Dr. Racheotes.
3. Approval of minutes from past meeting, September 16, 2009.
4. Change of previously adopted core curriculum course names to reflect the same title as in the Lower-Division Course Guide Manual (Edwards)
5. **Changes to Existing Undergraduate Program: Political Science** (Bugh)
6. **Changes to Existing Undergraduate Program: BSIS EC-6 Bilingual Generalist** (Rincon)
7. **Course Changes: GBUS 430 The Culture of Mexico** (Bashaw)
8. **Course Changes: GBUS 435 The Economy of Mexico** (Bashaw)
9. **Course Changes: Change the prefix of courses and prerequisites from BSC to BIOL** (Allard)
10. **Course Changes: EE 470 Digital Design using VHDL** (Lala)
11. **Course Inventory Add/Reinstate: EE 320 Circuit Laboratory** (Laddomada)
12. **Course Inventory Add/Reinstate: EE 465 VLSI Design** (Lala)
13. **Course Inventory Add/Reinstate: EE 322 Digital Logic Laboratory** (Lala)
14. **Course Inventory Add/Reinstate: CHED 510 Analyzing Student Work in Chemistry** (Allard)
15. Old Business:

16. Other Business
17. Meeting adjournment
18. Next meeting: Tuesday, November 10, 2009 at 10:00 am in ACAD 227N.

## *Undergraduate Curriculum Committee Minutes September 16, 2009*

Called to Order: 2:31 pm  
Adjourned: 3:03 pm

**Members present:** Peter Racheotes Chair; Joan Brumm, Raul Cruz-Cano, Tom Wagy, Tommie Hughes, Victor Govindaswamy

**Members absent:** Elaine Beason

**Ex-Officio**

**Members present:** Rosanne Stripling

**Ex-Officio**

**Members absent:** Carla Snyder, Kristi Cobb, Pat Black and Scott Lent

**Guests:** Brian Billings and Jo Kahler

1. Agenda
2. Meeting called to order at 2:31 PM by Dr. Racheotes. He thanked members for adjusting their schedules to attend this special called meeting. The VPAA had asked for the committee to approve the two degree programs as soon as possible in order to meet The Texas A&M University System timetable.
3. Dr. Wagy moved, seconded by Dr. Brumm to approve **Add New Undergraduate Program: Bachelor of Science in Drama with Optional Drama EC-12 Teacher Certification.** Dr. Stripling discussed the proposal. She revealed that Texas A&M University-Texarkana has entered into a cooperative agreement with TRAHC, TC, NTCC, TISD, LEISD, PGISD and possibly TASD to be able to use their facilities for performances. Dr. Brian Billings will be assigned half time to the drama program and half time to the English during the first year. A full time drama faculty will be hired for the second year. Dr. Billings informed the committee that all practicum courses listed in the curriculum are one hour courses. **Motion passed.**
4. Dr. Hughes moved, seconded by Dr. Govindaswamy to approve **Add New Undergraduate Program: Bachelor of Science in Sociology.** In order to meet new Coordinating Board faculty requirements, Dr. Kahler indicated that she will assign Dr. Leonard Peck 50% to the sociology program. Proposal was approved unanimously with the stipulation that Dr. Stripling and Dr. Kahler will verify faculty numbers in Table 4 meet the requirements. **Motion passed.**
5. Meeting adjournment at 3:03 pm.
6. Next meeting: October 13, 2009 at 10:00 am in ACAD 227N.

*Respectfully Submitted,*

*Sue Mitchell Hughes  
Recording Secretary*

**TEXAS A&M UNIVERSITY-TEXARKANA**

**Core Curriculum**

**Effective Fall 2010**

<b>Component Area</b>	<b>SCH</b>	<b>Prefix &amp; Number</b>	<b>Correct Course Name</b>	<b>Adopted Name (from syllabus)</b>
Communication	9	ENGL 1301	Composition I	Freshman Composition I
		ENGL 1302	Composition II	Freshman Composition II
		*SPCH 1315	Public Speaking	Introduction to Public Speaking
Mathematics	3	MATH 1314	College Algebra	
		MATH 1324	Mathematics for Business & Social Sciences I <i>(Finite Mathematics)</i>	Finite Mathematics with Applications
		MATH 2413	Calculus I	
Natural Science	6	BIOL 1406	Biology for Science Majors I	Principles of Biology
		BIOL 1407	Biology for Science Majors II	
		BIOL 2406	Environmental Biology	Principles of Environmental Science
		CHEM 1411	General Chemistry I	Chemistry I
		CHEM 1412	General Chemistry II	
		GEOL 1405	Environmental Geology	Principles of Environmental Geology
Social/Behavioral Science	3	PSYC 2301	General Psychology	Introduction to Psychology
		ECON 2301	Principles of Macroeconomics	
		GEOG 1303	World Regional Geography	World Regional Geography
		SOCI 1301	Introductory Sociology	Principles of Sociology
		SOCI 2319	Minority Studies I	Ethnic & Cultural Diversity in the United States
	6	HIST 1301	United States History I	United States History to 1877
		HIST 1302	United States History II	United States History since 1877
	6	GOVT 2305	Federal Government	Introduction to American Politics
		GOVT 2306	Texas Government	State & Local Government
	Humanities & Visual/ Performing Arts	3	ENGL 2341	Forms of Literature
MUSI 1306			Music Appreciation	
3		ARTS 1301	Art Appreciation	
		DRAM 1310	Introduction to Theater	Introduction to Drama
*Other	3	BCIS 1305	Business Computer Applications	
		PHIL 1301	Introduction to Philosophy	
<b>Total</b>	<b>42</b>			
<i>*Institutionally Designed Options--6 SCH</i>				

*Titles as specified in the Lower Division Academic Course Guide Manual*

Texas A&M University-Texarkana  
CHANGES TO EXISTING UNDERGRADUATE PROGRAM

Effective for fiscal year: 2009

**NOTE:** Deadline for submitting this form for changes to be included in the next catalog is February 15<sup>th</sup>.

College: **College of Arts and Sciences and Education**

Name of Program: **Political Science**

Please identify changes that are requested. Please list each course prefix, number and title:

General Ed Core:

Major Requirements: Delete Psci 395 and the Psci 310/Psci 320 option; delete Psci 440 and PSCI 444 from the list of 12 sch required course choices; add Psci 320, Psci 340, Psci 341, Psci 350, Psci 410, and Psci 490 to the list of 12 sch required course choices.

Interdisciplinary Courses:

Electives:

Minor:

Other requirements:

Justification: Changes in the Political Science program support the University's mission and institutional goals, and the mission of the College of Arts & Sciences and Education. They also correspond with the American Political Science Association's recommendations for increasing student enrollment, recognizing the needs of minority students, and supporting student learning and success.

Submitted by: \_\_\_\_\_ Date: \_\_\_\_\_

Approved by:

Dean of College: \_\_\_\_\_ Date: \_\_\_\_\_  
(Signifies Faculty Approval)

Curriculum Committee Chairman: \_\_\_\_\_ Date: \_\_\_\_\_

Vice President for Academic Affairs: \_\_\_\_\_ Date: \_\_\_\_\_

Registrar: \_\_\_\_\_ Date: \_\_\_\_\_

Political Science Major	HOURS EARNED REQD	
Psci 101 (Govt 2305) Intro. to American Government		
Psci 102 (Govt 2306) State & Local Government		
Psci 300 Intro. to Political Theory* OR		
Psci 305 Intro. to Political Ideologies		
Psci 426 Civil Rights/Civil Liberties OR		
Psci 427 Public Law Federal & State		
12 sch from:		
Psci 320 Intro. to Constitutional Law		
Psci 331 Intro. to Public Admin. & Leadership		
Psci 340 Intro. to Comparative Politics		
Psci 341 European Politics		
Psci 350 Intro. to International Relations		
Psci 410 American Political Theory		
Psci 428 Intergovernmental Politics		
Psci 460 Political Parties & Elections		
Psci 445 Public Opinion		
Psci 455 Political Behavior		
Psci 460 Political Parties & Elections		
Psci 464 Congress		
Psci 465 The Executive		
Psci 490 Internship		
12sh UD Psci Electives		
<i>*Courses pending approval</i>		
<b>Minor (minimum 18sh):</b>		
<b>Other Requirements:</b>		
IS 395 Living in the 21st Century		
<b>Minimum Total:</b>	<b>120</b>	

NAME:

SSN:

GENERAL EDUCATION (Core Curr)		HOURS EARNED REQD		Early Childhood - Grade 6		HOURS EARNED REQD	
<b>English</b>				<b>Art 369 Principles &amp; Elements of Fine Arts</b>			
Engl 1301 Comp & Rhet I			3	Eng 305 Children's Literature I			3
Engl 1302 Comp & Rhet II			3	Eng 340 Advanced Expository Writing			3
3 sh Literature			3	Hist 460 Texas Culture			3
<b>History</b>				Math 1350 Fundamentals of Math I			
Hist 1301 U.S. Pre Civ War			3	Math 1351 FOM II			3
Hist 1302 U.S. Post Civ War			3	<b>Math 351 Concepts of Geometry</b>			3
<b>Government/Political Science</b>				<b>RDG 350 Emergent Literacy Development</b>			
Govt 2305 American Govt			3	<b>RDG 352 Literacy Dev. for Upper Grades</b>			3
Govt 2306 State & Federal Govt			3	<b>RDG 354 Assessment Driven Instruction</b>			3
<b>Sciences</b>				<b>SPED410 Char of Diverse Learners</b>			
8 SCH from the following			8	<b>SPED 417 Assessment for Student Achievement</b>			3
Biol 1404, Biol 1405,							
BIOL 1406, BIOL 1407,							
BIOL 1408, BIOL 1409,							
BIOL 2406, BIOL 2407							
<b>Social Science</b>				<b>PROFESSIONAL DEVELOPMENT</b>			
Geog 1303 World Regional Geography			3	<b>(THEA or TASP must be passed before taking Ed Classes)</b>			
<b>Math</b>				<b>ED 321 Foundations of Education</b>			
Math 1314 College Algebra			3	<b>ED 331 Classroom Management &amp; Law</b>			3
<b>Humanities</b>				Field-Based Semester:			
3 sh Music, Art or Drama Appreciation			3	<b>Ed 486 Strategies in EC-6 Math, Physical Education &amp; Scier</b>			3
<b>6 sh from:</b>				<b>Ed 487 Strategies in EC-6 Social Studies, Lang Arts &amp; Fine</b>			3
Bcis 1301, 1305, or ITED 350			3	Resident Teaching Semester:			
Spch 1315 or 1321			3				
<b>Field of Study Lower Division Curriculum</b>				<b>ED 494 Resident Teaching II</b>			3
EDUC 1301 Introduction to Teaching			3	<b>BE491 Resident Teaching Bilingual</b>			3
EDUC 2301 Intro. To Special Populations			3	<b>OTHER REQUIREMENTS:</b>			
<b>ADDITIONAL REQUIREMENTS</b>				<b>PSYC 2308 Child Development</b>			3
First Year Experience			1	PHYS 1415 Physical Science			4
SLDP Leadership			3	BE400 Foundation of Bilingual Ed			3
<b>Total Core</b>			<b>54</b>	BE472 Bilingual & Dual Language Methodologies			3
				BE474 Biliteracy for Dual and Bilingual Classrooms			3
				BE420 Bilingual Target Language Proficiency			3
				BE476 Content Area Instruction for Bilingual Prog			3
				<b>Total for Degree Plan</b>			<b>130</b>

**TEACHER EDUCATION PROGRAM ADMISSION REQUIREMENTS:**

1. Pass all three parts of the THEA or TASP. **Reading 240 - Math 230 - Writing 220**
2. Attend the Teacher Prep Orientation during first semester of enrollment.
3. Achieve cumulative 2.60 GPA
4. Meet with faculty advisor during first semester of enrollment.
5. If Combined Track OR Aide Exempt Status, student may be required to take addl. hours to meet req.
6. Science requirements stipulate a total of 12 SCH in Science (may be 3-4 hour courses or 4-3 hour courses)

**This form is not a degree plan, it is for informational purposes only.**

Note: Bachelor's degree graduation requirements include these minimums: 60 SCH transfer credit, 54 SCH upper-division credit, and 30 SCH resident credit.

Texas A&M University-Texarkana

COURSE CHANGES

-Please attach syllabus-

Effective Term: Spring 2010

College: College of Business

Current Information:

Course Prefix and Number: Gbus 430

Course Title: The Culture of Mexico

Current Course Delivery Method(s): (Check all that apply)

- Face to Face
- Web Enhanced Course
- Web Based Course
- Interactive Video
- Shortened Format

Grade Type:  Letter  S/U

SCH Value: Lecture: 3 Lab: \_\_\_\_\_

Nature of Change: (Check all that apply)

Course Title Change (for 497/597 classes, this will be the name of the new course being offered:

Course Description:

Student Learner Outcomes:

Course Content:

16 contact hours, web-based content, online quizzes, and classes writing assignments were added.

Course Requirements & Evaluation:

Add Course Delivery Method:

- Face to Face
- Web Based Course
- Web Enhanced Course
- Interactive Video
- Shortened Format

Grade Type:  Letter  S/U

SCH Value: Lecture: \_\_\_\_\_ Lab: \_\_\_\_\_

Cross Listed with another course

**Attach Syllabus and Provide:**

Course Prefix:

Course Number:

Course Title:

Justification:

Submitted by RG Bunch Date 10/5/09

Approved by:

Dean of College: RG Bunch Date: 10/5/09  
(Signifies Faculty Approval)

Curriculum Committee or  
Graduate Council Chairman: \_\_\_\_\_ Date: \_\_\_\_\_

Vice President for Academic Affairs: \_\_\_\_\_ Date: \_\_\_\_\_

Registrar: \_\_\_\_\_ Date: \_\_\_\_\_

**Texas A&M University-Texarkana**  
**The Culture of Mexico**  
**GBUS 430**  
**Syllabus Spring 2010**

**Professor:** Edward Bashaw, Ph. D. and Dean of the College of Business  
**Office:** College of Business Office  
**Phone:** 903-223-3021  
Email Ed.Bashaw@tamut.edu

**Office Hours:** **Course Number GBUS 430**  
**Course Title** The Culture of Mexico

**Catalog Desc.** This course provides an interdisciplinary business background for understanding the growing commercial and economic interdependence between nations and the definitive cultural differences as specifically applicable to the neighbor to the south – The Republic of Mexico.

**Required Textbooks/Resources:** Selected readings as assigned.

**Course objectives:**

By the end of the course, the student should be able to:

- 1) Be better able to understand the Mexican culture
- 2) Be able to identify the differences in the Mexican culture and the U S.
- 3) Developing an understanding of how cultures develop
- 4) Understand the impact on the United States of the Mexican migration situation
- 5) Learn to respect other cultures and their origins
- 6) Gain an understanding of the impact of the U S culture on the Mexican.
- 7) Appreciate the motives of those fleeing Mexico for a better life.

**Course outline:**

The course is comprised of a number of learning units that are designed to develop an understanding of the culture of the United State's closest and most populous neighbor and trading partner. Mexico, as our neighbor to the south is populated by over 100 million people. Their culture is different, their economy is very small in comparison to the U S and its future importance to the economy and culture of the United States is very great. This course will attempt to provide the student with some of the major aspects of the country that are important to an understanding of this country.

The course is oriented towards individual research of various aspects of the Mexico culture .. It is web enhanced to provide an array of learning experiences for the student.

Central to the learning experience is a trip to Mexico to view first hand important elements and functions of the country and to view their outlook on many of the problems that plague both the U S and Mexico. On this trip students will encounter businesses, managers, citizens and other aspects that will contribute to their learning experience.

There will be four meetings of the class. Orientation, instructions for the class and lectures will be conducted in the first three. The final meeting will occur after return from Mexico where students will present their work and experiences and synthesize what they have learned and experienced. The teaching process will be supported by web enhancement. Research will be

specified, quizzes administered and discussion topics covered.

## **Class agenda**

### **First class Oct 31.**

#### **Student assignment (web)**

The professor will lecture on some of the history of Mexican. The students will visit the pyramids north of Mexico on the trip. Additionally, an outstanding Museum of Anthropology will provide a definition of the pre-Spanish period in Mexico's history. Notes should be taken for discussion in the final class after return.

#### **Unit 1**

Read the material in this web site. It is a collection of scholarly articles that are designed to give the foreigner an insight into Mexico and Mexicans. (copy and paste)

[http://scholar.google.com/scholar?q=mexican+culture&hl=en&rls=com.microsoft:en-us:IE-SearchBox&rlz=1I7GGLL\\_en&um=1&ie=UTF-8&oi=scholar](http://scholar.google.com/scholar?q=mexican+culture&hl=en&rls=com.microsoft:en-us:IE-SearchBox&rlz=1I7GGLL_en&um=1&ie=UTF-8&oi=scholar).

This is a rich resource for the topic you are studying. Your assignment is to write a one-half page summary of ten articles of your choice. This paper will be due at the second class meeting as described below. You must be prepared to review at least two articles for the class at the second meeting.

**Unit 2** The film "Cortez" will be shown

**Web discussion topic:** In your experience at this point, what impressions do you have of Mexico, its people and economy?

In the second session you will present your paper to the class.

**Web discussion topic...**Identify the differences in the culture of Mexico and the U S.

### **Second Class meeting November 7**

Topics

Lecture on the economic aspects of Mexico and how the economy affects its culture.

You are required to do a 2 page paper of the demographic aspects of Mexico

**Assignment:** Summarize the work in a two (2) page paper. Present your findings in class at the next class meeting.

**Web discussion topic:** How is the illegal alien problem viewed by Mexico?

### **Third Class meeting November 14**

Topics

#### **Unit 3**

The social problems in Mexico and its effect on the U.S.

**Activity:** Study/search Web links on these subjects

**Assignment:** Write a two page paper on your findings and be prepared to discuss them in class.

**Unit 5** The border problem.

**Activity:** Research the problem of illegal aliens and drug problems along the Mexico border with the United States.

**Assignment:** Discuss this problem and proposed solutions in class. Interview Mexican citizens and report your findings in a two page paper due at the last meeting of the class.

**Web discussion topic:** What is the greatest problem between Mexico and its neighbors.

#### **Fourth Class (Final) meeting February 6, 2010**

This class time will be used to permit synthesizing discussions on the trip.

Teams will be assigned to discuss specific learning experiences and what the student gained from them in light of the objectives of the course. The topics that will be chosen will be selected immediately on return from Mexico, along with the team member's names who will participate in that discussion. You may choose with whom you are teamed for these presentation. Discussions must be relevant, speak to the subject and be presented in a cohesive and professional manner.

**Attendance:** In order for the student to gain the most from this learning experience, it is imperative that all assignments be completed and all scheduled orientations/lectures be attended and that all events on the trip be attended. A student who misses any of the activities scheduled in Mexico will have his/her final course grade reduced by ten percent for each activity missed. Extreme situations (e.g., illness) will be considered.

#### **IX. Means of Evaluation:**

1. Participation in all planned activities in Mexico.
2. Quizzes
3. Completion of assigned papers.
4. Participate in Web discussion topics.

#### **Grading Scale:**

1. Attendance and participation in all activities planned in Mexico: 50 percent.
2. Quizzes and participation in class and Web discussions: 25 percent.
3. Written paper assignments: 25 percent.

#### **Grading scale**

90-100 = A

80-89 =B

70-79= C

60-69= D

< 60 failure

Texas A&M University-Texarkana

COURSE CHANGES

-Please attach syllabus-

Effective Term: Spring 2010

College: College of Business

Current Information:

Course Prefix and Number: Gbus 435

Course Title: The Economy of Mexico

Current Course Delivery Method(s): (Check all that apply)

- Face to Face
- Web Enhanced Course
- Web Based Course
- Interactive Video
- Shortened Format

Grade Type:  Letter  S/U

SCH Value: Lecture: 3 Lab: \_\_\_\_\_

Nature of Change: (Check all that apply)

Course Title Change (for 497/597 classes, this will be the name of the new course being offered:

Course Description:

Student Learner Outcomes:

Course Content:

16 contact hours, web-based content, online quizzes, and classes writing assignments were added.

Course Requirements & Evaluation:

Add Course Delivery Method:

- Face to Face
- Web Based Course
- Web Enhanced Course
- Interactive Video
- Shortened Format

Grade Type:  Letter  S/U

SCH Value: Lecture: \_\_\_\_\_ Lab: \_\_\_\_\_

Cross Listed with another course

**Attach Syllabus and Provide:**

Course Prefix:

Course Number:

Course Title:

Justification:

Submitted by RG Barber Date 10/5/09

Approved by:

Dean of College: RG Barber Date: 10/5/09  
(Signifies Faculty Approval)

Curriculum Committee or  
Graduate Council Chairman: \_\_\_\_\_ Date: \_\_\_\_\_

Vice President for Academic Affairs: \_\_\_\_\_ Date: \_\_\_\_\_

Registrar: \_\_\_\_\_ Date: \_\_\_\_\_

**Texas A&M University-Texarkana**  
**The Economy of Mexico**  
**GBUS 435**  
**Syllabus Spring 2010**

**Professor:** Ken Howard, Ph. D., Professor  
**Office:** None  
**Phone:** Home phone (903)-667-3802. Email address:  
[Ken.Howard@tamut.edu](mailto:Ken.Howard@tamut.edu)  
Students are encouraged to call the professor at home.

**Office Hours:** **Course Number GBUS 435**

**Course Title** The Economy of Mexico

**Catalog Desc.** This course provides an interdisciplinary business background for understanding the growing commercial and economic interdependence between nations as specifically applicable to the neighbor to the south – The Republic of Mexico.

**Required Textbooks/Resources:** Selected readings as assigned.

**Course objectives:**

By the end of the course, the student should be able to:

- 1) Define and describe balance-of-trade (and payments) issues and the World Trade Organization.
- 2) Define and describe protectionism and trade barriers.
- 3) Identify issues in the political environment for foreign investments.
- 4) Describe the impact of emerging markets and economic changes on international trade.
- 5) Describe the impact of export/import trade on the international business environment.
- 6) Identify pertinent issues in the international legal environment.
- 7) Identify emerging markets and current political changes on the international environment.

**Course outline:**

The course is comprised of a number of learning units that are designed to develop an understanding of the economy of the United State's closest and most populous neighbor and trading partner. Mexico, as our neighbor to the south is populated by over 100 million people. Their culture is different, their economy is very small in comparison to the U S and its future importance to the economy and culture of the United States is very great. This course will attempt to provide the student with some of the major aspects of the country that are important to an understanding of this country.

The course is oriented towards individual research of various aspects of the Mexico economy and international trade in general. It is web enhanced to provide an array of learning experiences for the student.

Central to the learning experience is a trip to Mexico to view first hand important elements and functions of the country and to view their outlook on many of the problems that plague both the U S and Mexico. On this trip students will encounter businesses, managers, and general societal aspects that will contribute to their learning experience.

There will be four meetings of the class. Orientation, instructions for the class and lectures will be conducted in the first three. The final meeting will occur after return from Mexico where students will present their work and experiences and synthesize what they have learned and experienced. The teaching process will be supported by web enhancement. Research will be specified, quizzes administered and discussion topics covered.

## **Class agenda**

### **First class Oct 31.**

#### **Student assignment (web)**

Read the material in this URL <http://www.sjsu.edu/faculty/watkins/mexico.htm>. Make sure you are conversant in all the topics presented there.

#### **Unit 1** Export/Import trade with Mexico

**Activity:** Complete an internet search on imports and exports of Mexico with all their trading partners.

**Assignment:** Write a two page paper presenting Mexico's export-import operations.

**Film:** "Doing Business in Mexico"

**Film:** "Your cultural passport"

**Lecture:** Economic history of Mexico – Dr. Howard

Take a quiz on the subject on the web during the pre-trip class...

#### **Unit 2** The importance and effect of FDI transactions with Mexico including the countries, areas of expenditures and effects. Be ready to discuss this at the second meeting.

**Web discussion topic:** In your experience at this point, what impressions do you have of Mexico, its people and economy?

In the second session you will present your paper to the class.

**Web discussion topic...**Identify the differences in the culture of Mexico and the U S.

### **Second Class meeting November 7**

Topics

Lecture on

- 1) Direct Investments and Foreign Investments.
- 2) Mexican trade agreements.
- 3) The scope of international business transactions with Mexico.
- 4) Types of goods exchanged in international trade with Mexico.

**Activity:** Review the two (2) PowerPoint presentations on the web and be ready to discuss in class the international trade problems that Mexico faces.

Read the following accounts of NAFTA:

[www.fas.usda.gov/itp/policy/nafta/nafta.html](http://www.fas.usda.gov/itp/policy/nafta/nafta.html)

[www.fas.usda.gov/info/factsheets/NAFTA.asp](http://www.fas.usda.gov/info/factsheets/NAFTA.asp)

[www.ustr.gov/.../north-american-free-trade-agreement-nafta](http://www.ustr.gov/.../north-american-free-trade-agreement-nafta)

**Assignment:** Summarize the work in a two (2) page paper. Present your findings in class at the next class meeting.

**Web discussion topic:** Has NAFTA (The North American Trade Agreement) helped or hurt the three economies in the pact?

**Web assignment:**

View the following power points on the web:  
Globalization  
Foreign Direct Investment

### **Third Class meeting November 14**

Topics

**Unit 3** The problems in political and commercial relations with Mexico.

The international legal environment as related to Mexico.

The social problems in Mexico and its effect on the U.S.

**Activity:** Study/search Web links on these subjects

**Assignment:** Write a 3 page paper on differences between the U.S. and Mexico systems as discussed in assigned Web articles.

**View:** Power points: 1) Sociocultural Forces  
2) Economic and Sociocultural Forces.

**Unit 4** The balance-of-trade (and payments), protectionism, trade barriers, trade agreements, NAFTA and the World Trade Organization with Mexico.

**View:** Powerpoint on Balance of Payments.

**Unit 5** The border problem.

**Activity:** Research the problem of illegal aliens and drug problems along the Mexico border with the United States.

**Assignment:** Discuss this problem and proposed solutions in class. Interview Mexican citizens and report your findings in a two page paper due at the last meeting of the class.

**Web discussion topic:** What is the greatest problem between Mexico and its neighbors.

### **Fourth Class (Final) meeting February 6, 2010**

This class time will be used to permit synthesizing discussions on the trip.

Teams will be assigned to discuss specific learning experiences and what the student gained from them in light of the objectives of the course. The topics that will be chosen will be selected immediately on return from Mexico, along with the team member's names who will participate in that discussion. Discussions must be relevant, speak to the subject and be presented in a cohesive manner.

**Attendance:** In order for the student to gain the most from this learning experience, it is imperative that all assignments be completed and all scheduled orientations/lectures be attended and that all events on the trip be attended. A student who misses any of the activities scheduled in Mexico will have his/her final course grade reduced by ten percent for each activity missed. Extreme situations (e.g., illness) will be considered.

### **IX. Means of Evaluation:**

1. Participation in all planned activities in Mexico.
2. Quizzes
3. Completion of assigned papers.

4. Participate in Web discussion topics.

**Grading Scale:**

1. Attendance and participation in all activities planned in Mexico: 50 percent.
2. Quizzes and participation in class and Web discussions: 25 percent.
3. Written paper assignments: 25 percent.

**Grading scale**

90-100 = A

80-89 =B

70-79= C

60-69= D

< 60 failure

Texas A&M University-Texarkana

COURSE CHANGES

-Please attach syllabus-

Effective Term: Spring 2010

College: College of Science Technology Engineering & Math

Current Information:

Course Prefix and Number: See Attachment (Change of Prefix from BSC to BIOL)

Course Title: See Attachment

Current Course Delivery Method(s): (Check all that apply)

- Face to Face
- Web Enhanced Course
- Web Based Course
- Interactive Video
- Shortened Format

Grade Type:  Letter  S/U

SCH Value: Lecture: \_\_\_\_\_ Lab: \_\_\_\_\_

Nature of Change: (Check all that apply)

Course Title Change (for 497/597 classes, this will be the name of the new course being offered:

Course Description:

Student Learner Outcomes:

Course Content:

Course Requirements & Evaluation:

Add Course Delivery Method:

- Face to Face
- Web Based Course
- Web Enhanced Course
- Interactive Video
- Shortened Format

Grade Type:  Letter  S/U

SCH Value: Lecture: \_\_\_\_\_ Lab: \_\_\_\_\_

Cross Listed with another course

**Attach Syllabus and Provide:**

Course Prefix:

Course Number:

Course Title:

Justification:

Submitted by \_\_\_\_\_ Date \_\_\_\_\_

Approved by:

Dean of College: \_\_\_\_\_ Date: \_\_\_\_\_  
(Signifies Faculty Approval)

Curriculum Committee or  
Graduate Council Chairman: \_\_\_\_\_ Date: \_\_\_\_\_

Vice President for Academic Affairs: \_\_\_\_\_ Date: \_\_\_\_\_

Registrar: \_\_\_\_\_ Date: \_\_\_\_\_

## Biology/Chemistry Course Descriptions Undergraduate & Graduate

### Undergraduate

#### **Biological Science (BSC)**

- 307. General Ecology.** (2-2). The principles of ecology, with special reference to populations and their ecosystems, distribution, biotic communities and environmental relationships. Field trips required. Prerequisite: Two semesters of biology.
- 308. Invertebrate Zoology.** (2-2). Explore the diversity of invertebrate types, morphologically, embryologically, and physiologically. The ecological role of invertebrates will be emphasized. Prerequisite: Two semesters of biology.
- 310. Genetics.** (2-2). Principles of heredity and variation and their application to plants, lower animals and man. Prerequisite: Two semesters of biology.
- 402. Cell Biology.** (2-2). A study of the morphology and physiology of the cell and cell organelles, including basic facts, concepts and problems in modern biology. Prerequisite: Two semesters of biology.
- 403. Environmental Physiology.** The purpose of this course is to familiarize the student with environmental, or ecological, physiology in organisms. This discipline is principally concerned with how animals are physiologically adapted to the environment in which they live. In this course, we will be concerned mainly with animals, although some plant examples will be included as well. Another objective of this course is to enable the student to apply knowledge about physiology and adaptation to identifying appropriate questions for research and correctly interpreting data. The general procedure we will use to accomplish these objectives is to introduce the physiological problems that animals must deal with and then discuss the solutions to those problems that have evolved in different animals. This course is strongly recommended for pre-professional students and biology majors. Prerequisite: two freshmen level biology course for biology majors and one freshman level chemistry course for biology majors
- 405. Vertebrate Field Biology.** (6 SCH) (4-4). The study of basic field methods involved in the study of vertebrates and their populations, especially those of the Ark-La-Tex region. Prerequisite: Two semesters of biology. Offered Summer I each year.
- 406. Wildlife Ecology & Management.** (2-2). Wildlife ecology, conservation biology, population biology and enhancement of wildlife populations through management. Emphasis on both game and non-game species, as well as management options that include human/wildlife interactions, habitat and wildlife populations. Prerequisite: BSC 307 and Junior standing. BSC 407 is recommended but not required.
- 407. Research and Management Techniques for Wildlife and Habitats.** (1-4). Instruction in current wildlife techniques including habitat evaluation and manipulation, estimation of animal abundance, capture and marking, aging, radiotelemetry, necropsy and condition assessment. Prerequisite: BSC 307 and Junior standing. BSC 406 is recommended but not required.

408. **Landscape Ecology and Geographic Information Systems.** (2-2). Landscape ecology, a relatively new field within modern ecology, emphasizes large areas and the ecological effects of spatial pattern on ecosystems. Students learn to use geographic information systems and global positioning systems to solve modern problems in landscape ecology. Lectures, laboratories, and special assignments will convey important concepts and facts in landscape ecology and the operations of GIS. Prerequisite: BSC 307.
410. **Biochemistry I.** (2-2). Biochemistry 410 is the first semester of a one-year course. The first semester covers the structure, function, and metabolism of amino acids and proteins and simple and complex carbohydrates. Emphasis will be on understanding biochemistry from a biological point of view and on providing information on how biochemical events are regulated in living tissues. Prerequisite: General Chemistry I and II and Organic Chemistry I and II. (Cross-listed with CHEM 410.)
411. **Biochemistry II.** (2-2). Biochemistry 411 is the second semester of a one-year course. The second semester covers the structure, function, and metabolism of lipids and nucleic acids. Emphasis will be on understanding biochemistry from a biological point of view and on providing information on how biochemical events are regulated in living tissues. Prerequisite: General Chemistry I and II, Organic Chemistry I and II, and Biochemistry I (BSC 410). (Cross-listed with CHEM 411.)
437. **Herpetology.** (2-2). A survey of the vertebrate Classes Amphibia and Reptilia, including frogs and toads, caecilians, salamanders, turtles, lizards, amphihaenians, snakes, rhyngocephalans, and crocodilians. The study of classical taxonomy, ecology, natural history, and diversity as well as amphibian and reptilian adaptations associated with nutrition, locomotion, behavior, thermoregulation, and reproduction. The course will focus on the evolution of amphibian and reptilian lineages and the evolutionary ecology of the major groups. Emphasis will be on those species found in the southwestern United States (particularly the ARK-LA-TEX region). Prerequisite: Two semesters of biology.
440. **Vertebrate Biology.** The purpose of this course is to familiarize the student with general taxonomy, biology and ecology of vertebrates. Prerequisite: First semester biology course.
449. **Vertebrate Histology.** (2-2). The study of the cell and fundamental tissue types to include the microscopic structure of the organ systems of representative vertebrates. Emphasis will be on the relationship between microscopic structure and function. Prerequisite: Two semesters of biology, Anatomy and Physiology.
450. **Limnology.** (2-2). Study of the biological, chemical, and physical characteristics of the freshwater environment. Prerequisite: Two semesters of biology.
464. **Independent Research.** Research in biology conducted under faculty guidance. Prerequisite: Two semesters of biology and approval of Science Program Director. Offered every semester.
466. **Evolutionary Biology.** (2-2). Basic principles, mechanisms, and patterns of evolutionary biology including a historical survey of related ideas. Prerequisite: Two semesters of biology.
472. **Introduction to Forensic Science.** (2-2). The study of basic concepts, techniques, practices, and procedures of criminalistics, including the most current technologies in forensic analysis. Criminal investigation of actual cases will be discussed with a minimum of scientific terminology. In addition, the nature of physical evidence will be emphasized, including the use of DNA profiling. Strongly recommended for Criminal Justice majors and Pre-Allied Health track students in Biology. Prerequisite: Junior or Senior standing. (Cross-listed with CJ 472 and Chem 472.)
481. **Seminar in Biology.** (1 SCH). Student participation in general and specific topics in biology. May be repeated in a different topic. Usually taken during last semester or last year. Prerequisite: Two semesters of biology.
490. **Introduction to Biotechnology.** This course will explore the principles and applications of DNA science with special reference to recombinant DNA technology. Prerequisite: Two semester of Biology. Cross- listed with CHEM 490.
489. **Independent Study.** Individual instruction. May be repeated when topics vary. Prerequisite: Two semesters of biology and approval of Science Program Director.

#### Chemistry (CHEM)

405. **Environmental Chemistry.** (2-2). This course will explore the nature of soil, air, water, and the impact of man on these systems. Included will be studies of local industries and municipalities with respect to their environmental monitoring and assessment programs. The laboratory will involve basic water, air, and soil sampling, and analytical techniques. Prerequisite: Two semesters of science including Chemistry.

410. **Biochemistry I. (2-2).** Biochemistry 410 is the first semester of a one-year course. The first semester covers the structure, function, and metabolism of amino acids and proteins and simple and complex carbohydrates. Emphasis will be on understanding biochemistry from a biological point of view and on providing information on how biochemical events are regulated in living tissues. Prerequisite: General Chemistry I and II and Organic Chemistry I and II. (Cross-listed with BSC 410.)
411. **Biochemistry II. (2-2).** Biochemistry 411 is the second semester of a one-year course. The second semester covers the structure, function, and metabolism of lipids and nucleic acids. Emphasis will be on understanding biochemistry from a biological point of view and on providing information on how biochemical events are regulated in living tissues. Prerequisite: General Chemistry I and II, Organic Chemistry I and II, and Biochemistry I (BSC 410). (Cross-listed with BSC 411.)
472. **Introduction for Forensic Science. (2-2).** The study of basic concepts, techniques, practices, and procedures of criminalistics, including the most current technologies in forensic analysis. Criminal investigation of actual cases will be discussed with a minimum of scientific terminology. In addition, the nature of physical evidence will be emphasized, including the use of DNA profiling. Strongly recommended for Criminal Justice majors and Pre-Allied Health track students in Biology. Prerequisite: Junior or Senior standing. (Cross-listed with BSC and CJ 472.)
489. **Independent Study.** Individual instruction. May be repeated when topics vary.
490. **Introduction to Biotechnology.** This course will explore the principles and applications of DNA science with special reference to recombinant DNA technology. Prerequisite: Two semester of Biology. Cross-listed with BSC 490..

## Graduate

### **Biological Science (BSC)**

510. **Contemporary Issues in Biology I.** This course will focus on important contemporary topics in biological science. These topics will include such issues as DNA and the Human Genome Project Human Development and Stem Cells, Genetic Disorders and Gene Therapy.
511. **Contemporary Issues in Biology II.** This course will focus on important contemporary topics in biological science. These topics will include such issues as Global Warming, HIV infection and AIDS, Origin and Evolution of Life and Acid Rain.
515. **Darwin and the Origin of Species.** This course will focus on Darwin's hypotheses and compare his ideas with modern developments in the study of biological evolution.
589. **Independent Study.** Individual instruction. May be repeated when topics vary.
597. **Special Topics.** Organized class. May be repeated when topics vary. Special courses designed to cover areas of specific interest.

Texas A&M University-Texarkana

COURSE CHANGES

-Please attach syllabus-

Effective Term: Spring 2010

College: College of Science Technology Engineering & Math

Current Information:

Course Prefix and Number: EE470

Course Title: Digital Design using VHDL

Current Course Delivery Method(s): (Check all that apply)

- Face to Face
- Web Enhanced Course
- Web Based Course
- Interactive Video
- Shortened Format

Grade Type:  Letter  S/U

SCH Value: Lecture: 3 hours Lab: \_\_\_\_\_

Nature of Change: (Check all that apply)

Course Title Change (for 497/597 classes, this will be the name of the new course being offered:

Course Description:

This course instructs the students in the use of VHDL ((Very High Speed Integrated Circuit Hardware Description Language) for describing the behavior of digital systems. It will also teach students the use of the VHDL language for representation of digital signals, use of IEEE standard logic package/library, design of arithmetic, combinational, and synchronous sequential circuits. Prerequisite: EE321(Digital Logic) or CS320 (Digital Logic)

Student Learner Outcomes:

Course Content:

Course Requirements & Evaluation:

Add Course Delivery Method:

- Face to Face
- Web Based Course
- Web Enhanced Course
- Interactive Video
- Shortened Format

Grade Type:  Letter  S/U  
 SCH Value: Lecture: \_\_\_\_\_ Lab: \_\_\_\_\_

Cross Listed with another course

**Attach Syllabus and Provide:**

Course Prefix:

Course Number:

Course Title:

Justification:

Submitted by \_\_\_\_\_ Date \_\_\_\_\_

Approved by:

Dean of College: \_\_\_\_\_ Date: \_\_\_\_\_  
(Signifies Faculty Approval)

Curriculum Committee or  
Graduate Council Chairman: \_\_\_\_\_ Date: \_\_\_\_\_

Vice President for Academic Affairs: \_\_\_\_\_ Date: \_\_\_\_\_

Registrar: \_\_\_\_\_ Date: \_\_\_\_\_

Texas A&M University-Texarkana  
COURSE INVENTORY ADD/REINSTATE

Effective Term: Spring 2010

**Note:** Deadline for submitting this form for changes to be included in the next catalog is February 15th.

College: College of Science Technology Engineering & Math

Check one:            Add new course            Reinstate course

Course Prefix and Number: EE320

Course Title: Circuit Laboratory

SCH Value: 1 Credit Hour Lab

If this course has a lab please indicate:   Lecture hours:    Lab hours:

Please check if Cross Listed with another course

**Attach Cross Listed Course Syllabus and Provide:**

Course Prefix:

Course Number:

Course Title:

Please check all that apply:

Grade Type:            Letter            S/U

Multiple Topic:        Yes            No

Course Delivery Method:  Face to Face    Web Based    Web Enhanced    Interactive Video

Course Type:            Required Course            Elective

Course Level:            Undergraduate    Graduate

**Note:** For graduate credit, please explain how this course is progressively more advanced in academic content than an undergraduate course and how it fosters independent learning enabling the graduate to contribute to a profession or field of study.

Graduate credit rationale:

Course Description:

This laboratory course consists of multiple projects that the students will complete based upon the concepts learned in EE220 (Introduction to Circuits) class.

Prerequisites:

EE 220 Introduction to Circuits

Justification:

This is a required EE course offered to increase the students' depth of understanding of circuit design and implementation.

Submitted by \_\_\_\_\_ Date \_\_\_\_\_

Approved by:

Dean of College: \_\_\_\_\_ Date: \_\_\_\_\_  
(Signifies Faculty Approval)

Curriculum Committee or  
Graduate Council Chairman: \_\_\_\_\_ Date: \_\_\_\_\_

Vice President for Academic Affairs: \_\_\_\_\_ Date: \_\_\_\_\_

Registrar: \_\_\_\_\_ Date: \_\_\_\_\_

## Course Syllabus Template

*Effective Date: (Spring 2010)*

- I. **Course Number:** EE 320
- II. **Course Title:** CIRCUIT LABORATORY
- III. **Semester Credit Hours:** 1 Credit Hour Lab
- IV. **Course Description:** This laboratory course consists of multiple projects that the students will complete based upon the concepts learned in EE220 (Introduction to Circuits) class. The overall aim of the course is to increase the students' depth of understanding of circuit design and implementation. The only prerequisite is EE 220 (Introduction to Circuits).
- V. **Required Textbooks/Resources:** Electric Circuits, 8<sup>th</sup> Edition, Nilsson and Riedel, Prentice Hall, 2008, ISBN 0-13-198925-1
- VI. **Student Learner Outcomes:**
  - (i) Understand the operation of basic analog circuits
  - (ii) Ability to design and verify the correct operation of analog circuits
  - (iii) Have critical troubleshooting skills
  - (iv) Learn how to cooperate in teams
  - (v) Ability to communicate the work done by writing technical lab report
- VII. **Course Outline:** This course provides hands on experience with mainstream circuit technology. This shall be accomplished with a set of laboratory experiments that introduce increasingly more complex circuits and techniques. Successful completion of each lab assignment shall:
  - Require a written report detailing the design solution(s).
  - Require the construction of one or more circuits.
  - Require a demonstration that the constructed circuits work properly.
- VIII. **Course Requirements:**
  - Attendance at the laboratory periods is mandatory.

Unless specifically stated to the contrary, each student will document each lab exercise with a laboratory report. The report should include the following items: i) a brief description of the work performed for that lab period, ii) a brief description of the student's design approach and the implementation of the circuit with a schematic diagram (if applicable for the particular exercise), iii) a description of any problems encountered, recommendations for changes, or improvements to the lab exercise, iv) each lab report must be typeset and submitted in hardcopy one week after the experiment is done.

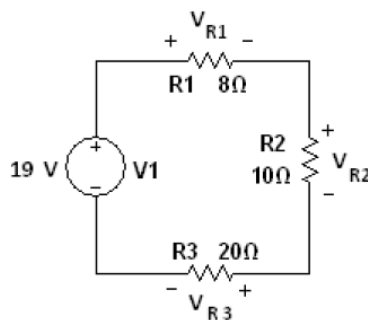
**IX. Methods of Evaluation:** Correct execution of lab. assignments: 60 pts  
Laboratory Reports : 40 pts

**X. Grading Scale:** A (100-90), B (89-80), C (79-70), D (69-60), F (59-0)

**XI. Faculty Office Location and Contact Policy:** Office 104F -student contact the instructor during office hours posted at the beginning of the semester

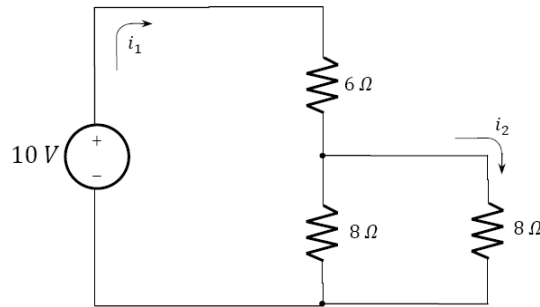
**XII. Complete Laboratory Schedule:**

1. Build the circuit illustrated in the figure below using a protoboard. Next verify the Ohm's law at the edges of the three resistances  $R_1$ ,  $R_2$  and  $R_3$ .



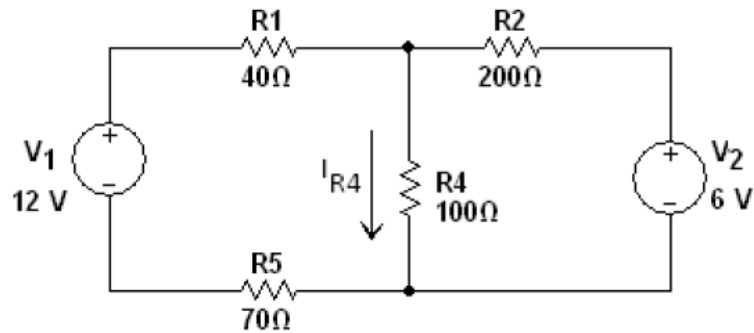
(3 weeks)

2. Build the circuit illustrated in the figure below using a protoboard. Next verify the Ohm's law at the edges of the three resistances. Finally, verify the Kirchhoff's laws in the two closed paths.



(3 weeks)

3. Build the circuit illustrated in the figure below using a protoboard. Next verify the superposition principle by evaluating the current through  $R_4$  when only one voltage source at the time is on.

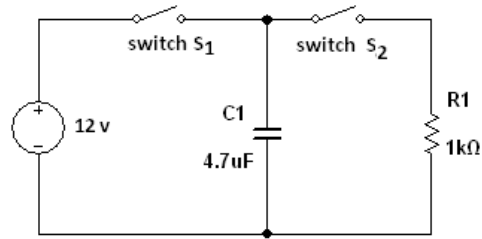


(3 weeks)

4. Verify the principle of “charge-discharge” of the capacitor inserted in the circuit below using the two following steps:

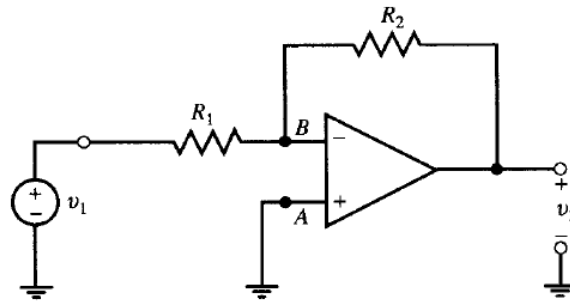
4.1 Switch  $S_1$  open, Switch  $S_2$  closed; measure the voltage at the edge of  $C_1$

4.2 Switch  $S_2$  open, Switch  $S_1$  closed; measure the voltage at the edge of  $C_1$  after 5s.



(3 weeks)

5. Design the circuit below on a protoboard and verify the basic laws of the operational amplifier (OPAMP). Measure the value of the voltage  $v_2$  and verify the inverting behavior of the given OPAMP.



(3 weeks)

### XIII. Student Participation:

- a. **Participation Policy:** Students are expected to attend the labs.

### XIV. ABET Outcomes

- a. This course supports the following program outcomes as required by ABET
  - b. a. An ability to apply knowledge of mathematics, science, and engineering
  - b. An ability to design and conduct experiments, as well as to analyze and interpret data

- d. c. An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- e. d. An ability to function on multi-disciplinary teams.
- f. k. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

**XV. Disability Accommodations:** Students with disabilities may request reasonable accommodations through the A&M-Texarkana Disability Services Office by calling 903-223-3062.

**XVI. Academic Integrity:** Academic honesty is expected of students enrolled in this course. Cheating on examinations, unauthorized collaboration, falsification of research data, plagiarism, and undocumented use of materials from any source constitute academic dishonesty and may be grounds for a grade of 'F' in the course and/or disciplinary actions. For additional information, see the university catalog.

Texas A&M University-Texarkana  
COURSE INVENTORY ADD/REINSTATE

Effective Term: Fall 2010

**Note:** Deadline for submitting this form for changes to be included in the next catalog is February 15th.

College: College of Science Technology Engineering & Math

Check one:            Add new course            Reinstate course

Course Prefix and Number: EE465

Course Title: VLSI Design

SCH Value: 3 hour

If this course has a lab please indicate:   Lecture hours:    Lab hours:

Please check if Cross Listed with another course

**Attach Cross Listed Course Syllabus and Provide:**

Course Prefix:

Course Number:

Course Title:

Please check all that apply:

Grade Type:            Letter            S/U

Multiple Topic:        Yes            No

Course Delivery Method:  Face to Face    Web Based    Web Enhanced    Interactive Video

Course Type:            Required Course            Elective

Course Level:            Undergraduate    Graduate

**Note:** For graduate credit, please explain how this course is progressively more advanced in academic content than an undergraduate course and how it fosters independent learning enabling the graduate to contribute to a profession or field of study.

Graduate credit rationale:

Course Description:

This course will cover basic theory and techniques of digital VLSI (Very-Large-Scale Integrated) circuit and system design in CMOS technology. It will discuss the bottom-up as well as the top-down design approach .

Prerequisites:

EE321 (Digital Logic) or CS320 (Digital Logic)

Justification:

It will teach students how to design and analyze CMOS digital circuits, and show them how these circuits are implemented on a VLSI chip.

Submitted by \_\_\_\_\_ Date \_\_\_\_\_

Approved by:

Dean of College: \_\_\_\_\_ Date: \_\_\_\_\_  
(Signifies Faculty Approval)

Curriculum Committee or  
Graduate Council Chairman: \_\_\_\_\_ Date: \_\_\_\_\_

Vice President for Academic Affairs: \_\_\_\_\_ Date: \_\_\_\_\_

Registrar: \_\_\_\_\_ Date: \_\_\_\_\_

# VLSI Design

## EE465

**Effective Date :** Fall 2010

- I. Course Number:** EE 465
- II. Course Title:** VLSI Design
- III. Semester Credit Hours:** 3
- IV. Course Description:** This course will cover basic theory and techniques of digital VLSI (Very-Large-Scale Integrated) design in CMOS technology. It will discuss the bottom-up as well as the top-down design approach. It will prepare students to design and analyze digital circuits and show them how these circuits are implemented on a VLSI chip. Prerequisite: EE321 (Digital Logic) or CS320 (Digital Logic).
- V. Required Textbook:** *Introduction to VLSI Circuits and Systems*, John P. Uyemura, Prentice-Hall, 2002
- VI. Student Learner Outcomes:** Upon completion of the course students will :
1. be able to evaluate the effects of transistor characteristics on CMOS circuit performance
  2. be able to take transistor characteristics into consideration when analyzing or designing a CMOS logic circuit
  3. be able to create a circuit schematic from a mask layout
  4. have the knowledge of how to design logic circuits using different logic styles (pass-gate, ratioed logic, dynamic logic)
- VII. Course Outline:** Basic CMOS Logic, Fabrication and layout, Combinational logic design, Sequential logic design, Subsystem Design, Design methodologies
- VIII. Course Requirements:** Attendance of lectures and completion of assignments
- IX. Methods of Evaluation:**
- |          |        |
|----------|--------|
| Homework | 15 pts |
| Test I   | 25 pts |
| Test II  | 30 pts |
| Test III | 30 pts |
- X. Grading Scale:** A (100-90), B (89-80), C (79-70), D (69-60), F (59-0)
- XI. Faculty Office Location and Contact Policy:** 104D  
The instructor can be contacted during office hours posted at the beginning of the semester
- XII. Course Schedule:**
- Topics:**
- |                            |               |
|----------------------------|---------------|
| Basic CMOS Logic           | Weeks 1 and 2 |
| Fabrication and layout     | Weeks 3 and 4 |
| Combinational logic design | Weeks 5 and 6 |
| Test I                     | Week 7        |
| Sequential logic design    | Weeks 8 and 9 |
| Test II                    | Week 10       |

Subsystem Design	Weeks 11 and 12 (Chap.3)
Design methodologies	Weeks 13 and 14
Test III	Week 15

**XIII. Student Participation:**

**a. Participation Policy:** Students are expected to attend the lectures

**XIV. Disability Accommodations:** Students with disabilities may request reasonable accommodations through the A&M-Texarkana Disability Services Office by calling 903-223-3062.

**XV. Academic Integrity:** Academic honesty is expected of students enrolled in this course. Cheating on examinations, unauthorized collaboration, falsification of research data, plagiarism, and undocumented use of materials from any source constitute academic dishonesty and may be grounds for a grade of 'F' in the course and/or disciplinary actions. For additional information, see the university catalog.

**XVI. ABET Outcomes Coverage**

- (a) an ability to apply knowledge of mathematics, science, and engineering
- (b) an ability to design and conduct experiments, as well as to analyze and interpret data.
- (c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- (e) identify, formulate and solve engineering problems
- (i) a recognition of the need for, and an ability to engage in life-long learning
- (k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

Texas A&M University-Texarkana  
COURSE INVENTORY ADD/REINSTATE

Effective Term: Spring 2010

**Note:** Deadline for submitting this form for changes to be included in the next catalog is February 15th.

College: College of Science Technology Engineering & Math

Check one:            Add new course            Reinstate course

Course Prefix and Number: EE322

Course Title: Digital Logic Laboratory

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SCH Value: 1 hour

If this course has a lab please indicate:   Lecture hours:    Lab hours:

Please check if Cross Listed with another course

**Attach Cross Listed Course Syllabus and Provide:**

Course Prefix:

Course Number:

Course Title:

Please check all that apply:

Grade Type:            Letter            S/U

Multiple Topic:        Yes            No

Course Delivery Method:  Face to Face    Web Based    Web Enhanced    Interactive Video

Course Type:            Required Course            Elective

Course Level:            Undergraduate    Graduate

**Note:** For graduate credit, please explain how this course is progressively more advanced in academic content than an undergraduate course and how it fosters independent learning enabling the graduate to contribute to a profession or field of study.

Graduate credit rationale:

Course Description:

This laboratory course consists of multiple projects that students will complete based upon the concepts learned in CS 320 (Digital Logic) or EE321 (Digital Logic) class.

Prerequisites:

EE321 (Digital Logic) or CS320 (Digital Logic)

Justification:

The aim of the course is to increase the students' depth of understanding of logic design and implementation of digital logic circuits.

Submitted by \_\_\_\_\_ Date \_\_\_\_\_

Approved by:

Dean of College: \_\_\_\_\_ Date: \_\_\_\_\_  
(Signifies Faculty Approval)

Curriculum Committee or  
Graduate Council Chairman: \_\_\_\_\_ Date: \_\_\_\_\_

Vice President for Academic Affairs: \_\_\_\_\_ Date: \_\_\_\_\_

Registrar: \_\_\_\_\_ Date: \_\_\_\_\_

# Digital Logic Laboratory

## EE 322

*Effective Date:* Spring 2010

- I. **Course Number:** EE 322
- II. **Course Title:** Digital Logic Laboratory
- III. **Semester Credit Hours:** 3
- IV. **Course Description:** This laboratory course consists of multiple projects that the students will complete based upon the concepts learned in EE321 (Digital Logic) class. The overall aim of the course is to increase the students' depth of understanding of digital logic design and implementation. Prerequisite EE321 (Digital Logic) or CS320 (Digital Logic).
- V. **Required Textbook:** *Digital Design*, Fourth Edition, Morris Mano and Michael Ciletti, Prentice-Hall, 2007
- VI. **Student Learner Outcomes:** Upon completion of the course students will:
  - (i) understand the operation of basic digital logic circuits
  - (ii) have the ability to design and verify the correct operation of digital circuits
  - (iii) have critical troubleshooting skills
  - (iv) learn how to cooperate in teams
  - (v) be able to communicate the work done by writing technical lab report
- VII. **Course Outline:** This course provides hands on experience with mainstream digital logic integrated circuit technology. This shall be accomplished with a set of laboratory experiments which introduce increasingly more complex circuits and techniques. Successful completion of each lab assignment shall:
  - Require a written report detailing the design solution(s).
  - Require the construction of one or more circuits.
  - Require a demonstration that the constructed circuits function properly.
- VIII. **Course Requirements:** Attendance at the laboratory periods is mandatory. Unless specifically stated to the contrary, each student will document each lab exercise with a laboratory report. The report should include the following items: i) a brief description of the work performed for that lab period, ii) a brief description of the student's design approach and the implementation of the circuit with a schematic diagram ( if applicable for the particular exercise), iii) a description of any problems encountered, recommendations for changes, or improvements to the lab exercise
- IX. **Methods of Evaluation:**

Correct execution of lab. assignments	: 60 pts
Laboratory Reports	: 40 pts
- X. **Grading Scale:** A (100-90), B (89-80), C (79-70), D (69-60), F (59-0)
- XI. **Faculty Office Location and Contact Policy:** 104D  
The instructor can be contacted during office hours posted at the beginning of the semester

**XII. Course Schedule:**

Familiarization with the laboratory rules, equipments and report guide lines (Week 1)

**Laboratory experiments:**

1. For the following function derive the truth table and the predicted output. Next construct the circuit using AND, OR gates, and verify the actual experimental output is the same as the predicted output (Weeks 2 and 3)

$$f(a,b,c) = ab + bc + ac$$

2. Implement  $f(a, b, c, d) = \sum m(0,3,4,5,8,9,10,14,15)$  using NOR gates and inverters only (Weeks 4 and 5)
3. Implement a full adder using multiplexers only (Weeks 6 and 7)

Submit the first report (Week 8)

4. Verify the synchronous operation of the JK flip flop. Construct a D flip-flop from a JK flip-flop, and a T flip-flop from a JK flip-flop (Weeks 9 and 10)
5. Design a circuit to detect the input sequence of three consecutive 1's on input. The output should be 0 until three consecutive 1's have been input, then output should go to 1 and stay at 1 until 0 input comes in. Design the circuit as a Moore type sequence detector circuit using D type flip flops (Weeks 11 and 12)
6. Design a 4-bit binary up-counter using T flip-flops (Weeks 13 and 14)

Submit the second report (Week 15)

**XIII. Student Participation:**

**a. Participation Policy:** Students are expected to attend the laboratory sessions

**XIV. Disability Accommodations:** Students with disabilities may request reasonable accommodations through the A&M-Texarkana Disability Services Office by calling 903-223-3062.

**XV. Academic Integrity:** Academic honesty is expected of students enrolled in this course. Cheating on examinations, unauthorized collaboration, falsification of research data, plagiarism, and undocumented use of materials from any source constitute academic dishonesty and may be grounds for a grade of 'F' in the course and/or disciplinary actions. For additional information, see the university catalog.

**XVI. ABET Outcomes Coverage**

This course supports the following program outcomes as required by ABET

- a. an ability to apply knowledge of mathematics, science, and engineering
- b. an ability to design and conduct experiments, as well as to analyze and interpret data
- c. an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- d. an ability to function on multi-disciplinary teams.
- k an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Texas A&M University-Texarkana  
COURSE INVENTORY ADD/REINSTATE

Effective Term: Spring 2010

**Note:** Deadline for submitting this form for changes to be included in the next catalog is February 15th.

College: College of Science Technology Engineering & Math

Check one:            Add new course            Reinstate course

Course Prefix and Number: CHED 510

Course Title: Analyzing Student Work in Chemistry

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SCH Value: 3

If this course has a lab please indicate: Lecture hours:  Lab hours:

Please check if Cross Listed with another course

**Attach Cross Listed Course Syllabus and Provide:**

Course Prefix:

Course Number:

Course Title:

Please check all that apply:

Grade Type:            Letter            S/U

Multiple Topic:        Yes            No

Course Delivery Method:  Face to Face    Web Based    Web Enhanced    Interactive Video

Course Type:            Required Course            Elective

Course Level:            Undergraduate    Graduate

**Note:** For graduate credit, please explain how this course is progressively more advanced in academic content than an undergraduate course and how it fosters independent learning enabling the graduate to contribute to a profession or field of study.

Graduate credit rationale:

Course Description:

This course will focus on diagnosing obstacles students have with understanding molecular concepts. Pedagogical strategies, structural models, and reflective teaching will be presented to improve education practices in the secondary chemistry classroom.

**Prerequisites:**

Graduate Student Standing, undergraduate science teaching certification or undergraduate science major and permission of the instructor.

**Justification:**

This course is being developed to support a Teacher Quality Grant received from the Texas Higher Education Coordinating Board. The focus of the grant is on chemistry content knowledge and pedagogy in the chemistry class. This course supports the pedagogy component. The graduate students in the course will be members of the East Texas Regional Collaborative for Excellence in Science Teaching.

Submitted by \_\_\_\_\_ Date \_\_\_\_\_

Approved by:

Dean of College: \_\_\_\_\_ Date: \_\_\_\_\_  
(Signifies Faculty Approval)

Curriculum Committee or  
Graduate Council Chairman: \_\_\_\_\_ Date: \_\_\_\_\_

Vice President for Academic Affairs: \_\_\_\_\_ Date: \_\_\_\_\_

Registrar: \_\_\_\_\_ Date: \_\_\_\_\_



## CHED 510 – Analyzing Student Work in Chemistry

**Effective Date:** *Spring 2010*

<b>I.</b>	<b>Course Number:</b> <i>CHED 510</i>
<b>II.</b>	<b>Course Title:</b> <i>Analyzing Student Work in Chemistry</i>
<b>III.</b>	<b>Semester Credit Hours:</b> <i>3SCH</i>
<b>IV.</b>	<b>Course Description:</b> <i>This course will focus on diagnosing obstacles students have with understanding molecular concepts. Pedagogical strategies, structural models, and reflective teaching will be presented to improve education practices in the secondary chemistry classroom.</i>
<b>V.</b>	<b>Required Textbooks/Resources:</b> <i>Barke, H. 2009. Misconceptions in Chemistry: Addressing Perceptions in Chemical Education. Springer</i>
<b>VI.</b>	<p><b>Student Learner Outcomes:</b> <i>After completion of this course the student will:</i></p> <ul style="list-style-type: none"> <li>• <i>be able to effectively analyze student work to promote more accurate chemistry knowledge</i></li> <li>• <i>be knowledgeable in contemporary pedagogical practices</i></li> <li>• <i>be able to implement diagnostic teaching practices within the chemistry classroom</i></li> </ul>
<b>VII.</b>	<p><b>Course Outline:</b></p> <p><i>Misconceptions in Chemistry</i></p> <ul style="list-style-type: none"> <li>• <i>Preconceptions</i></li> <li>• <i>School-made misconceptions</i></li> <li>• <i>Historical conceptions</i></li> </ul> <p><i>Diagnosing misconceptions</i></p> <ul style="list-style-type: none"> <li>• <i>Diagnosis within the 5E model</i></li> <li>• <i>Using imaginative drawings to diagnose misconceptions</i></li> </ul> <p><i>Visualizing Molecular Processes</i></p> <ul style="list-style-type: none"> <li>• <i>Concrete to abstract</i></li> <li>• <i>Models and symbols</i></li> </ul> <p><i>Laboratory Processes</i></p> <ul style="list-style-type: none"> <li>• <i>Working like a scientist</i></li> <li>• <i>Concrete representation to abstract phenomenon</i></li> </ul>

	<ul style="list-style-type: none"> <li>• <i>Writing meaningful lab Evaluation Strategies</i></li> <li>• <i>Pre-/post-assessment analysis</i></li> <li>• <i>Authentic assessments</i></li> <li>• <i>3D to 2D</i></li> </ul>
<b>VIII.</b>	<b>Course Requirements:</b> <i>Attendance and participation in the East Texas Regional Collaborative for Excellence in Science Teaching is required. Students will be expected to contribute to online class discussions, complete exams given, and conduct an action research project during the semester. Graduate level rigor is obtained by the in-depth investigation involved in the action research.</i>
<b>IX.</b>	<b>Means of Evaluation:</b> <i>The course grade will be based on two exams valued at 100 points each, participation in monthly online discussions (reflective journaling) valued at 100 points, and a 5000 word research paper valued at 200 points on the action research conducted. The research paper will be submitted electronically to the <a href="http://www.turnitin.com">www.turnitin.com</a> website.</i>
<b>X.</b>	<b>Grading Scale:</b> <i>The grades on the evaluated items will be averaged will be graded as below:</i> => 90% = A =>80% - <90% = B =>70% - <80% = C =>60% - <70% = D <60% = F
<b>XI.</b>	<b>Disability Accommodations:</b> <i>Students with disabilities may request reasonable accommodations through the A&amp;M Texarkana Director of Student Services by calling 903-223-3062.</i>
<b>XII.</b>	<b>Academic Integrity:</b> <i>Academic honesty is expected of students enrolled in this course. Cheating on examinations, unauthorized collaboration, falsification of research data, plagiarism, and undocumented use of materials from any source constitute academic dishonesty and may be grounds for a grade of 'F' in the course and/or disciplinary actions. For additional information, see the university catalog.</i>
<b>XIII.</b>	<b>Faculty Office Location and Contact Policy:</b> <i>Ms. Staci Thomas may be contacted by email at <a href="mailto:staci.thomas@tamut.edu">staci.thomas@tamut.edu</a> or through the Blackboard course page.</i>
<b>XIV.</b>	<b>Student Technical Assistance:</b> <ul style="list-style-type: none"> <li>• <i>Solutions to common problems and FAQ's for your online course are found at this link: <a href="http://www.tamut.edu/webcourses/index.php?pageid=37">http://www.tamut.edu/webcourses/index.php?pageid=37</a></i></li> <li>• <i>If you cannot find your resolution there you can send in a support request detailing your specific problem here: <a href="http://www.tamut.edu/webcourses/gethelp2.php">http://www.tamut.edu/webcourses/gethelp2.php</a></i></li> <li>• <i>Blackboard Helpdesk contacts: Office hours are M-F, 8:00a to 5:00p</i></li> </ul>

	<p><i>Kevin Williams (main contact) 903-223-1356  <u><a href="mailto:kevin.williams@tamut.edu">kevin.williams@tamut.edu</a></u></i></p> <p><i>Frank Miller (back-up) 903-223-3156  <u><a href="mailto:frank.miller@tamut.edu">frank.miller@tamut.edu</a></u></i></p> <p><i>Nikki Thomson (back-up) 903-223-3083  <u><a href="mailto:nikki.thomson@tamut.edu">nikki.thomson@tamut.edu</a></u></i></p>
<p><b>XV.</b></p>	<p><b>Technical Requirements</b></p> <p><u><i>Minimum System Requirements</i></u>  <i>The following computer system requirements are recommended for an online course:</i></p> <p><b>OS:</b> <i>Windows 2000/XP/Vista, Mac OSX 10.2 and above</i>  <b>RAM:</b> <i>256 MB, Processor: 2.0 GHz, Free Space on HDD: 500 MB</i>  <b>Internet Connection:</b> <i>(Broadband/DSL preferred), Dial Up 56k minimum</i>  <b>Browser:</b> <i>Internet Explorer 6 or 7, Mozilla Firefox 2.0, Safari 1.0</i>  <b>Java:</b> <i>Version 6 Update 11 or later</i>  <i>Sound card and speakers</i></p> <p><u><i>Software Requirements</i></u>  <b>Pop-Up Blockers</b>  <i>All pop-up blockers installed on your computer must be set to allow pop-ups from Blackboard/WebCT</i></p> <p><b>Java Runtime Environment</b>  <i>You must have the Java Runtime Environment installed. This is a free plugin for your browser that can be obtained by going to <u><a href="http://www.java.com">http://www.java.com</a></u>.</i></p> <p><b>Additional Plugins</b>  <i>You may need additional software based on the content that your instructor posts in their course. Commonly needed applications are:</i></p> <p><b>Microsoft Office 2007 / 2003 / XP Suite / Works</b> <i>(Not free software)</i>  <b>Adobe Acrobat Reader</b> <i>(<u><a href="#">Free Download</a></u>)</i>  <b>Windows Media Player</b> <i>(<u><a href="#">Free Download</a></u>)</i>  <b>Real Time Media Player</b> <i>(<u><a href="#">Free Download</a></u>)</i>  <b>Quick Time Media Player</b> <i>(<u><a href="#">Free Download</a></u>)</i>  <b>Macromedia/Adobe Flash</b> <i>(<u><a href="#">Free Download</a></u>)</i>  <b>Macromedia/Adobe Shockwave</b> <i>(<u><a href="#">Free Download</a></u>)</i></p>

<p><b>XVI.</b></p>	<p><b>Course Schedule:</b> <i>(Tentative)</i>  <i>Course dates within each month will be determined by participants of the East Texas Regional Collaborative</i></p> <ul style="list-style-type: none"> <li>• <b>January</b>  <i>Misconceptions in Chemistry</i>  <i>Action research introduced, research objective development</i></li> <li>• <b>February</b>  <i>Diagnosing misconceptions</i>  <i>Action research paper resources due</i></li> <li>• <b>March</b>  <i>Visualizing Molecular Processes</i>  <i>Exam I</i></li> <li>• <b>April</b>  <i>Laboratory Processes</i></li> <li>• <b>May</b>  <i>Evaluation Strategies</i>  <i>Action research paper due</i>  <i>Exam II</i></li> </ul>
<p><b>XVII.</b></p>	<p><b>Participation Policy:</b></p> <ul style="list-style-type: none"> <li>• <i>Participation in the course will include attendance at monthly meetings, online discussions including a reflective journaling and collaborating with other students, research for action research and implementation of action research into teaching practice.</i></li> <li>• <b>Course Etiquette:</b> <i>Informal (professional) class participation is welcome. Please do not make comments that are off the subject or that impede the progress of the class. Please refrain from talking, whispering, or other negative behaviors that might distract the instructor or colleagues. No cell-phone in class.</i></li> <li>• <b>Discussion Board Standards:</b> <i>Reflective journaling will be assigned after each class meeting. The following should be discussed: What was the most useful thing you learned today? How can you use what you learned today to improve your teaching? What would you like to learn more about? Is there anything that requires additional explanation? What concepts were difficult for you to understand? Any additional comments on today's meeting?</i></li> </ul>
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