REQUEST FOR ADDING, CHANGING, SUSPENDING OR DROPPING AN UNDERGRADUATE CURRICULUM

Department: Petroleum Engineering
College: Engineering
Name of Curriculum/Major: Petroleum Engineering
Type of Degree: BS
Date: 09/25/13

Has this change been discussed with and approved by all departments/colleges affected? Yes ( ) No ( ) N/A (X)

ATTACH JUSTIFICATION for all actions. Use separate sheet.
ATTACH RESPONSE from any departments affected [i.e. any department whose course(s) are to be added.]
ATTACH FORM D ADDENDUM for all new curricula or changes involving General Education courses.

ACTION (check appropriate box):

( ) ADDING: The entire new curriculum, by semester, must be typed on plain sheets and attached to Form D. (See sample layout attached.)

( X ) CHANGING: Regardless if all semesters of a curriculum are to be changed or only parts, the present and proposed (eight-semester) recommended path should be attached on separate pages. On the Present recommended path, use strikeout and on the Proposed recommended path, highlight areas to identify deletions and additions. Do not use bolderface to designate changes as bolderface is reserved for critical requirements within the recommended path. Explain all changes adequately on attachment.

( ) SUSPENDING: Provide an adequate explanation for suspending the curriculum on plain sheets and attach.

( ) DROPPING: Provide an adequate explanation for dropping the curriculum on plain sheets and attach.

CURRICULUM

<table>
<thead>
<tr>
<th>PRESENT</th>
<th>PROPOSED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total semester hours in current curriculum: 128</td>
<td>Total semester hours in proposed curriculum: 128</td>
</tr>
</tbody>
</table>

APPROVALS:

Department Faculty Approval Date: 09/25/2013
Department Chair’s Signature: [Signature] 9/25/2013
Chair, FS C & C Committee: [Signature] 10/15/13

College Faculty Approval Date: 9/26/13
College Dean’s Signature: [Signature] 9/26/13
Academic Affairs Approval: [Signature] 10/9/13

College Contact: ____________________________
(Please print name.)

College Contact E-mail: ____________________________
GENERAL EDUCATION REQUIREMENTS

When a department adds a new curriculum or makes changes in an existing one, a Form D Addendum must also be submitted. This form is simply a list of those courses in the curriculum that satisfy the General Education requirement.

Include course rubric, number, and credit hours when curricula differ from the default values.

Indicate the curriculum year for all General Education courses.

<table>
<thead>
<tr>
<th>General Education Requirement</th>
<th>Course(s)</th>
<th>Credit Hours</th>
<th>Curriculum Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition (6 hrs.)</td>
<td>ENGL 1001 or 1004</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ENGL 2000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analytical Reasoning (6 hrs.)</td>
<td>General Education analytical reasoning course (from mathematics department)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MATH 1550</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>General Education analytical reasoning course MATH 1552</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Arts</td>
<td>General Education arts course ANY APPROVED GEN ED ART COURSE</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Humanities (9 hrs.)</td>
<td>General Education humanities course ANY APPROVED GEN ED HUM COURSE</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>General Education humanities course ANY APPROVED GEN ED HUM COURSE</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Natural Sciences (9 hrs.)</td>
<td>General Education natural science course sequence CHEM 1201, 1202</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>(If 2 course sequence is taken in the physical sciences, the additional 3 hour course must be from the life sciences, and vice versa.)</td>
<td>General Education natural science course ANY APPROVED GEN ED LIFE SCIENCE COURSE</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Social Sciences (6 hrs.)</td>
<td>General Education social science course ANY APPROVED GEN ED SOCIAL SCIENCE COURSE</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>(At least three hours at the 2000-level.)</td>
<td>General Education social science course (2000-level) ECON 2030</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
RECOMMENDED WORDING FOR GENERAL EDUCATION REQUIREMENTS

Departments and programs should employ the following wording where possible to ensure consistency across curricula in the description of General Education requirements.

* If 2 course natural science sequence is taken in the physical sciences, the additional 3 hour natural science course must be from the life sciences, and vice versa.

**English Composition**
English 1001 or 1004.................................................................3
English 2000..............................................................................3

**Natural Sciences**
General education natural science course sequence..............................6
General education natural science course*.........................................3

**Social Sciences**
General education social science course ...........................................3
General education social science course (2000-level) ..........................3

**Analytical Reasoning**
General education analytical reasoning course (from mathematics department)....3
General education analytical reasoning course..................................3

**Humanities**
General education humanities course ..............................................3
General education humanities course ..............................................3
General education humanities course ..............................................3

**Arts**
General education arts course ......................................................3
PRESENT

ADMISSION to the B.S. in Petroleum Engineering curriculum requires that a student be admissible to the College of Engineering earn at least 24 semester hours and have a minimum 2.8 GPA in all courses that apply to the petroleum engineering degree.

CURRICULUM IN PETROLEUM ENGINEERING

TOTAL SEM. HRS. • 128

Mathematics 1550, 1552, and Physics 2401-2402 and PETE 2031 each require a grade of "C" or better before a student may register for any 3000-level petroleum engineering course.

— A student may elect to take four sem. hrs. of ROTC in place of Petroleum Engineering 1010 and 2060. The four sem. hrs. of ROTC must be successfully completed before any substitution will be made. General education required courses (*).

CRITICAL REQUIREMENTS

Sem 1: MATH 1021.
Sem 2: MATH 1022 or MATH 1023.
Sem 3: GEOL 1001.
Sem 4: "C" or better in MATH 1550.
Sem 5: "C" or better in PHYS 1100.

RECOMMENDED PATH

Semester 1
Critical: Math 1021.

CIEEM 1201 General Chemistry I* ........................................ 3
ENGL 1001 English Composition* ...................................... 3
GEOM 1001 General Geology: Physical ................................ 3
GEOL 1601 Physical Geology Laboratory ................................ 1
PETE 1010 Introduction to Petroleum Engineering ...................... 2
MATH 1550 Analytic Geometry and Calculus I* .......................... 5
Total Semester Hours: .................................................. 17

Semester 2
Critical: MATH 1022 or MATH 1023.

CHEM 1202 General Chemistry II* ..................................... 3
CHEM 1212 General Chemistry Laboratory ............................. 2
GEOL 1003 General Geology: Historical ................................ 3
MATH 1552 Analytic Geometry and Calculus II* ....................... 4
PHYS 2101 General Physics for Technical Students* .................... 3
Total Semester Hours: .................................................. 15

Semester 3
Critical: GEOL 1001.

PETE 2060 Computational Methods in Petroleum Engineering .......... 2
MATH 2065 Elementary Differential Equations .......................... 3
CE 3450 Statics .................................................................... 3
PETE 2031 Reservoir Rock Properties .................................... 3
PHYS 2102 General Physics for Technical Students ...................... 3
General Education Course – Arts* ........................................ 3
Total Semester Hours: .................................................. 17

Semester 4
Critical: “C” or better in MATH 1556.

ECON 2030 Economic Principles* ....................................... 3
EE 2950 Comprehensive Electrical Engineering ....................... 3
IE 3302 Engineering Statistics ............................................ 3
PETE 2032 Reservoir Fluid Properties ................................... 3
PETE 2034 Rock and Fluid Properties Laboratory ...................... 3
CE 2460 Dynamics and Vibrations or ME 3133 Dynamics .............. 3

Total Semester Hours: .................................................. 16

Semester 5
Critical: “C” or better in PHYS 1100.

CE 2200 Fluid Mechanics ................................................... 3
ME 3333 Thermodynamics .................................................. 3
PETE 3025 Economic Aspects of Petroleum Production ................. 3
PETE 3036 Well Logging .................................................... 3
PETE 3037 Petroleum Field Operations ................................... 1
Approved GEOL Elective .................................................... 3
Total Semester Hours: .................................................. 16

Semester 6

CE 3400 Mechanics of Materials ........................................... 3
PETE 4069 Prevention of Oil and Gas Well Blowouts ................. 1
PETE 3053 Petroleum Engineering Aspects of Subsurface Geology .................................................. 3
PETE 4050 Reservoir Dynamics ............................................ 3
ENGL 2000 English Composition* ....................................... 3
Life Science Elective* ........................................................ 3
Total Semester Hours: .................................................. 16

Semester 7

PETE 4051 Reserve Estimation and Reservoir Management ............ 3
PETE 4045 Drilling Engineering ........................................... 3
PETE 4059 Drilling Fluids Laboratory .................................... 1
PETE 4999 Senior Project I .................................................. 1
General Education Courses – Humanities* ................................ 6
General Education Courses – Social Sciences* ........................ 3
Total Semester Hours: .................................................. 17

Semester 8

PETE 4046 Well Design – Production ..................................... 3
PETE 4056 Numerical Simulation of Improved Recovery Processes .................................................. 3
PETE 4058 Reservoir Mechanics Laboratory ............................ 1
PETE 4999 Senior Project II .................................................. 1
General Education Courses – Humanities* ............................ 3
PETE Design Elective .......................................................... 3
Total Semester Hours: .................................................. 14
PROPOSED

ADMISSION to the B.S. in Petroleum Engineering curriculum requires that a student be admissible to the College of Engineering own at least 24 semester hours and have a minimum 2.8 GPA in all courses that apply to the petroleum engineering degree.

CURRICULUM IN PETROLEUM ENGINEERING

TOTAL SEM. HRS. • 128

Mathematics 1550, 1552, and Physics 2110, 2112, 2113, and PETE 2031, and CE 2450 each require a grade of "C" or better before a student may register for any 3000-level petroleum course.

Lists of approved courses for the Technical Elective, GEOL Elective and PETE Design Electives are available from the department.

General education required courses (*).

CRITICAL REQUIREMENTS

Sem 1: MATH 1021.
Sem 2: MATH 1022 or MATH 1023.
Sem 3: GEOL 1001.
Sem 4: "C" or better in MATH 1550.
Sem 5: "C" or better in PHYS 2110.

RECOMMENDED PATH

Semester 1
Critical: Math 1021.

CHEM 1201 General Chemistry I* 3
ENGL 1001 English Composition* 3
GEOL1001 General Geology: Physical 3
GEOL1601 Physical Geology Laboratory 1
PETE 1010 Introduction to Petroleum Engineering 2
MATH 1550 Analytic Geometry and Calculus I* 5

Total Semester Hours: 17

Semester 2
Critical: MATH 1022 or MATH 1023.

CHEM 1202 General Chemistry II* 3
CHEM 1212 General Chemistry Laboratory 2
*General Education Course – Life Science* 3
MATH 1552 Analytic Geometry and Calculus II* 4
PHYS 2110 Particle Mechanics* 3

Total Semester Hours: 15

Semester 3
Critical: GEOL 1001.

PETE 2060 Computational Methods in Petroleum Engineering 2
MATH 2065 Elementary Differential Equations 2
CE 2450 Statics 3
PETE 2531 Reservoir Rock Properties 3
PHYS 2112 Fluids, Thermodynamics, Waves and Modern Physics 3
General Education Course – Arts* 3

Total Semester Hours: 17

Semester 4
Critical: "C" or better in MATH 1550.

ECON 2030 Economic Principles* 3
PHYS 2113 Fields: Gravity, Electricity and Magnetism 3
IE 3302 Engineering Statistics 3
PETE 2052 Reservoir Fluid Properties 3
PETE 2034 Rock and Fluid Properties Laboratory 1
CE 2200 Fluid Mechanics 3

Total Semester Hours: 16

Semester 5

Critical: "C" or better in PHYS 2110.

PETE 3050 Reservoir Dynamics 3
ME 3333 Thermodynamics 3
PETE 3025 Economic Aspects of Petroleum Production 3
PETE 3036 Well Logging 3
PETE 3037 Petroleum Field Operations 1
Approved GEOL Elective 3

Total Semester Hours: 16

Semester 6

CE 3400 Mechanics of Materials 2
PETE 4067 Prevention of Oil and Gas Well Blowouts 1
PETE 3053 Petroleum Engineering Aspects of Subsurface Geology 3
PETE 3085 Well Performance and Production* 3
ENGL 2000 English Composition* 3
Approved Technical elective 3

Total Semester Hours: 16

Semester 7

PETE 4051 Reserve Estimation and Reservoir Management 3
PETE 4045 Drilling Engineering 3
PETE 4059 Drilling Fluids Laboratory 1
PETE 4098 Senior Project I 1
General Education Courses – Humanities* 6
PETE Design Course 3

Total Semester Hours: 17

Semester 8

PETE Design Courses 6
PETE 4098 Reservoir Mechanics Laboratory 1
PETE 4996 Senior Project II 1
General Education Courses – Social Sciences* 3
General Education Courses – Humanities* 3

Total Semester Hours: 14
Justification

The Faculty in the Craft and Hawkins Department of Petroleum Engineering has developed a transition curriculum partly in reaction to imminent changes to courses being offered through the Physics Department and partly to react to ABET visitor comments and recognized gaps in the program. The result of this work is reflected in the curriculum changes being proposed.

The simplest justification to make is the reaction to the Physics changes. The Faculty unanimously determined that all three of the Physics courses need to be taken by our students to provide the breadth of scientific understanding of the many measurements and processes currently in use and being developed in the industry.

For many years the Faculty has acknowledged a gap exists in the LSU Petroleum Engineering curriculum that Petroleum Engineering departments elsewhere had which was a dedicated production engineering course that was at least partially focused on production facilities design. Such a course was a “Design Elective” in the LSU curriculum and taught on a somewhat sporadic rotational basis. During the last several ABET visitor meetings, no direct recommendations have been made to fill this gap. However, questions from the ABET visitors indicate that the gap is noticeable. The Faculty is proposing a new course, PETE 3085 (Well Performance and Production), that will be required by all students under this catalog. This proposed course will also fill a need for a design course a semester earlier than presently required which has been a recommendation by the Petroleum Engineering Advisory Board on several occasions. The addition of this course also requires that a course felt to be a prerequisite, Reservoir Dynamics, be moved to the semester before PETE 3085 and also dictates that the current course number (PETE 4050) be changed to PETE 3050. This requires a new course proposal and a transition plan. This is contained in the Form C for PETE 3050.

To accommodate these new courses and to make space in the curriculum for (at present) informal concentrations the Faculty has combined several of the present required courses into a “Technical Elective” requirement, continued the “Approved GEOL Elective” sequence and combined two required courses and the PETE Design Elective into three courses of “PETE Design Electives”. To provide continuity and a transition plan for the Faculty to determine the precise make-up of any future proposed formal concentrations, the following is proposed as the “lists of approved courses” available in the department.

Students will be asked to choose as their “Approved Technical Elective” from any one of the current required courses that are being removed from the curriculum – GEOL 1003, EE 2950 or CE 2460. Some students may want to continue taking GEOL 1003 since it is a required course for the Geology minor and keeps such a minor attainable for PETE students. The EE 2950 course and the CE 2460 course might be popular options for those students who wish to make taking and passing the Fundamentals of Engineering examination a bit easier.

For the “Approved GEOL Elective”, students will continue to select any course from the Department of Geology and Geophysics numbered 3000 or above except GEOL 4165 (which is a parallel course to and an approved substitution for PETE 3053). Most of the students will continue to take the GEOL 3200 course that the Department of Geology and Geophysics developed specifically for our students. Others, primarily those who are going for the Geology minor, may have the prerequisites to take other courses in Geology and Geophysics.

For at least the 2014 – 2015 academic years, the sequence for the PETE Design Courses will be exactly what the current curriculum requires and allows. Currently the students take PETE 4046 and PETE 4056 as required courses and have the option of any PETE course numbered 4000 and above excluding PETE 4045, 4046, 4050, 4051, 4056, 4058, 4059, 4060, 4998, and 4999. We propose that the wording on the approved list be as shown on the following page.

All of these changes are designed to provide flexibility for both the students and the Faculty as we transition to a program where students are allowed to choose a technical focus, which we believe will also provide more opportunities for our graduates to attain and retain employment for which they are most qualified and interested in.
Craft and Hawkins Department of Petroleum Engineering
2013 – 2014 Elective Options

Approved Technical Elective
Choose one of the following courses:
GEOL 1003 General Geology: Historical
EE 2950 Comprehensive Electrical Engineering
CE 2460 Dynamics and Vibrations
ME 3133 Dynamics

Approved GEOL Elective
Any course from the Department of Geology & Geophysics numbered 3000 or greater except
GEOL 4165 Subsurface Geology, which is considered equivalent to and a direct substitution for
PETE 3053 Petroleum Engineering Aspects of Subsurface Geology

PETE Design Courses
Students must take PETE 4046 (Well Design – Production) and PETE 4056 (Simulation).

In addition, students must take one of the following courses:
PETE 4083 Waterflooding
PETE 4084 Fluid Flow and Heat Transfer in Wellbores
PETE 4085 Surface Handling of Produced Fluids
PETE 4086 Well Design – Drilling
PETE 4087 Environmental Control in Petroleum Engineering
PETE 4088 Formation Evaluation
PETE 4089 Natural Gas Engineering
PETE 4090 Unconventional Reservoirs
PETE 4241 Special Topics in Petroleum Engineering Design (must be taken for 3 or more credit hours)
REQUEST FOR ADDING, CHANGING, SUSPENDING OR DROPPING AN UNDERGRADUATE CURRICULUM

Department: Division of Computer Science & Engineering
College: Engineering
Name of Curriculum/Major: Computer Science
Type of Degree: B.S.
Date: 9/25/2013

Has this change been discussed with and approved by all departments/colleges affected? Yes (X) No ( ) N/A ( )

ATTACH JUSTIFICATION for all actions: Use separate sheet.
ATTACH RESPONSE from any departments affected (i.e. any department whose course(s) are to be added.)
ATTACH FORM D ADDENDUM for all new curricula or changes involving General Education courses.

ACTION (check appropriate box):

( ) ADDING: Show the entire new curriculum by year (freshman, sophomore, etc.) using catalog format. Use plain sheets and attach.

(X) CHANGING: On a separate sheet of paper, include the current curriculum outline (all four years) which is to be changed in the left column and the proposed changes in the right column. In proposed column, use strikeout and bold to identify deletions and additions. Explain all changes adequately on attachment.

( ) SUSPENDING: Provide an adequate explanation for suspending the curriculum on plain sheets and attach.

( ) DROPPING: Provide an adequate explanation for dropping the curriculum on plain sheets and attach.

CURRICULUM

<table>
<thead>
<tr>
<th>PRESENT</th>
<th>PROPOSED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total semester hours in current curriculum: 120</td>
<td>Total semester hours in proposed curriculum: 120</td>
</tr>
</tbody>
</table>

APPROVALS:

Department Faculty Approval Date: Sept, 25, 2013
Department Chair's Signature: 09-24-2013
Chair, FS C & C Committee: 10/15/13

College Faculty Approval Date: 9/26/13
College Dean's Signature: 9/26/13
Academic Affairs Approval: (Date)

College Contact: __________________________
(Please print name:)
College Contact E-mail: __________________________

Effective: 9/2015
### GENERAL EDUCATION REQUIREMENTS

When a department adds a new curriculum or makes changes in an existing one, a Form D Addendum must also be submitted. This form is simply a list of those courses in the curriculum that satisfy the General Education requirement. Include course rubric, number, and credit hours when curricula differ from the default values. Indicate the curriculum year for all General Education courses.

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<tr>
<td></td>
<td>General Education analytical reasoning course MATH 1552</td>
<td>3</td>
<td>(X) 1&lt;sup&gt;st&lt;/sup&gt;</td>
</tr>
<tr>
<td>Arts</td>
<td>General Education arts course</td>
<td>3</td>
<td>(X) 1&lt;sup&gt;st&lt;/sup&gt;</td>
</tr>
<tr>
<td>Humanities (9 hrs.)</td>
<td>General Education humanities course: English or Honors course at the 2000-level or above</td>
<td>3</td>
<td>(X) 1&lt;sup&gt;st&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>General Education humanities course Communication Studies course (CMST)</td>
<td>3</td>
<td>(X) 1&lt;sup&gt;st&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>General Education humanities course</td>
<td>3</td>
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<td>General Education natural science course</td>
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<td>Social Sciences (6 hrs.)</td>
<td>General Education social science course</td>
<td>3</td>
<td>(X) 1&lt;sup&gt;st&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

(If 2 course sequence is taken in the physical sciences, the additional 3 hour course must be from the life sciences, and vice versa.)
CHANGES:
1) To change the program educational objectives and add a statement regarding student outcomes.
2) Change http://www.abet.org to www.abet.org
3) To add CSC 1240 to the list of courses for which CS majors may not receive credit.
4) To drop ISDS 3107 from the list of courses for which CS majors may not receive credit.
5) To drop PHYS 1100 from the list of courses for which CS majors may not receive credit.
6) To update the pre-approved list of electives for the Distributed Systems & Networking and Software engineering concentrations:
   a. Add CSC 4402 to the approved elective list for the DS&N concentration.
   b. Drop ISDS 4110, 4114, 4501, 4502 and 4511 from the list of approved SE electives; the courses have been deleted from the catalog. Add ISDS 4120 and CSC 4243, 4263, 4356, 4357, 4444 and 4501 to the list of approved electives for the SE concentration.

JUSTIFICATION:
The primary reason for the change to the program educational objectives (PEOs) is to rephrase the verbiage in compliance with the new definition expected by ABET, the accreditation agency for computer science (www.abet.org). Program Educational Objectives now describe what "graduates are expected to attain within a few years of graduation." Other changes to the original PEOs were meant to resolve ambiguity thereby simplifying the meaning and assessment. PECs are published in the catalog at the request of ABET.

CSC 1240 contains overlap with these courses required in the computer science curriculum:
- CSC 1350 overlap in computer programming
- CSC 2262 overlap in MATLAB
- IE 3302 overlap in statistics

Therefore CSC 1240 credits are not applicable to the degree program. In this revision, the course is being added to the introductory section for computer science where courses not for degree credit are explicitly listed. The restriction is listed in the course description for CSC 1240 and the course description for CSC 2262 states that students may not receive credit for both CSC 1240 and 2262.

Based on the review of the topics of instruction and assignments in ISDS 3107 "Beginning Programming", the CSC_E faculty has agreed that the programming content overlap is not as great as once perceived in the introductory programming courses required for the major.

Additional exposure to technologies in ISDS 3107 which are not offered in our curricula will be beneficial to CSC majors pursuing the Information Technology Management minor. CSC majors may use the ISDS 3107 credits toward the CSC degree requirements to meet the 6-hour total "tech-requirements" as listed in Group A or applied to approved free electives only in the Software Engineering and Distributed Systems & Networking concentrations.

PHYS 1100 is being dropped from the LSU General Catalog course listing.
Present Curriculum

DIVISION OF COMPUTER SCIENCE & ENGINEERING

OFFICE * 3127 Patrick F. Taylor
TELEPHONE * 225/578-1495
FAX * 225/578-1465
WEBSITE * www.cse.lsu.edu

The mission of the program is to instill in the student theoretical and applied practical skills needed to solve challenging problems using a computer. Graduates of the program use such concepts as abstraction and complexity analysis to solve innovative problems or to orchestrate evolutionary change as applied to the development of software. The program provides a strong foundation such that students can build on their skill-sets as the field rapidly evolves.

The program objectives for the B.S. degree candidate in Computer Science are:

• To provide students with basic knowledge, both theoretical and applied, in core areas of computer science;
• To enable students to develop skills in system and software design and to be able to apply these skills to solve diverse problems;
• To train students to become proficient in implementing algorithms in a variety of programming languages;
• To enable students to develop skills for working as part of a team or assignments or research projects;
• To enable students to present their work effectively in oral and written form;
• To provide students with an awareness of ethical issues and the global impacts of computing technologies on society;
• To prepare students for lifelong study including graduate study and/or successful professional careers.

Proposed Curriculum

DIVISION OF COMPUTER SCIENCE & ENGINEERING

OFFICE * 3127 Patrick F. Taylor
TELEPHONE * 225/578-1495
FAX * 225/578-1465
WEBSITE * www.cse lsu.edu

The mission of the program is to instill in the student theoretical and applied practical skills needed to solve challenging problems using a computer. Graduates of the program use such concepts as abstraction and complexity analysis to solve innovative problems or to orchestrate evolutionary change as applied to the development of software. The program provides a strong foundation such that students can build on their skill-sets as the field rapidly evolves.

The program educational objectives for the B.S. degree candidate in Computer Science are:

• to apply and continuously acquire knowledge, both theoretical and applied, related to core areas of computer science,
• to solve diverse and unique problems in software design and development processes,
• to work productively as computer professionals (in traditional careers, graduate school, or academia) by:
  • demonstrating effective use of oral and written communication,
  • working competently as a member of a team unit,
  • adhering to ethical standards in the profession.
• To provide students with basic knowledge, both theoretical and applied, in core areas of computer science;
• To enable students to develop skills in system and software design and to be able to apply these skills to solve diverse problems;
• To train students to become proficient in implementing algorithms in a variety of programming languages;
• To enable students to develop skills for working as part of a team or assignments or research projects;
• To enable students to present their work effectively in oral and written form;
• To provide students with an awareness of ethical issues and the global impacts of computing technologies on society;
• To prepare students for lifelong study including graduate study and/or successful professional careers.
Present Curriculum

Upon graduation, graduates should be able to:

- Use their knowledge in core and emerging areas in computer science to solve diverse computational problems.
- Use their knowledge of system and software design to formulate a solution that meets the design requirements and specifications for diverse applications.
- Demonstrate proficiency in implementing algorithms in at least one higher-level programming language.
- Work effectively in a team environment.
- Demonstrate proficient oral and written communication skills.
- Demonstrate an understanding of ethical issues and issues relating to the impacts of computing technologies on society.
- Understand the importance of continual study in the field, and find employment with a business and/or research organization or acceptance into graduate school for further academic pursuits.

The undergraduate computer science curriculum is structured around basic courses in computer science and mathematics and is accredited by the Computing Accreditation Commission of ABET, http://www.abet.org. The curriculum is designed to allow a flexible plan of study via the mandatory selection of one of three concentrations: distributed systems and networking, software engineering, and computer science and a second discipline. A concentration should be declared at the beginning of the sophomore year. If the second discipline concentration is selected, an approval form must be completed and approved by the department and the dean's office.

Computer Science students are cautioned to verify course descriptions in the catalog noting where duplication of course credits may be prohibited. Additionally, computer science students will not receive degree credit for the following courses: ELRC 4006; EXST 2201; ISDS 2000, 2001, 2010, 2011, 3070, 3075, 3107; PHYS 1100; PSYC 4111; and SOCL 2201.

Proposed Curriculum

Upon graduation, graduates should be able to:

- Use their knowledge in core and emerging areas in computer science to solve diverse computational problems.
- Use their knowledge of system and software design to formulate a solution that meets the design requirements and specifications for diverse applications.
- Demonstrate proficiency in implementing algorithms in at least one higher-level programming language.
- Work effectively in a team environment.
- Demonstrate proficient oral and written communication skills.
- Demonstrate an understanding of ethical issues and issues relating to the impacts of computing technologies on society.
- Understand the importance of continual study in the field, and find employment with a business and/or research organization or acceptance into graduate school for further academic pursuits.

In order to meet the program objectives, a graduate of the program will have accomplishments consistent with the general criteria for student outcomes specified by the Computing Accreditation Commission of ABET, www.abet.org.

The undergraduate computer science curriculum is structured around basic courses in computer science and mathematics and is accredited by the Computing Accreditation Commission of ABET, http://www.abet.org. The curriculum is designed to allow a flexible plan of study via the mandatory selection of one of three concentrations: distributed systems and networking, software engineering, and computer science and a second discipline. A concentration should be declared at the beginning of the sophomore year. If the second discipline concentration is selected, an approval form must be completed and approved by the department and the dean's office.

Computer Science students are cautioned to verify course descriptions in the catalog noting where duplication of course credits may be prohibited. Additionally, computer science students will not receive degree credit for the following courses: CSC 1240; ELRC 4006; EXST 2201; ISDS 2000, 2001, 2010, 2011, 3070, 3075, 3107; PHYS 1100; PSYC 4111; and SOCL 2201.
Computer Science (PRESENT)

College: Engineering
Degree: Bachelor of Science
Concentration: Distributed Systems & Network
Total Hours: 120

In the DISTRIBUTED SYSTEMS & NETWORKING concentration, students examine the analysis and design of interconnecting computers with attention to the internet, multimedia, and security.

BASIC DEGREE REQUIREMENTS
• This curriculum assumes students enter the university ready to take MATH 1550 (as demonstrated by placement tests). Entering freshmen who must complete preparatory mathematics courses are advised to attend summer school to catch up with the curriculum requirements.
• Students must satisfy all college and university graduation requirements, as well as the departmental course requirements to earn a B.S. in Computer Science.
• A grade of "C" or better is required in all CSC prerequisite courses; CSC 1200, 4101, 4103, and 4330; MATH 1550 and 1552; BIOL 1001 or 1201; and all science prerequisite courses including laboratory courses.
• Students should enroll in a mathematics (MATH) course each semester until all required credits have been completed.

CRITICAL REQUIREMENTS
SEMMESTER 1: MATH 1021; 2.0 cumulative, LSU and semester GPA.
SEMMESTER 2: MATH 1022/1023; 2.0 cumulative, LSU and semester GPA.
SEMMESTER 3: "C" or better in ENGL 1001; Admission to the college; 2.0 cumulative, LSU and semester GPA.
SEMMESTER 4: "C" or better in MATH 1550/1551; 2.0 cumulative, LSU and semester GPA.
SEMMESTER 5: "C" or better in BIOL 1001/1201; 2.0 cumulative, LSU and semester GPA.

COURSE ROTATIONS
Students are advised to pay careful attention to courses that are possibly taught only once during an academic year.
CSC courses taught in the FALL: CSC 1200, 4101, 4304, 4330, 4356, 4402, 4501, and 4890.
CSC courses taught in the SPRING: CSC 2262, 3380, 3501, 4243, 4263, 4351, and 4357.

RECOMMENDED PATH

Semester 1
Critical: MATH 1021; 2.0 cumulative, LSU and semester GPA.
CSC 1350 COMPSCI I-MJR (CR: MATH 1550).......................... 4
ENGL 1001/1005 ENGLISH COMPOSITION.......................... 3
MATH 1550 AN GEOM & CALCULUS (CR: MATH 1550)......... 5
GEN. ED. COURSE - NATURAL SCIENCES'................................................. 3
Total Semester Hours: 16

Semester 2
Critical: MATH 1022/1023; 2.0 cumulative, LSU and semester GPA.
CSC 1351 COMPSCI II-MJR (CR: MATH 1550).......................... 4
MATH 1552 AN GEOM & CALCULUS (CR: MATH 1550/1551)........ 4
GEN. ED. COURSE - NATURAL SCIENCES'................................................. 3
GEN. ED. COURSE - HUMANITIES (ENGLISH/HONORS 2000-LEVEL)........... 3
GEN. ED. HUMANITIES: COMMUNICATION & STUDIES COURSE.................. 3
Total Semester Hours: 17

Semester 3
Critical: "C" or better in ENGL 1001; Admission to the college; 2.0 cumulative, LSU and semester GPA.
CSC 2259 DISCRETE STRUCTURES (CR: MATH 1552).......................... 3
CSC 3102 ADV DATA STRUCTURES (CR: MATH 1554/1551; CR: CSC 2259/EC 2740).......................... 3
MATH 2900 ELEMENTS OF LINEAR ALGEBRA (CR: MATH 1552)........... 4
GEN. ED. COURSE - NATURAL SCIENCES'................................................. 3
GEN. ED. NAT SCI - LAB'................................................................. 1
GEN. ED. HUMANITIES'................................................................. 3
Total Semester Hours: 17

Semester 4
Critical: "C" or better in MATH 1550/1551; 2.0 cumulative, LSU and semester GPA.
CSC 2262 NUMERICAL METHODS (CR: MATH 1552, MATH 1554).......................... 3
CSC 3501 COMP ORGANIZATION/DSN (CR: CSC 2259).......................... 3
CSC 4103 OPERATING SYSTEMS (CR: CSC 3102).......................... 3
GEN. ED. COURSE - NATURAL SCIENCES'................................................. 3
GEN. ED. NAT SCI - LAB'................................................................. 1
ENGL 2000 ENGLISH COMPL (CR: ENGL 1001).......................... 3
Total Semester Hours: 16

Semester 5
Critical: "C" or better in BIOL 1001/1201; 2.0 cumulative, LSU and semester GPA.
CSC 4304 SYSTEMS PROGRAMMING (CR: CSC 4103).......................... 3
CSC 4501 COMPUTER NETWORKS (CR: CSC 3102).......................... 3
IE 3302 ENGR STATISTICS (CR: MATH 1552, PHYS 2112/CSC 2259).......................... 3
APPROVED TECHNICAL ELECTIVE'......................................................... 3
Total Semester Hours: 17

Semester 6
CSC 3380 OBJ ORIENTED DESIGN (CR: MATH 1554).......................... 3
CSC 4999 ADV IND UNDERGRAD RES'...................................................... 3
APPROVED AREA ELECTIVE'................................................................. 3
APPROVED TECHNICAL ELECTIVE'......................................................... 3
GEN. ED. COURSE - SOCIAL SCIENCES.................................................. 3
Total Semester Hours: 15

Semester 7
CSC 4300 SOFTWARE SYST DEVEL (CR: CSC 3102, 3380).......................... 3
CSC 4103 PROG LANGUAGES (CR: CSC 3102).......................... 3
APPROVED AREA ELECTIVE \(^3\) .......... 3
APPROVED ELECTIVE ................................ 3
GEN. ED. COURSE - SOCIAL SCIENCES
(SOPHOMORE LEVEL) ................................ 3

Total Semester Hours: 15

Semester 8

CSC (3000 - LEVEL OR ABOVE) ELECTIVE \(^3\) .......... 3
APPROVED AREA ELECTIVE \(^3\) ....................... 3
APPROVED ELECTIVE .................................. 3
GEN. ED. COURSE - ARTS ................................ 3

Total Semester Hours: 12

Computer Science students will not receive degree credit for the following courses: ELRC 4006; EXST 2201; ISDS 2000, 2001, 2010, 2011, 3070, 3075, 3560; PWS 3400; PSYC 4111; and SOCI 2201.

1 - For General Education Natural Science, two six hour sequences in both physical & life sciences must be taken; one sequence must include two additional hours of lab work. One sequence must be from the Biological Sciences (BIOL) and the physical science sequence selected from Astronomy, Chemistry, Geology and Physics.

2 - ADVANCED INDEPENDENT UNDERGRAD RESEARCH: Three hours of credit in topic related to Distributed Systems.

3 - Approved Area Electives (nine hours required): No more than two elective courses from the same department; EE 4625, 4660; IE 4426; ISDS 4120, 4123; MATH 3355, 4023, 4025, 4325; other electives subject to approval.

4 - The selection of the CSC (3000-level or above) elective is not restrictive to topics related to Distributed Systems or Networking.

5 - APPROVED TECHNICAL ELECTIVES: Three hours of elective credits must be selected from Group A and three hours of elective credits selected from Group A or Group B. See LSU General Catalog for Group listings.

6 - Students who have completed the prerequisites may substitute MATH 3355 or EE 3150 or EXST 4050 for IE 3302.
In the DISTRIBUTED SYSTEMS & NETWORKING concentration, students examine the analysis and design of interconnecting computers with attention to the internet, multimedia, and security.

**Basic Degree Requirements**
- This curriculum assumes students enter the university ready to take MATH 1550 (as demonstrated by placement tests). Entering freshmen students who must complete preparatory mathematics courses are advised to attend summer school to catch up with the curriculum requirements.
- Students must satisfy all college and university graduation requirements, as well as the departmental course requirements to earn a B.S. in Computer Science.
- A grade of "C" or better is required in all CSC prerequisite courses: CSC 1200, 4101, 4103, and 4330; MATH 1550 and 1552; BIOL 1001 or 1201, and all science prerequisite courses including laboratory courses.
- Students should enroll in a mathematics course each semester until all required credits have been completed.

**Critical Requirements**

**Semester 1**: MATH 1021; 2.0 cumulative, LSU and semester GPA.

**Semester 2**: MATH 1022/1023; 2.0 cumulative, LSU and semester GPA.

**Semester 3**: "C" or better in ENGL 1001; Admission to the college; 2.0 cumulative, LSU and semester GPA.

**Semester 4**: "C" or better in MATH 1550/1551; 2.0 cumulative, LSU and semester GPA.

**Semester 5**: "C" or better in BIOL 1001/1201; 2.0 cumulative, LSU and semester GPA.

**Course Rotations**
- Students are advised to pay careful attention to courses that are possibly taught only once during an academic year.
- CSC courses taught in the FALL: CSC 1200, 4101, 4304, 4330, 4356, 4402, 4501, and 4690.
- CSC courses taught in the SPRING: CSC 2262, 3380, 3501, 4243, 4263, 4351, and 4375.

**Recommended Path**

Semester 1

Critical: MATH 1021; 2.0 cumulative, LSU and semester GPA.

- CSC 1200 Ethics in Computing [CR: CSC 1253/1350, ENGL 1001/1205/HRNS 2000]............................. 1
- CSC 1350 Comp Sci I-MJR [CR: MATH 1550]....................... 4
- ENGL 1001/1004 ENG Composition........... 3
- MATH 1550 An Geom & Calculus .......................... 5
- GEN. ED. COURSE - NATURAL SCIENCES........... 3

**Total Semester Hours:** 16

Semester 2

Critical: MATH 1022/1023; 2.0 cumulative, LSU and semester GPA.

- CSC 1351 Comp Sci II-MJR [CR: MATH 1550].............................. 4
- MATH 1552 An Geom & Calculus [MATH 1550/1551].................. 4
- GEN. ED. COURSE - NATURAL SCIENCES........... 3
- GEN. ED. COURSE - HUMANITIES (ENGLISH/HONORS 2000-LEVEL)......... 3
- GEN. ED. HUMANITIES: COMMUNICATION & STUDIES COURSE..................... 3

**Total Semester Hours:** 17

Semester 3

Critical: "C" or better in ENGL 1001; Admission to the college; 2.0 cumulative, LSU and semester GPA.

- MATH 2000 Elem Diff Eq & Lin Algebra [MATH 1552]............................ 4
- GEN. ED. COURSE - NATURAL SCIENCES.......................... 3
- GEN ED NAT SCI - Lab........................................ 1
- GEN. ED. - HUMANITIES......................................... 3

**Total Semester Hours:** 17

Semester 4

Critical: "C" or better in MATH 1550/1551; 2.0 cumulative, LSU and semester GPA.

- CSC 2262 Numerical Methods [MATH 1552, CSC 1254/1351]............. 3
- CSC 3501 Comp Organizatin/DSN [CSC 2259]............................... 3
- CSC 4203 Operating Systems [CSC 3102]................................. 3
- GEN. ED. COURSE - NATURAL SCIENCES.......................... 3
- GEN ED NAT SCI - Lab........................................ 1
- ENGL 2000 English Comp [ENGL 1001]................................ 2

**Total Semester Hours:** 16

Semester 5

Critical: "C" or better in BIOL 1001/1201; 2.0 cumulative, LSU and semester GPA.

- CSC 4304 Systems Programming [CSC 4103]........................................ 3
- CSC 4501 Computer Networks [CSC 3102] IE 3302 Engr Statistics [MATH 1552, PHYS 2112/CSC 2259]............. 3
- APPROVED TECHNICAL ELECTIVE........................................ 3

**Total Semester Hours:** 12

Semester 6

- CSC 3380 Obj Oriented Design [CSC 1254/1351].............................. 3
- CSC 4599 Adv Ind Undergrad Res........................................ 3
- APPROVED AREA ELECTIVE........................................ 3
- APPROVED TECHNICAL ELECTIVE........................................ 3
- GEN. ED. COURSE - SOCIAL SCIENCES.................................. 2

**Total Semester Hours:** 15

Semester 7

- CSC 4330 Software Syst Devel [CSC 3102, 3380].............................. 3
CSC 4101 PROG LANGUAGES [CSC 3102] 3
APPROVED AREA ELECTIVE 3
APPROVED ELECTIVE 3
GEN. ED. COURSE - SOCIAL SCIENCES (SOPHOMORE LEVEL) 3
Total Semester Hours: 15

Semester 8

CSC (3000 - LEVEL OR ABOVE) ELECTIVE 3
APPROVED AREA ELECTIVE 3
APPROVED ELECTIVE 3
GEN. ED. COURSE - ARTS 3
Total Semester Hours: 12

Computer Science students will not receive degree credit for the following courses: CSC 1240; ELRC 4006; EXST 2201; ISDS 2000, 2001, 2010, 2011, 3070, 3075; PSYC 4111; and SOCL 2201.

1 - For General Education Natural Science, two six hour sequences in both physical & life sciences must be taken; one sequence must include two additional hours of lab work. One sequence must be from the Biological Sciences (BIOL) and the physical science sequence selected from Astronomy, Chemistry, Geology and Physics.

2 - ADVANCED INDEPENDENT UNDERGRAD RESEARCH: Three hours of credit in topic related to Distributed Systems.

3 - Approved Area Electives (nine hours required): No more than two elective courses from the same department: CSC 4402, EE 4625, 4660; IE 4426; ISDS 4120, 4123; MATH 3355, 4023, 4025, 4325; other electives subject to approval.

4 - The selection of the CSC (3000-level or above) elective is not restrictive to topics related to Distributed Systems or Networking.

5 - APPROVED TECHNICAL ELECTIVES: Three hours of elective credits must be selected from Group A and three hours of elective credits selected from Group A or Group B. See LSU General Catalog for Group listings.

6 - Students who have completed the prerequisites may substitute MATH 3355 or EE 3150 or EXST 4050 for IE 3302.
The SOFTWARE ENGINEERING concentration provides an in-depth study of systems development, project development, human-computer interfaces, programming languages, and software development tools.

**BASIC DEGREE REQUIREMENTS**
- This curriculum assumes students enter the university ready to take MATH 1550 (as demonstrated by placement tests). Entering freshmen students who must complete preparatory mathematics courses are advised to attend summer school to catch up with the curriculum requirements.
- Students must satisfy all college and university graduation requirements, as well as the departmental course requirements to earn a B.S. in Computer Science.
- A grade of "C" or better is required in all CSC prerequisite courses; CSC 1200, 4101, 4103, and 4330; MATH 1550 and 1552; BIOC 1001 or 1201; and all science prerequisite courses including laboratory courses.
- Students should enroll in a mathematics (MATH) course each semester until all required credits have been completed.

**CRITICAL REQUIREMENTS**

**SEMESTER 1:** MATH 1021; 2.0 cumulative, LSU and semester GPA.

**SEMESTER 2:** MATH 1022/1023; 2.0 cumulative, LSU and semester GPA.

**SEMESTER 3:** "C" or better in ENGL 1001; Admission to the college; 2.0 cumulative, LSU and semester GPA.

**SEMESTER 4:** MATH 1550/1551; 2.0 cumulative, LSU and semester GPA.

**SEMESTER 5:** "C" or better in BIOL 1001/1201; 2.0 cumulative, LSU and semester GPA.

**COURSE ROTATIONS.**

Students are advised to pay careful attention to courses that are possibly taught only once during an academic year.

CSC courses taught in the FALL: CSC 1200, 4101, 4304, 4330, 4362, 4402, 4501, and 4890.

CSC courses taught in the SPRING: CSC 2262, 3380, 3501, 4243, 4351, and 4357.

**RECOMMENDED PATH**

**Semester 1**

Critical: MATH 1021; 2.0 cumulative, LSU and semester GPA.

- CSC 1200 ETHICS IN COMPUTING [CR: CSC ... 1252/1350, ENGL 1001/1005/HNRS] 2000] ………………………………… 1
- CSC 1350 COMP SCI I-MJR5 [CR: MATH 1550] ………………………………… 4
- ENGL 1001/1004 ENGL COMPOSITION ………………………………… 3
- MATH 1550 AN GOM & CALCULUS-I ………………………………… 5
- GEN. ED. COURSE - NATURAL SCIENCES………………... 3

Total Semester Hours: 16

**Semester 2**

Critical: MATH 1022/1023; 2.0 cumulative, LSU and semester GPA.

- CSC 1351 COMP SCI II-MJR5 [CSC 1350 CR: MATH 1550] ………………………………… 4
- MATH 1552 AN GOM & CALCULUS [MATH 1550/1551] ………………………………… 4
- GEN. ED. COURSE - NATURAL SCIENCES………………... 3
- GEN. ED. COURSE - HUMANITIES [ENGLISH/HONORS 2000-LEVEL] ………………………………… 3
- GEN. ED. HUMANITIES: COMMUNICATION STUDIES COURSE……………………………… 3

Total Semester Hours: 17

**Semester 3**

Critical: "C" or better in ENGL 1001; Admission to the college; 2.0 cumulative, LSU and semester GPA.

- CSC 2259 DISCRETE STRUCTURES [CSC 1254/1351 CR: MATH 1552] ………………………………… 3
- CSC 3102 ADV DATA STRUCTURES [CSC 1254/1351 CR: CSC 2259/EE 2740]……………………………… 3
- MATH 2080 Elem Diff EQ & LIN ALGEBRA [MATH 1552] ………………………………… 4
- GEN. ED. COURSE - NATURAL SCIENCES………………... 3
- GEN. ED. NAT SCI - LAB………………... 1
- GEN. ED. - HUMANITIES………………... 3

Total Semester Hours: 17

**Semester 4**

Critical: MATH 1550/1551; 2.0 cumulative, LSU and semester GPA.

- CSC 2262 NUMERICAL METHODS [MATH 1552, CSC 1254/1351] ………………………………… 3
- CSC 3380 OBJ ORIENTED DESIGN [CSC 1254/1351] ………………………………… 3
- CSC 3501 COMP ORGANIZATN/DSN [CSC 2259] ………………………………… 3
- GEN. ED. COURSE - NATURAL SCIENCES………………... 3
- GEN. ED. NAT SCI - LAB………………... 1
- ENGL 2000 ENGLISH COMP [ENGL 1001] ………………………………… 2

Total Semester Hours: 16

**Semester 5**

Critical: "C" or better in BIOL 1001/1201; 2.0 cumulative, LSU and semester GPA.

- CSC 4101 PROG LANGUAGES [CSC 3102] ………………………………… 3
- CSC 4330 SOFTWARE SYST DEVEL [CSC 3102, 3380] ………………………………… 3
- IE 3302 ENGR STATISTICS [MATH 1552, PHYS 2112/CSC 2259] ………………………………… 3
- APPROVED TECHNICAL ELECTIVES………………... 3

Total Semester Hours: 12

**Semester 6**

- CSC 4103 OPERATING SYSTEMS [CSC 3102] ………………………………… 3
- CSC 4351 COMPIR Constrctn [CSC 4101] ………………………………… 3
- APPROVED TECHNICAL ELECTIVES………………... 3
- APPROVED ELECTIVE ………………………………… 3
- GEN. ED. COURSE - SOCIAL SCIENCES ………………………………… 3

Total Semester Hours: 15
Semester 7

CSC (2000-LEVEL OR ABOVE) ELECTIVE ........... 3
CSC 4402 INTR DATABASE MGT SYS [CSC 3102] .................................................. 3
APPROVED AREA ELECTIVE^2 ................... 3
APPROVED ELECTIVE ............................. 3
GEN. ED. COURSE - SOCIAL SCIENCES (SOPHOMORE LEVEL) ...................................... 3
Total Semester Hours: ............................... 15

Semester 8

CSC (3000- LEVEL OR ABOVE) ELECTIVE^3 ...... 3
APPROVED AREA ELECTIVES^2 .................... 6
GEN. ED. COURSE - ARTS ................................ 3
Total Semester Hours: ............................... 12

Computer Science students will not receive degree credit for the following courses: ELRC 4006; EXST 2201; ISDS 2000, 2001, 2010, 2011, 3070, 3075, 3100, 3105; PHYS 3100; PSYC 4111; and SOC 2201.

1 - For General Education Natural Science, two six hour sequences in both physical & life sciences must be taken; one sequence must include two additional hours of lab work. One sequence must be from the Biological Sciences (BIOL) and the physical science sequence selected from Astronomy, Chemistry, Geology and Physics.

2 - APPROVED AREA ELECTIVES (nine hours required): CSC 4394, 4370, 4890; EE 4762; IE 4461; ISDS (maximum of six hours) from 4112, 4113, 4120, 4125, 4141; other electives subject to approval.

3 - The selection of the CSC (3000- level or above) elective is not restrictive to topics related to Software Engineering.

4 - APPROVED TECHNICAL ELECTIVES: Three hours of elective credits must be selected from Group A and three hours of elective credits selected from Group A or Group B. See LSU General Catalog for Group listings.

5 - Students who have completed the prerequisites may substitute MATH 3355 or EE 3150 or EXST 4050 for IE 3302.
Computer Science (PROPOSED)

College: Engineering
Degree: Bachelor of Science
Concentration: Software Engineering
Total Hours: 120

The SOFTWARE ENGINEERING concentration provides an in-depth study of systems development, project development, human-computer interfaces, programming languages, and software development tools.

BASIC DEGREE REQUIREMENTS

• This curriculum assumes students enter the university ready to take MATH 1550 (as demonstrated by placement tests). Entering freshmen students who must complete preparatory mathematics courses are advised to attend summer school to catch up with the curriculum requirements.
• Students must satisfy all college and university graduation requirements, as well as the departmental course requirements to earn a B.S. in Computer Science.
• A grade of "C" or better is required in all CSC prerequisite courses: CSC 1200, 4101, 4103, and 4330; MATH 1550 and 1552; BIOL 1001 or 1201, and all science prerequisite courses including laboratory courses.
• Students should enroll in a mathematics (MATH) course each semester until all required credits have been completed.

CRITICAL REQUIREMENTS

SEMESTER 1: MATH 1021; 2.0 cumulative, LSU and semester GPA.

SEMESTER 2: MATH 1022/1023; 2.0 cumulative, LSU and semester GPA.

SEMESTER 3: "C" or better in ENGL 1001; Admission to the college; 2.0 cumulative, LSU and semester GPA.

SEMESTER 4: MATH 1550/1551; 2.0 cumulative, LSU and semester GPA.

SEMESTER 5: "C" or better in BIOL 1001/1201; 2.0 cumulative, LSU and semester GPA.

COURSE ROTATIONS:

Students are advised to pay careful attention to courses that are possibly taught only once during an academic year.

CSC courses taught in the FALL: CSC 1200, 4101, 4304, 4330, 4362, 4402, 4501, and 4896.

CSC courses taught in the SPRING: CSC 2262, 3380, 3501, 4243, 4351, and 4357.

RECOMMENDED PATH

Semester 1
Critical: MATH 1021; 2.0 cumulative, LSU and semester GPA.

CSC 1200 ETHICS IN COMPUTING [CR: CSC 1200/1350, ENGL 1001/1005/HNRS]
2000] ............................................. 1
CSC 1350 COMP SCI I-MRIS [CR: MATH 1550] ............................................. 4
ENGL 1001/1004 ENGL COMPOSITION ............................................. 3
MATH 1550 AN GEOM & CALCULUS I ............................................. 5
GEN. ED. COURSE - NATURAL SCIENCES1 ............................................. 3

TOTAL SEMESTER HOURS: 16

Semester 2
Critical: MATH 1022/1023; 2.0 cumulative, LSU and semester GPA.

CSC 1351 COMP SCI II-MRIS [CSC 2350 CR: MATH 1550] ............................................. 4
MATH 1552 AN GEOM & CALCULUS II [MATH 1550/1551] ............................................. 4
GEN. ED. COURSE - NATURAL SCIENCES1 ............................................. 3
GEN. ED. COURSE - HUMANITIES (ENGLISH/HONORS 2000 LEVEL) ............................................. 3
GEN. ED. HUMANITIES: COMMUNICATION STUDIES COURSE ............................................. 3

TOTAL SEMESTER HOURS: 17

Semester 3
Critical: "C" or better in ENGL 1001; Admission to the college; 2.0 cumulative, LSU and semester GPA.

CSC 2259 DISCRETE STRUCTURES [CSC 1254/1351 CR: MATH 1552] ............................................. 3
CSC 3102 ADV DATA STRUCTURES [CSC 1254/1351 CR: CSC 2259/EE 2740] ............................................. 3
MATH 2090 ELEM DIFF EQ & LIN ALGEBRA [MATH 1552] ............................................. 4
GEN. ED. COURSE - NATURAL SCIENCES1 ............................................. 3
GEN. ED NAT SCI - LAB2 ............................................. 1
GEN. ED. - HUMANITIES ............................................. 3

TOTAL SEMESTER HOURS: 17

Semester 4
Critical: MATH 1550/1551; 2.0 cumulative, LSU and semester GPA.

CSC 2262 NUMERICAL METHODS [MATH 1552, CSC 1254/1351] ............................................. 3
CSC 3380 OBJ ORIENTED DESIGN [CSC 1254/1351] ............................................. 3
CSC 3501 COMP ORGANIZATION/DSDN [CSC 2259] ............................................. 3
GEN. ED. COURSE - NATURAL SCIENCES1 ............................................. 3
GEN. ED NAT SCI - LAB2 ............................................. 1
ENGL 2000 ENGLISH COMP [ENGL 1001] ............................................. 3

TOTAL SEMESTER HOURS: 16

Semester 5
Critical: "C" or better in BIOL 1001/1201; 2.0 cumulative, LSU and semester GPA.

CSC 4101 PROG LANGUAGES [CSC 3102] ............................................. 3
CSC 4330 SOFTWARE SYST DEVEL [CSC 3102, 3380] ............................................. 3
IE 3302 ENGR STATISTICS [MATH 1552, PHYS 2112/CSC 2259] ............................................. 3
APPROVED TECHNICAL ELECTIVES* ............................................. 3

TOTAL SEMESTER HOURS: 12

Semester 6
Critical: MATH 1022/1023; 2.0 cumulative, LSU and semester GPA.

CSC 4103 OPERATING SYSTEMS [CSC 3102] ............................................. 3
CSC 4331 COMPILER CONSTRUCTN [CSC 4101] ............................................. 3
APPROVED TECHNICAL ELECTIVE* ............................................. 3
APPROVED ELECTIVE ............................................. 3
GEN. ED. COURSE - SOCIAL SCIENCES ............................................. 3

TOTAL SEMESTER HOURS: 15
Semester 7

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<td>GEN. ED. COURSE - SOCIAL SCIENCES (SOPHOMORE LEVEL)</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Semester Hours:</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

Semester 8

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSC (3000-LEVEL OR ABOVE) ELECTIVE</td>
<td>3</td>
</tr>
<tr>
<td>APPROVED AREA ELECTIVES</td>
<td>6</td>
</tr>
<tr>
<td>GEN. ED. COURSE - ARTS</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Semester Hours:</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

Computer Science students will not receive degree credit for the following courses: **CSC 1240**, ELRC 4006; EXST 2201; IDS 2000, 2001, 2010, 2011, 3070, 3075, 3197; PHYS 4100; PSYC 4111; and SOCI 2201.

1. For General Education Natural Science, two six hour sequences in both physical and life sciences must be taken; one sequence must include two additional hours of lab work. One sequence must be from the Biological Sciences (BIOL) and the physical science sequence selected from Astronomy, Chemistry, Geology and Physics.

2. APPROVED AREA ELECTIVES (nine hours required): **CSC 4243, 4263, 4304, 4356, 4357, 4370, 4444, 4501, 4890; EE 4760; IE 4461; IDS 4112, 4113, 4120, 4125, 4141; other electives subject to approval.**

3. The selection of the CSC (3000-level or above) elective is not restrictive to topics related to Software Engineering.

4. APPROVED TECHNICAL ELECTIVES: Three hours of elective credits must be selected from Group A and three hours of elective credits selected from Group A or Group B. See LSU General Catalog for Group listings.

5. Students who have completed the prerequisites may substitute MATH 3355 or EE 3150 or EXST 4050 for IE 3302.
Date: Tue, 24 Sep 2013 11:33:35 +0000
From: Laurene L Hutchinson <lutchi@lsu.edu>
To: Coretta Douglas <douglas@csc.lsu.edu>
Subject: Re: CSC_E: REQUEST RESPONSE Approve ISDS 4120 for SE Concentration

I have spoken to both our department chair and the instructor of the course and neither see a problem with your request.

Thank you and let me know if you need anything further.

Laurene

Sent from my iPhone

On Sep 23, 2013, at 12:24 PM, "Coretta Douglas" <douglas@csc.lsu.edu> wrote:

> Hi Laurene,
> The Division of CSC_E would like to add ISDS 4120 to the list of pre-approved electives for the software engineering concentration. Such inclusion will facilitate the use of credits toward the Information Technology Management minor in the CSC degree and specifically the SE concentration. I don't anticipate that the number of students in ISDS 4120 will increase significantly.
> Please respond that you approve this request to add the course.
> Regards,
> Coretta
> Coretta Douglas, Ph.D. Computer Science
> Undergraduate/Instructional Coordinator and Instructor
> School of Electrical Engineering and Computer Science
> ** Computer Science and Engineering **
> Patrick Taylor #3118
>
REQUEST FOR ADDING, CHANGING, SUSPENDING OR DROPPING AN UNDERGRADUATE CURRICULUM

Department: Civil and Environmental Engineering
College: Engineering
Name of Curriculum/Major: Civil Engineering
Type of Degree: BS

Date: 09/13/13

Has this change been discussed with and approved by all departments/colleges affected? Yes (X) No ( ) N/A ( )

ATTACH JUSTIFICATION for all actions. Use separate sheet.
ATTACH RESPONSE from any departments affected [i.e. any department whose course(s) are to be added.]
ATTACH FORM D ADDENDUM for all new curricula or changes involving General Education courses.

ACTION (check appropriate box):

( ) ADDING: Show the entire new curriculum by year (freshman, sophomore, etc.) using catalog format. Use plain sheets and attach.
(X) CHANGING: On a separate sheet of paper, include the current curriculum outline (all four years) which is to be changed in the left column and the proposed changes in the right column. In proposed column, use strikeout and bold to identify deletions and additions. Explain all changes adequately on attachment.
( ) SUSPENDING: Provide an adequate explanation for suspending the curriculum on plain sheets and attach.
( ) DROPPING: Provide an adequate explanation for dropping the curriculum on plain sheets and attach.

CURRICULUM

<table>
<thead>
<tr>
<th>PRESENT</th>
<th>PROPOSED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total semester hours in current curriculum:</td>
<td>120</td>
</tr>
</tbody>
</table>

APPROVALS:
Department Faculty Approval Date: 2/20/2013
Department Chair’s Signature: 9/27/13
Department Chair’s (Date): 9/27/13

College Faculty Approval Date: 9/19/13
College Dean’s Signature: 9/27/13
College Dean’s (Date): 9/27/13

Chair, FS C & C Committee: 10/15/13
Academic Affairs Approval: 12/5/13
Academic Affairs Approval (Date): 12/5/13
Civil Engineering (PRESENT)

**College:** Engineering  
**Degree:** Bachelor of Science in Civil Engineering (B.S.C.E.)  
**Total Hours:** 120

**CRITICAL REQUIREMENTS**

**SEMESTER 1:** MATH 1021.  
**SEMESTER 2:** MATH 1022/1023.  
**SEMESTER 3:** CHEM 1201.  
**SEMESTER 4:** "C" or better in MATH 1550.  
**SEMESTER 5:** "C" or better in PHYS 1100.

Civil Engineering majors must earn a grade of "C" or better in CHEM 1202, PHYS 2101, PHYS 2102, MATH 1550, MATH 1552, MATH 2057, CE 2200, CE 2450, CE 2460, and CE 3400 before registering for any subsequent courses that require the above as prerequisites.

**RECOMMENDED PATH**

**Semester 1**  
**Critical:** MATH 1021.

CHEM 1201 GEN CHEMISTRY I [CR: MATH 1022/1023/1431/1550/1551] ___________________________ 3  
ENGL 1001 ENGL COMPOSITION ___________________________ 3  
GEOL 1001 GEN GEO PHYSICAL ___________________________ 3  
MATH 1550 AN GEOM & CALCULUS-1 ___________________________ 5  
BASIC SCIENCE LAB ELECTIVE ___________________________ 1  
Total Semester Hours: 15

**Semester 2**  
**Critical:** MATH 1022/1023.

CE 2700 INTRO CIVIL ENGR ___________________________ 1  
CHEM 1202 GENERAL CHEMISTRY [CHEM 1201] ___________________________ 3  
MATH 1552 AN GEOM & CALCULUS [MATH 1550/1551] ___________________________ 4  
PHYS 2101 GEN PHYS FOR TECH ST [PHYS 1100 CR: MATH 1552] ___________________________ 3  
GEN. ED. COURSE - ARTS ___________________________ 3  
GEN. ED. COURSE - NATURAL SCIENCES ___________________________ 3  
Total Semester Hours: 17

**Semester 3**  
**Critical:** CHEM 1201.

CE 2450 STATICS [MATH 1552, PHYS 2101] ___________________________ 3  
MATH 2057 MULTIDIMENSIONAL CALC [MATH 1552] ___________________________ 3  
PHYS 2102 GEN PHYS FOR TECH ST [PHYS 2101, MATH 1552] ___________________________ 3  
EXST 2201 STATISTICAL ANALYSIS [MATH 1024] ___________________________ 4  
Total Semester Hours: 15

**Semester 4**  
**Critical:** "C" or better in MATH 1550.

CE 2200 FLUID MECHANICS [CE 2450] ___________________________ 3  
CE 2460 DYNAMICS & VIBRATIONS [CE 2450 CR: MATH 2057] ___________________________ 3  
CE 3400 MECHNCS OF MATERIALS [CE 2450] ___________________________ 3  
CE 3700 ENGINEERING MAT LAB [CR: CE 3400] ___________________________ 1  
CE 3500 PLANE SURV & MEASURE [EXST 2201] ___________________________ 3  
MATH 2065 EL DIFFERENTIAL EQ [MATH 1552] ___________________________ 3  
Total Semester Hours: 16

**Semester 5**  
**Critical:** "C" or better in PHYS 1100.

CE 2250 FLUID MECH LAB [CE 2200] ___________________________ 1  
EVEG 3200 WTR RESOURCES ENGR [CE 2200] ___________________________ 3  
CE 3410 MECHNCS OF MATLS LAB [EXST 2201, CE 3400] ___________________________ 4  
CE 3415 STRUCTL ANALYSIS I [CE 3400, MATH 2065] ___________________________ 3  
CE 3600 PRINC HWY/TRAFCS ENGR [CE 3500] ___________________________ 3  
ENGL 2000 ENGLISH COMP [ENGL 1001] ___________________________ 3  
ME 3333/CE 2950 ___________________________ 3  
Total Semester Hours: 17

**Semester 6**  

CE 3350 GEOTECHNICAL ENGR I [CE 2200, GEOL 1001, CHEM 1202 CR: CE 3350] ___________________________ 3  
CE 3350 GEOTECH ENGR II [EXST 2201 CR: CE 3300] ___________________________ 1  
ECON 2030 ECONOMIC PRINCIPLES ___________________________ 3  
CE 4410 PRIN REINFORCED CONC [CE 3415 CR: CE 3700] ___________________________ 3  
EVEG 3110 WTR/WSTWTR TREATMT [CE 2200] ___________________________ 3  
GEN. ED. COURSE - SOCIAL SCIENCES ___________________________ 3  
Total Semester Hours: 16

**Semester 7**  

CE 4200 HYDROLOGY [CE 2200] ___________________________ 3  
CE 4750 PRF ISS CONC DESN CE [CE 2700] ___________________________ 2  
CE ANALYSIS ELECTIVE OR DESIGN ELECTIVE ___________________________ 3  
GEN. ED. COURSE - HUMANITIES ___________________________ 6  
Total Semester Hours: 14

**Semester 8**  

CE DESIGN ELECTIVE ___________________________ 3  
CE PROJECT ELECTIVE ___________________________ 3  
GEN. ED. COURSE - HUMANITIES ___________________________ 3  
TECHNICAL ELECTIVE/ROTC ___________________________ 3  
Total Semester Hours: 12
Civil Engineering (PROPOSED)

College: Engineering
Degree: Bachelor of Science in Civil Engineering (B.S.C.E.)
Total Hours: 120

CRITICAL REQUIREMENTS

SEMIESTER 1: MATH 1021.
SEMIESTER 2: MATH 1022/1023.
SEMIESTER 3: CHEM 1201.
SEMIESTER 4: "C" or better in MATH 1550.
SEMIESTER 5: "C" or better in PHYS 2110.

Civil Engineering majors must earn a grade of "C" or better in CHEM 1202, PHYS 2110, PHYS 2112, MATH 1550, MATH 1552, MATH 2057, CE 2200, CE 2450, CE 2460, and CE 3400 before registering for any subsequent courses that require the above as prerequisites.

RECOMMENDED PATH

Semester 1
Critical: MATH 1021.

ENGL 1001 ENGL COMPISITION .......... 3
GEOG 1001 GEN GEO PHYSICAL .......... 3
MATH 1550 AN GEOM & CALCULUS-I .......... 5
BASIC SCIENCE LAB ELECTIVE .......... 1
Total Semester Hours: 15

Semester 2
Critical: MATH 1022/1023.

CE 2700 INTRO CIVIL ENGR .......... 1
CHEM 1202 GENERAL CHEMISTRY [CHEM 1201] .......... 3
MATH 1552 AN GEOM & CALCULUS [MATH 1550/1551] .......... 3
PHYS 2110 PARTICLE MECHANICS .......... 3
GEN. ED. COURSE - ARTS .......... 3
GEN. ED. COURSE - NATURAL SCIENCES .......... 3
Total Semester Hours: 17

Semester 3
Critical: CHEM 1201.

CE 2450 STATISICS [MATH 1552, PHYS 2101] .......... 3
MATH 2057 MULTIDIMENSIONAL CAL [MATH 1552] .......... 3
PHYS 2112 THERMO & WAVES .......... 3
EXST 2201 STATISTICAL ANALYSIS [MATH 1021] .......... 4
Total Semester Hours: 13

Semester 4
Critical: "C" or better in MATH 1550.

CE 2200 FLUID MECHANICS [CE 2450] .......... 3
CE 2460 DYNAMICS & VIBRATIONS [CE 2450 CR: MATH 2065] .......... 3
CE 3400 MECHNICS OF MATERIALS [CE 2450] .......... 3
CE 3700 ENGINEERING MAT LAB [CR: CE 3400] .......... 3
CE 3500 PLANE SURV & MEASURE [EXST 2201] .......... 3
MATH 2065 EL DIFFERENTI EQ [MATH 1552] .......... 3
Total Semester Hours: 16

Semester 5
Critical: "C" or better in PHYS 2110.

CE 2250 FLUID MECH LAB [CE 2200] .......... 1
EVEG 3200 WATR RESOURCES ENGR [CE 2200] .......... 3
CE 3410 MECHNICS OF MATLS LAB [EXST 2201, CE 3400] .......... 1
CE 3415 STRUCTURAL ANALYSIS I [CE 3400, MATH 2065] .......... 3
CE 3600 PRINC HWY/TRAFC ENGR [CE 3500] .......... 3
ENGL 2000 ENGLISH COMP [ENGL 1001] .......... 3
EE 2950 .......... 3
Total Semester Hours: 17

Semester 6

CE 3300 GEOTECHNICAL ENGR I [CE 2200, GEOL 1001, CHEM 1202 CR: CE 3350] .......... 3
CE 3350 GEOTECH ENGR LAB I [EXST 2201 CR: CE 3300] .......... 1
ECON 2030 ECONOMIC PRINCIPLES .......... 3
CE 4410 PRIN REINFORCED CONC [CE 3415 CR: CE 3700] .......... 3
EVEG 3110 WAST/WST WTR TREATMNT [CE 2200] .......... 3
GEN. ED. COURSE - SOCIAL SCIENCES .......... 3
Total Semester Hours: 16

Semester 7

CE 4200 HYDROLOGY [CE 2200] .......... 3
CE 4750 PRF ISS CONC DESN CE [CE 2700] .......... 2
CE ANALYSIS ELECTIVE OR DESIGN ELECTIVE .......... 3
GEN. ED. COURSE - HUMANITIES .......... 6
Total Semester Hours: 14

Semester 8

CE DESIGN ELECTIVE .......... 3
CE PROJECT ELECTIVE .......... 3
GEN. ED. COURSES - HUMANITIES .......... 3
TECHNICAL ELECTIVE/ROTC .......... 3
Total Semester Hours: 12
Justification for Curriculum Changes

The civil engineering undergraduate curriculum committee has recently evaluated the civil engineering curriculum and proposed several changes that were subsequently approved by all faculty. The following curriculum changes were proposed and approved by the faculty:

- Changes to Physics and elimination of the option of ME 3333:
The Physics department has introduced a new three course sequence (PHYS 2110, PHYS 2112, and PHYS 2113) to replace the current PHYS 2101 and PHYS 2102. PHYS 1100 has been eliminated. To fulfill the curricular needs of the CE program, the CE department has approved the substitution of PHYS 2110 for PHYS 2301 and PHYS 2112 for PHYS 2102. The content of the two physics courses (2110 and 2112) covers the topics needed in the CE curriculum. For PHYS 2110, the students will cover:

HR&W Chapter 1 – Measurement
HR&W Chapter 3 – Vectors
HR&W Chapters 2 & 4 – Kinematics in 1, 2, and 3 Dimensions
HR&W Chapters 5 & 6 – Forces and Motion, Newton’s Laws
HR&W Chapter 7 – Kinetic Energy and Work
HR&W Chapter 8 – Potential Energy, Conservation of Mechanical Energy
HR&W Chapter 9 – Linear Momentum, Center of Mass
HR&W Chapter 10 – Rotational Kinematic, Dynamics, and Energy
HR&W Chapter 11 – Rolling, Torque Revisited, Angular Momentum
HR&W Chapter 12 – Equilibrium and Elasticity

Possible omissions: relative motion in 1 or 2 D, variable mass systems
PHYS-2101 would be co-requisite for PHYS-2108 lab

12 Chapters in ~14 Weeks

For PHYS 2112, the students will cover:

HR&W Chapter 14 – Fluids: Statics and Dynamics
HR&W Chapter 15 – Mechanical Oscillators
HR&W Chapter 16 – Mechanical Waves, Interference, Superposition, Standing Waves
HR&W Chapter 17 – Sound Waves, Doppler Effect
HR&W Chapter 18 – Temperature and Heat – First Law of Thermodynamics
HR&W Chapter 19 – Kinetic Theory
HR&W Chapter 20 – Entropy, Second Law of Thermodynamics
HR&W Chapter 33 – Electromagnetic Waves, Refraction and Polarization
HR&W Chapter 34 – Image Formation, Ray Optics
HR&W Chapter 35 – Interference
HR&W Chapter 36 – Diffraction
HR&W Chapter 38 – Intro to Quantum, Photons and Matter Waves
HR&W Chapter 42 – Nuclear Physics, Radioactive Decay, Nuclear Models
HR&W Chapter 43 – Energy from the Nucleus

Possible omissions: thin films, all of Ch 34, Schrodinger eqn, tunneling, radiation dosage

14 Chapters in ~14 Weeks

Since PHYS 2112 covers similar topics to ME 3333, the CE department decided to eliminate the option of taking ME 3333 or EE 2950 and to make EE 2950 a required course. EE 2950 covers topics that are similar to the new PHYS 2113 in the new physics sequence, which is not required in the CE curriculum.
# GENERAL EDUCATION REQUIREMENTS

When a department adds a new curriculum or makes changes in an existing one, a Form D Addendum must also be submitted. This form is simply a list of those courses in the curriculum that satisfy the General Education requirement. Include course rubric, number, and credit hours when curricula differ from the default values. Indicate the curriculum year for all General Education courses.

<table>
<thead>
<tr>
<th>General Education Requirement</th>
<th>Course(s)</th>
<th>Credit Hours</th>
<th>Curriculum Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition (6 hrs.)</td>
<td>ENGL 1001 or 1004</td>
<td>3</td>
<td>(X) 1&lt;sup&gt;st&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>ENGL 2000</td>
<td></td>
<td>( ) 2&lt;sup&gt;nd&lt;/sup&gt;</td>
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<td></td>
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<td>( ) 3&lt;sup&gt;rd&lt;/sup&gt;</td>
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<td>( ) 4&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>Analytical Reasoning (6 hrs.)</td>
<td>General Education analytical reasoning course</td>
<td>3</td>
<td>(X) 1&lt;sup&gt;st&lt;/sup&gt;</td>
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<tr>
<td>(At least 3 hours credit must be from a MATH course.)</td>
<td>(from mathematics department)</td>
<td></td>
<td>( ) 2&lt;sup&gt;nd&lt;/sup&gt;</td>
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<tr>
<td></td>
<td>MATH 1550</td>
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<td>( ) 3&lt;sup&gt;rd&lt;/sup&gt;</td>
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<td>( ) 4&lt;sup&gt;th&lt;/sup&gt;</td>
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<td></td>
<td>General Education analytical reasoning course</td>
<td>3</td>
<td>(X) 1&lt;sup&gt;st&lt;/sup&gt;</td>
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<tr>
<td></td>
<td>(from mathematics department)</td>
<td></td>
<td>( ) 2&lt;sup&gt;nd&lt;/sup&gt;</td>
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<tr>
<td></td>
<td>MATH 1552</td>
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<td>( ) 3&lt;sup&gt;rd&lt;/sup&gt;</td>
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<td>( ) 4&lt;sup&gt;th&lt;/sup&gt;</td>
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<td>Arts (3 hrs.)</td>
<td>General Education arts course</td>
<td>3</td>
<td>(X) 1&lt;sup&gt;st&lt;/sup&gt;</td>
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<td>( ) 4&lt;sup&gt;th&lt;/sup&gt;</td>
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<tr>
<td>Humanities (9 hrs.)</td>
<td>General Education humanities course</td>
<td>3</td>
<td>( ) 1&lt;sup&gt;st&lt;/sup&gt;</td>
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<td>( ) 2&lt;sup&gt;nd&lt;/sup&gt;</td>
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<td>General Education humanities course</td>
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<td>(X) 4&lt;sup&gt;th&lt;/sup&gt;</td>
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<td>General Education humanities course</td>
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<td>( ) 1&lt;sup&gt;st&lt;/sup&gt;</td>
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<td></td>
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<td></td>
<td>(X) 4&lt;sup&gt;th&lt;/sup&gt;</td>
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<tr>
<td>Natural Sciences (9 hrs.)</td>
<td>General Education natural science course</td>
<td>6</td>
<td>(X) 1&lt;sup&gt;st&lt;/sup&gt;</td>
</tr>
<tr>
<td>(If 2 course sequence is taken in the physical sciences, the additional 3 hour course must be from the life sciences, and vice versa.)</td>
<td>sequence PHYS 2112, 2113</td>
<td></td>
<td>( ) 2&lt;sup&gt;nd&lt;/sup&gt;</td>
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<tr>
<td></td>
<td>General Education natural science course</td>
<td></td>
<td>( ) 3&lt;sup&gt;rd&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>(Life Science Elective)</td>
<td></td>
<td>( ) 4&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>Social Sciences (6 hrs.)</td>
<td>General Education social science course</td>
<td>3</td>
<td>( ) 1&lt;sup&gt;st&lt;/sup&gt;</td>
</tr>
<tr>
<td>(At least three hours at or above the 2000-level.)</td>
<td></td>
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<td>( ) 2&lt;sup&gt;nd&lt;/sup&gt;</td>
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<td>( ) 3&lt;sup&gt;rd&lt;/sup&gt;</td>
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<td>(X) 4&lt;sup&gt;th&lt;/sup&gt;</td>
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<tr>
<td></td>
<td>General Education social science course</td>
<td>3</td>
<td>( ) 1&lt;sup&gt;st&lt;/sup&gt;</td>
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<tr>
<td></td>
<td>(2000-level or above)</td>
<td></td>
<td>( ) 2&lt;sup&gt;nd&lt;/sup&gt;</td>
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<tr>
<td></td>
<td>ECON 2030</td>
<td></td>
<td>(X) 3&lt;sup&gt;rd&lt;/sup&gt;</td>
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<td></td>
<td>( ) 4&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
</tbody>
</table>
FYI

Sherif Ishak
Sent from my iPhone

Begin forwarded message:

From: John D Scalzo <jscalz1@lsu.edu>
Date: September 27, 2013 at 12:20:30 PM CDT
To: Sherif S Ishak <sishak@lsu.edu>
Cc: "George Voyiadjis (voyiadjis@eng.lsu.edu)" <voyiadjis@eng.lsu.edu>, Pratul K Ajmera <ajmera@lsu.edu>
Subject: RE: EE 2950

The division has no objection to this change.

John Scalzo
Instructor, Undergraduate Advisor
Division of Electrical and Computer Engineering
School of Electrical Engineering and Computer Science
3172 Patrick F. Taylor Hall
http://www.ece.lsu.edu/scalzo/index.html
jscalz1@lsu.edu
225-578-5478
BSEE, Virginia Tech, 1992
MSEE, Georgia Tech, 1993

From: Sherif S Ishak
Sent: Friday, September 27, 2013 8:20 AM
To: John D Scalzo
Cc: George Voyiadjis (voyiadjis@eng.lsu.edu)
Subject: EE 2950

Hi John,

CEE is dropping the option of ME 3333 or EE 2950, which will make EE 2950 a required course for all CE students. This change was instigated by the new physics courses. Traditionally, the majority of CE
students opt to take EE 2950 and therefore we do not anticipate that this change will have a significant impact on the enrollment in EE 2950. Pls. let me know if your department has no objection to this change.

Regards,
Sherif

Sherif Ishak, Ph.D., P.E.
Professor
Undergraduate Programs Coordinator
3418A Patrick F. Taylor Hall
Civil and Environmental Engineering
Louisiana State University
Baton Rouge, LA 70803
Phone: 225-578-4846

Personal Website

Experience: that most brutal of teachers. But you learn, my God do you learn.
C. S. Lewis
REQUEST FOR ADDING, CHANGING, SUSPENDING OR DROPPING AN UNDERGRADUATE CONCENTRATION

Department: SSW
College: CHSE
Name of Concentration: EARLY CHILDHOOD ADMINISTRATION & LEADERSHIP
Name of Curriculum/Major: CHILD & FAMILY STUDIES
Type of Degree: BS
Date: 5-9-13

Has this change been discussed with and approved by all departments/colleges affected? Yes ( ) No ( ) N/A (X)

ATTACH JUSTIFICATION for all actions: Use separate sheet.
ATTACH RESPONSE from any departments affected [i.e. any department whose course(s) are to be added.]
ATTACH FORM D ADDENDUM for all new concentration or changes involving General Education courses.

ACTION (check appropriate box):

( ) ADDING: The entire new concentration, by semester, must be typed on plain sheets and attached to Form E.
(See sample layout attached.)

( ) CHANGING: Regardless if all semesters of a concentration are to be changed or only parts, the present and proposed (eight-semester) recommended path should be attached on separate pages. On the Present recommended path, use strikeout and on the Proposed recommended path, highlight areas to identify deletions and additions. Do not use boldface to designate changes as boldface is reserved for critical requirements within the recommended path. Explain all changes adequately on attachment.

( ) SUSPENDING: Provide an adequate explanation for suspending the concentration on plain sheets and attach.

( ) DROPPING: Provide an adequate explanation for dropping the concentration on plain sheets and attach.

CONCENTRATION

<table>
<thead>
<tr>
<th>PRESENT</th>
<th>PROPOSED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total semester hours in current concentration:</td>
<td>36</td>
</tr>
<tr>
<td>Total semester hours in proposed concentration:</td>
<td></td>
</tr>
</tbody>
</table>

APPROVALS:

Department Faculty Approval Date: 5-13-13

College Faculty Approval Date: 9-20-13

Department Chair's Signature: Daphne Steen 5-13-13

College Dean's Signature: Damon Andrew LRC 10/4/13

Chair, FS C & C Committee: B. James 10/15/13

Academic Affairs Approval: 10/9/13

College Contact: Casey Bennett
cbenne5@lsu.edu
JUSTIFICATION:

The ECAL concentration is no longer appropriate for the current configuration of CFS.
REQUEST FOR ADDING, CHANGING, SUSPENDING OR DROPPING AN UNDERGRADUATE CONCENTRATION

Department: SSW  
College: CHSE  
Name of Concentration: CHILD & FAMILY STUDIES (CFS)  
Name of Curriculum/Major: CHILD & FAMILY STUDIES (CFS)  
Type of Degree: B.S.  
Date: 5-9-13

Has this change been discussed with and approved by all departments/colleges affected? Yes ( ) No ( ) N/A (X)

ATTACH JUSTIFICATION for all actions: Use separate sheet.
ATTACH RESPONSE from any departments affected [i.e. any department whose course(s) are to be added.]
ATTACH FORM D ADDENDUM for all new concentration or changes involving General Education courses.

ACTION (check appropriate box):

( ) ADDING: The entire new concentration, by semester, must be typed on plain sheets and attached to Form E. (See sample layout attached.)

( X ) CHANGING: Regardless if all semesters of a concentration are to be changed or only parts, the present and proposed (eight-semester) recommended path should be attached on separate pages. On the Present recommended path, use strikeout and on the Proposed recommended path, highlight areas to identify deletions and additions. Do not use boldface to designate changes as boldface is reserved for critical requirements within the recommended path. Explain all changes adequately on attachment.

( ) SUSPENDING: Provide an adequate explanation for suspending the concentration on plain sheets and attach.

( ) DROPPING: Provide an adequate explanation for dropping the concentration on plain sheets and attach.

CONCENTRATION

<table>
<thead>
<tr>
<th>PRESENT</th>
<th>PROPOSED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total semester hours in current concentration:</td>
<td>18</td>
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</tbody>
</table>

APPROVALS:

Department Faculty Approval Date: 5-13-13  
College Faculty Approval Date: 9-30-13  
Department Chair's Signature: [Signature]  
College Dean's Signature: [Signature]  
Chair, FS C & C Committee: [Signature]  
Academic Affairs Approval: [Signature]

College Contact: Casey Bennett  
College Contact E-mail: cbenne5@lsu.edu
JUSTIFICATION:

Proposed changes to the Child and Family Studies concentration:

- Remove HUEC 1000 (3)
- Add Elective (3)

As part of the reorganization that resulted in the creation of the College of Human Sciences & Education (CHSE), Child and Family Studies curriculum was moved from the School of Human Ecology in the College of Agriculture to the School of Social Work in the CHSE. HUEC 1000 was designed as a unifying course that included the three HUEC sections: CFS, HNF, and TADM. Because we are no longer a section in HUEC, it is inappropriate for our curriculum and concentrations. HUEC 1000 will be replaced in the CFS concentration with an elective.

- Remove elective (6)
- Add CFS 3056 (3)
- Add Elective (3)

CFS 3056, Cognitive Development of Young Children in Context, presents theory and research in key concepts in the development of human mental processes. A basic understanding of the structure and development of mind is fundamental for understanding both human development across the life span as well as human relationships and their importance.
When a department adds a new curriculum or makes changes in an existing one, a Form D Addendum must also be submitted. This form is simply a list of those courses in the curriculum that satisfy the General Education requirement. Include course rubric, number, and credit hours when curricula differ from the default values.
Indicate the curriculum year for all General Education courses.

<table>
<thead>
<tr>
<th>General Education Requirement</th>
<th>Course(s)</th>
<th>Credit Hours</th>
<th>Curriculum Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition (6 hrs.)</td>
<td>ENGL 1001 or 1004</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ENGL 2000</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Analytical Reasoning (6 hrs.)</td>
<td>General Education analytical reasoning course</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(from mathematics department)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MATH 1021</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>General Education analytical reasoning course</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EXST 2201</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arts (3 hrs.)</td>
<td>General Education arts course</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Humanities (9 hrs.)</td>
<td>General Education humanities course</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>General Education humanities course</td>
<td>3</td>
<td></td>
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<tr>
<td></td>
<td>General Education humanities course</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CMST 1061/2040/2060</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Natural Sciences (9 hrs.)</td>
<td>General Education natural science course sequence</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>General Education natural science course</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BIOL 1001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Sciences (6 hrs.)</td>
<td>General Education social science course</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ECON 2638 OR AGEC 2003</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>General Education social science course (2000-level) PSYCH 2000</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
# 2013-2014 Catalog

Recommended Path: Child and Family Studies: Child and Family Studies Concentration

## 1st Semester - 15 hours
Critical: "C" or better in ENGL 1001

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Arts Course</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 1001</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1001</td>
<td>3</td>
</tr>
<tr>
<td>HUEC 1000</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1021</td>
<td>3</td>
</tr>
</tbody>
</table>

## 2nd Semester - 15 hours
Critical: "C" or better in MATH 1021; HUEC 1000 or CFS 2050

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCL 2001</td>
<td>3</td>
</tr>
<tr>
<td>General Education Humanities Course</td>
<td>3</td>
</tr>
<tr>
<td>General Education Natural Science Course</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
</tr>
</tbody>
</table>

## 3rd Semester - 16 hours
Critical: HUEC 1000 or CFS 2050; CFS 2065 or SOCL 2001

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXST 2201</td>
<td>4</td>
</tr>
<tr>
<td>CFS 2050</td>
<td>3</td>
</tr>
<tr>
<td>CFS 2065</td>
<td>3</td>
</tr>
<tr>
<td>POLI 2051/2070</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

## 4th Semester - 15 hours
Critical: BIOL 1001, CFS 2065/SOCL 2001

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 2000 [(ENGL 1001)]</td>
<td>3</td>
</tr>
<tr>
<td>CMST 1061/2040/2060</td>
<td>3</td>
</tr>
<tr>
<td>ECON 2030 or AGEC 2003</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 2000/2040</td>
<td>3</td>
</tr>
<tr>
<td>General Education Humanities Course</td>
<td>3</td>
</tr>
</tbody>
</table>

## 5th Semester - 15 hours
Critical: ECON 2030 or AGEC 2003

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFS 3055 [BIOL 1001]</td>
<td>4</td>
</tr>
<tr>
<td>CFS 3067 [CFS 2050/2065]</td>
<td>3</td>
</tr>
<tr>
<td>CFS 3090 [CR: CFS 3067]</td>
<td>2</td>
</tr>
<tr>
<td>SOCL 3601 OR SW 3002/3003</td>
<td>3</td>
</tr>
<tr>
<td>General Education Natural Science Course</td>
<td>3</td>
</tr>
</tbody>
</table>

## 6th Semester - 15 hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFS 3065 [CFS 3055, 2050]</td>
<td>3</td>
</tr>
<tr>
<td>CFS 4051 [CFS 3055]</td>
<td>3</td>
</tr>
<tr>
<td>KIN 2600</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>6</td>
</tr>
</tbody>
</table>

## 7th Semester - 15 hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFS 4052 [POLI 2051/2070]</td>
<td>3</td>
</tr>
<tr>
<td>CFS 4064 [CFS 2065]</td>
<td>3</td>
</tr>
<tr>
<td>FIN 3060 [ECON 2030]</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 4072 [PSYC 2000]</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
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</table>

## 8th Semester - 14 hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFS 4065 [CR: CFS 3065]</td>
<td>3</td>
</tr>
<tr>
<td>CFS 4067 [CFS 3090, 3067]</td>
<td>8</td>
</tr>
<tr>
<td>SOCL 4461/4701 or PSYC 4035</td>
<td>3</td>
</tr>
</tbody>
</table>

1 - If 2 course sequence is taken in the physical sciences, the additional 3 hour course must be taken from the life sciences, and vice versa.

2 - Variable Credit Course: Schedule for 3 credit hours.

Suggested path is based on 2013-2014 LSU General Catalog. This not intended as a substitute for the LSU General Catalog or degree audit.

Note: Critical Requirements must be satisfied by the end of the indicated semester to be considered making minimum academic progress toward the degree. Revised: June 12, 2013
## 2014-2015 Catalog

**Recommended Path: Child and Family Studies: Child and Family Studies Concentration**

### 1st Semester - 15 hours

Critical: "C" or better in ENGL 1001

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Arts Course</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 1001</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1001</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 2000/2040</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1021</td>
<td>3</td>
</tr>
</tbody>
</table>

### 2nd Semester - 15 hours

Critical: "C" or better in MATH 1021; CFS 2050

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCL 2001</td>
<td>3</td>
</tr>
<tr>
<td>General Education Humanities Course</td>
<td>3</td>
</tr>
<tr>
<td>General Education Natural Science Course</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
</tr>
</tbody>
</table>

### 3rd Semester - 16 hours

Critical: CFS 2050; CFS 2065 or SOCL 2001

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXST 2201</td>
<td>4</td>
</tr>
<tr>
<td>CFS 2050</td>
<td>3</td>
</tr>
<tr>
<td>CFS 2065</td>
<td>3</td>
</tr>
<tr>
<td>POLI 2051/2070</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

### 4th Semester - 15 hours

Critical: BIOL 1001; CFS 2065/SOCL 2001

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 2000</td>
<td>3</td>
</tr>
<tr>
<td>CMST 1061/2040/2060</td>
<td>3</td>
</tr>
<tr>
<td>ECON 2030 or AGEC 2003</td>
<td>3</td>
</tr>
<tr>
<td>ELECTIVE</td>
<td>3</td>
</tr>
<tr>
<td>General Education Humanities Course</td>
<td>3</td>
</tr>
</tbody>
</table>

### 5th Semester - 15 hours

Critical: ECON 2030 or AGEC 2003

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFS 3055 [BIOL 1001]</td>
<td>4</td>
</tr>
<tr>
<td>CFS 3067 [CFS 2050/2065]</td>
<td>3</td>
</tr>
<tr>
<td>CFS 3090 [CR. CFS 3067]</td>
<td>2</td>
</tr>
<tr>
<td>SOCL 3601 OR SW 3002/3003</td>
<td>3</td>
</tr>
<tr>
<td>General Education Natural Science Course</td>
<td>3</td>
</tr>
</tbody>
</table>

### 6th Semester - 15 hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFS 3056</td>
<td>3</td>
</tr>
<tr>
<td>CFS 3065 [CFS 3055, 2050]</td>
<td>3</td>
</tr>
<tr>
<td>CFS 4051 [CFS 3055]</td>
<td>3</td>
</tr>
<tr>
<td>KEN 2600</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
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</tbody>
</table>

### 7th Semester - 15 hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFS 4052 [POLI 2051/2070]</td>
<td>3</td>
</tr>
<tr>
<td>CFS 4064 [CFS 2065]</td>
<td>3</td>
</tr>
<tr>
<td>FIN 3060 [ECON 2030]</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 4072 [PSYC 2000]</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

### 8th Semester - 14 hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
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<td>3</td>
</tr>
<tr>
<td>CFS 4067 [CFS 3090, 3067]</td>
<td>8</td>
</tr>
<tr>
<td>SOCL 4461/4701 or PSYC 4035</td>
<td>3</td>
</tr>
</tbody>
</table>

1 - If 2 course sequence is taken in the physical sciences, the additional 3 hour course must be taken from the life sciences, and vice versa.

Suggested path is based on 2014-2015 LSU General Catalog. This is not intended as a substitute for the LSU General Catalog or degree audit.

Note: Critical Requirements must be satisfied by the end of the indicated semester to be considered making minimum academic progress toward the degree.  Revised: 9-30-2013
From: Lisa B Newman  
Sent: Thursday, September 05, 2013 11:55 AM  
To: Casey H Bennett  
Subject: FW, HUEC 1000

Lisa M. Breeden Newman, MA, LPC-S | Assistant Dean for Enrollment Management  
LSU | College of Human Sciences and Education  
Office of Student Services | 236 Peabody Hall | Baton Rouge, LA 70803  
O:(225) 578-2331 | F: (225) 578-3613  
Email: lnewman@lsu.edu Website: www.chse.lsu.edu

Please follow the link below to schedule an advising appointment:  
http://chse.lsu.edu/student_services/index.shtml

LSU | College of Human Sciences & Education  
LOVE PURPLE LIVE GOLD

From: Lisa B Newman  
Sent: Thursday, August 08, 2013 1:33 PM  
To: Elva B Bourgeois  
Subject: HUEC 1000

Elva,
I have received confirmation from Dr. Loren Marks that the School of Social Work plans to put forth paperwork to remove the course, HUEC 1000, from the Child and Family Studies curriculum. This paperwork should be submitted in the fall 2013-14 semester.

Lisa M. Breeden Newman, MA, LPC-S | Assistant Dean for Enrollment Management  
LSU | College of Human Sciences and Education  
Office of Student Services | 236 Peabody Hall | Baton Rouge, LA 70803  
O:(225) 578-2331 | F: (225) 578-3613  
Email: lnewman@lsu.edu Website: www.chse.lsu.edu

Please follow the link below to schedule an advising appointment:  
http://chse.lsu.edu/student_services/index.shtml

LSU | College of Human Sciences & Education  
LOVE PURPLE LIVE GOLD

1
REQUEST FOR ADDING, CHANGING, SUSPENDING OR DROPPING UNDERGRADUATE MINOR

Department: Mechanical & Industrial Engr  
College: Engineering  
Name of Minor: International Automotive Engineering  
Date: 9/11/2013

Has this change been discussed with and approved by all departments/colleges affected? Yes ( ) No ( ) N/A (X)

ATTACH JUSTIFICATION for all actions: Use separate sheet.
ATTACH RESPONSE from any departments affected (i.e. any department whose course(s) are to be added).

ACTION (check appropriate box):

(X) ADDING: Show the entire new minor using catalog format. Use plain sheets and attach.
( ) CHANGING: List present catalog description which is to be changed (left column) and the changes proposed (right column). In proposed column use strikeout and bold to indicate deletions and additions. Explain all changes adequately on attachment.
( ) SUSPENDING: Provide an adequate explanation for suspending the minor on plain sheets and attach.
( ) DROPPING: Provide an adequate explanation for dropping the minor on plain sheets and attach.

MINOR

<table>
<thead>
<tr>
<th>PRESENT</th>
<th>PROPOSED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total semester hours in current minor:</td>
<td>Total semester hours in proposed minor: 19-22</td>
</tr>
</tbody>
</table>

To earn a minor in international automotive engineering, a student must complete ME 2334 or equivalent, ME 3133, and four additional courses from an approved list of technical electives of which at least three must be automotive core courses and one may be a related course. At least two of the courses must be taken while studying at Politecnico di Torino in Torino, Italy. A grade of "C" or better in each course is required.

Only mechanical engineering students are expected to complete this minor with the stated 19-22 hours. Students majoring in other disciplines may require more credit hours than the stated ones because of prerequisites.

APPROVALS:

Department Faculty Approval Date: 9/11/13  
Department Chair's Signature: 9/19/13  
Chair, FS C & C Committee: 10/15/13

College Faculty Approval Date: 9/26/13  
College Dean's Signature: 9/26/13  
Academic Affairs Approval: 10/19/13

College Contact:  
(Please print name.)

College Contact Email:  

JUSTIFICATION

LSU ME students are interested in automotive engineering as evidenced by the number of students that take automotive related course and that select a car project for Capstone Design. The students have requested that we offer a minor in automotive engineering for the last few years. There are currently two dedicated automotive courses taught regularly at LSU, ME 4633 Internal Combustion Engines and ME 4933 Vehicle Dynamics. The last two times these courses were taught the enrollments were: ME 4633 – 25 in S12, 11 in S13; and ME 4933 – 35 in S12, 28 in S13. There are also a number of technical elective courses that are related and can be applied to automotive engineering. Students seeking this minor will also be encouraged to choose Capstone Design Projects that are automotive related, or to work with the FSAE Club.

LSU ME is partnered through Academic Programs Abroad with Politecnico di Torino in Torino, Italy which has an Automotive Engineering Degree. A minor in International Automotive Engineering would provide additional incentive for students to study abroad. The automotive engineering courses are taught in English in Torino and will form a large part of the international automotive engineering minor.

Once this minor is established, we will seek additional partnerships with universities within the US and Europe that have automotive engineering programs in order to expand it.

There are a number of manufacturing plants for automobiles and automobile components in Mississippi, Alabama and Tennessee. There is a large Nissan plant at Canton, Mississippi and a large Mercedes plant outside of Birmingham, Alabama to name just two. Having an automotive engineering minor would improve the chances for LSU ME graduates and other engineering disciplines taking the minor to obtain employment with these companies.
## Electives Courses for International Automotive Engineering Minor

### Automotive Engineering Minor

#### Core courses (Must take at least three courses)

- Taught at LSU:
  - ME 4443 Internal Combustion Engines **
  - ME 4933 Vehicle Dynamics

- Taught in Torino:
  - 010FGLO Car body design and aerodynamics – 5 hrs (Period 2)
  - 01N1A1O Combustion engines and their application to vehicle – 5 hrs (Period 2) **
  - 02MRFLO Electric and electronic systems in vehicles – 5 hrs (Period 2)
  - 04MSGLO Chassis design – 5 hrs (Period 1)
  - 01NICLO Design of engine and control system – 4 hrs (Period 1)
  - 01N1BLO Powertrain components design – 5 hrs (Period 1)

#### Related courses (May take one course)

- Taught at LSU:
  - ME 4143 Vibrations
  - ME 4213 Welding Engineering I
  - ME 4223 Welding Engineering II
  - ME 4273 Stress Analysis
  - ME 4683 Sensors and Actuators
  - ME 4733 Deformation and Fracture
  - ME 4763 Fundamentals of Corrosion Science and Engineering
  - ME 4783 Composite Materials

- Taught in Torino:
  - 01N1H2LO Automotive fluid power systems – 3 hrs (Period 2)
  - 01N1M1LO Computational fluid dynamics for thermal engines – 3 hrs (Period 2)
  - 02MSVLO Mechatronic and fluid servo systems – 3 hrs (Period 2)

---

**NOTE:** Period 1 is in the Fall and Period 2 is in the spring.

**Student will only receive credit towards the minor for one of these courses.**
REQUEST FOR DROPPING A COURSE

Department Agricultural Economics and Agribusiness

College Agriculture

Course rubric & no. AGEC 7503 Title Natural Resource Economics

Semester hours of credit: 3

NOTE: Affected departments must be notified in writing and with adequate time allowed for written response(s). Responses must be included with this form.

Has this drop been discussed with and approved by all departments/colleges affected? Yes (x) No ( ) N/A ( )

This course is presently included or referenced in the following curriculum, minor, concentration, area of specialization, or catalog chapter:
(If additional space is needed, please attach a separate piece of paper.)

\[\text{Agec, PhD}\]

Is this course a prerequisite or corequisite for any other courses? Yes ( ) No (x)

If answer to above is yes, please list courses by rubric and course number.
(If additional space is needed, please attach a separate piece of paper.)

<table>
<thead>
<tr>
<th>Rubric</th>
<th>Course #</th>
<th>Rubric</th>
<th>Course #</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

Is this course on the general education list? Yes ( ) No ( )

If yes, attach approval of drop from General Education Committee

REASON FOR REQUEST TO DROP COURSE:

AGEC 7503 is redundant with the new course, AGEC 7513, which was added to the course catalog for 2013-14 and AGEC 7523, which is being proposed to be added to the course catalog. As our Ph.D. program in Agricultural Economics has grown, we have been able to add specific fields of concentration, one of them being Natural Resource and Environmental Economics. We are able to provide students with much more depth in this area with the two-course sequence of AGEC 7513-7523 than we were able to provide with only AGEC 7503, which covered only a subset of the topics of the sequence. AGEC 7513 provides depth in dynamics of natural resource optimization and AGEC 7523 provides depth in nonmarket valuation. There is no need for the AGEC 7503 course with the addition of the AGEC 7513-7523 sequence. We had originally proposed to simply add AGEC 7513 and change AGEC 7503, but the University C&C Committee suggested that, since AGEC 7503 was to be substantially changed, we should drop AGEC 7503 and add another course, which we are numbering as AGEC 7523.

APPROVALS:
Department Faculty Approval Date 10/07/12

\[\text{Maila M. Chaves} 9/4/13\] (Date)
Department Chair's Signature

College Faculty Approval Date 10/3/13

\[\text{Kenneth P. Koontz} 10/3/13\] (Date)
College Dean's Signature

\[\text{Byers} 10-7-13\] (Date)
Graduate Dean's Signature

\[\text{T. Alan Reeser} 10/15/13\] (Date)
Chair, FS C & C Committee

\[\text{Academic Affairs Approval} 11/9/13\] (Date)
REQUEST FOR DROPPING A COURSE

Department Agricultural Economics and Agribusiness
College Agriculture

Course rubric & no. AGEC 7803 Title Agricultural Economic Applications
Semester hours of credit: 3

NOTE: Affected departments must be notified in writing and with adequate time allowed for written response(s). Responses must be included with this form.

Has this drop been discussed with and approved by all departments/colleges affected? Yes (x) No ( ) N/A ( )

This course is presently included or referenced in the following curriculum, minor, concentration, area of specialization, or catalog chapter:
(If additional space is needed, please attach a separate piece of paper.)

Is this course a prerequisite or corequisite for any other courses? Yes ( ) No (x)

If answer to above is yes, please list courses by rubric and course number.
(If additional space is needed, please attach a separate piece of paper.)
Rubric _______ Course # _______ Rubric _______ Course # _______
Rubric _______ Course # _______ Rubric _______ Course # _______

Is this course on the general education list? Yes ( ) No ( )
If yes, attach approval of drop from General Education Committee

REASON FOR REQUEST TO DROP COURSE:

AGEC 7803 is redundant with AGEC 7113 Agribusiness Research Applications and the newly planned AGEC 7523 Nonmarket Valuation. AGEC 7803 and AGEC 7113 were originally planned to be used for separate tracks of M.S. students who planned to take either the Agribusiness or Agricultural Economics route. However, the students tended to take the course that was most convenient with their schedules and the course contents did not differ greatly. We decided to cancel AGEC 7803 and take some of the nonmarket valuation information from that course and place it in AGEC 7523 where it could be covered in greater detail. We also decided to retain AGEC 7113 because it provides course content on case study methods that students cannot receive elsewhere in the program.

APPROVALS:

Department Faculty Approval Date 10/07/12
Natali Crocheron 3/15/12
Department Chair's Signature (Date)

College Faculty Approval Date 5/2/12
Kenneth S. Koorey 5/2/12
College Dean's Signature (Date)

Graduate Dean's Signature 5-22-12
Chair, FS C & C Committee 10/15/13

Academic Affairs Approval (Date)
REQUEST FOR DROPPING A COURSE

Department Renewable Natural Resources                        Date 9/18/13
College Agriculture

Course rubric & no.       RNR 4151       Title Hydrology of Natural Landscapes

Semester hours of credit: 3

NOTE: Affected departments must be notified in writing and with adequate time allowed for written response(s). Responses must be included with this form.

Has this drop been discussed with and approved by all departments/colleges affected? Yes (  ) No (  ) N/A (  )

This course is presently included or referenced in the following curriculum, minor, concentration, area of specialization, or catalog chapter:

(Approved elective in Ph.D. in Renewable Natural Resources)

Watershed Science Concentration

Is this course a prerequisite or corequisite for any other courses? Yes (  ) No (  )

If answer to above is yes, please list courses by rubric and course number.

(Rubric Course # Rubric Course #)

(Rubric Course # Rubric Course #)

Is this course on the general education list? Yes (  ) No (  )
If yes, attach approval of drop from General Education Committee

REASON FOR REQUEST TO DROP COURSE:

Course has not been offered since inception. Faculty interested in creating a new course combining this course’s intended content with another eliminated course, RNR 7003. This request accompanies the request for a new course, RNR 4150.

APPROvals:

Department Faculty Approval Date 8/15/12

[Signature] 9/20/13

Department Chair’s Signature (Date)

Graduate Dean’s Signature (Date)

College Contact: Jennifer Neal

(Please print name.)

College Contact E-mail: jsherw18@sru.edu

College Faculty Approval Date 10/3/13

[Signature] 10/3/13

College Dean’s Signature (Date)

Chair, FS C & C Committee (Date)

Academic Affairs Approval (Date)
REQUEST FOR DROPPING A COURSE

Department School of Plant, Environmental, and Soil Sciences
College Agriculture
Course rubric & no. HORT 2001
Title Organic Gardening
Semester hours of credit: 2

NOTE: Affected departments must be notified in writing and with adequate time allowed for written response(s). Responses must be included with this form.
Has this drop been discussed with and approved by all departments/colleges affected? Yes ( ) No ( ) N/A (X)
This course is presently included or referenced in the following curriculum, minor, concentration, area of specialization, or catalog chapter:
(If additional space is needed, please attach a separate piece of paper.)

Is this course a prerequisite or corequisite for any other courses? Yes ( ) No (X)
If answer to above is yes, please list courses by rubric and course number.
(If additional space is needed, please attach a separate piece of paper.)

Rubric ______ Course # ______
Rubric ______ Course # ______
Rubric ______ Course # ______

Is this course on the general education list? Yes ( ) No (X)
If yes, attach approval of drop from General Education Committee

REASON FOR REQUEST TO DROP COURSE:

HORT 2001 was limited in scope and a new course (HORT 2525) will increase the opportunity for our students to have a better understanding of the basic knowledge and hands-on application of organic and sustainable production through additional credit hours (4 hrs. for HORT 2525 vs 2 hrs. for HORT 2001) given the increase in course content.

APPROVALS:
Department Faculty Approval Date 9/9/13
Department Chair's Signature 9/9/13
Graduate Dean's Signature (Date)
College Contact:
(Please print name)
College Contact E-mail:

College Faculty Approval Date 10/3/13
Kenneth P. Koomey
College Dean's Signature (Date)
Chair, ESD & C Committee 10/15/13
Academic Affairs Approval (Date)
REQUEST FOR ADDITION OF NEW COURSE

Department: Mechanical & Industrial Engineering    Date: 6/3/13
Engineering

College: ____________________________________________

PROPOSED COURSE
Short Title: FLUID POWER SYSTEMS
Rubric & No.: ME 4863    Title: Fluid Power Systems

COURSE CREDIT
Graduate Credit:  x YES  NO

Semester Hours of Credit:  3
(For combination course types only:  lecture Hrs.  Lab/Sem/Rec Hrs.
If course may be repeated for credit (i.e. special topics), course may be taken for a max. of  ___ credit hours.
Credit will not be given for this course and:

(Indicate rubrics and course numbers)

GRADING
Final Exam:  x YES  NO  Grading System:  x Letter Grade  Pass/Fail
(Attach justification if the proposed course will not hold a final exam during examination week.)

COURSE TYPE
(Indicate hours in the appropriate course type)

/ LEC/REC / LEC/SEM 3 LEC / LAB / LEC/LAB  SEM  CLIN/PRACT  RES/IND

Maximum enrollment per section:  25
(use integer, e.g. 25 not 20-30)

CATALOG TEXT
(Concise catalog statement exactly as you wish it to appear in the LSU General Catalog)

4863 Fluid Power Systems (3) Prereq.: ME 3834 or equivalent, CE 2450. Theory of hydraulic power components and systems. Analysis and design of fluid power components and systems.

BUDGET IMPACT
If this course is approved, will additional staff be needed?  x YES  NO

Will additional space, equipment, special library materials or other major expense be involved?  x YES  NO

(if answer to either question above is "yes" attach explanation.)  Academic Affairs Approval: ____________________________  Date: ____________________________

ATTACHMENTS
ATTACH THE FOLLOWING TO YOUR PROPOSAL.

JUSTIFICATION: Justification must explain why this course is needed and how it fits into the curricula. Will the course duplicate other courses?

SYLLABUS: Including 14 week outline of the subject matter; titles of text, lab manual, and/or required readings; grading scale and criteria
(For 4000-level, specify graduate student grading criteria if requirements differ for graduate and undergraduate students).

APPROVALS
Department Faculty Approval  5/15/13

[Signature]

Department Chair’s Signature  6/24/13

Graduate Dean’s Signature (for 4000 level and above)  10-7-13

College Contact: ____________________________________________  (Please print name)

College Contact E-mail: ____________________________________________

College Faculty Approval  9/19/13

[Signature]

College Dean’s Signature  9/23/13

[Signature]  Chair, FS C&C Committee  10/15/13

Academic Affairs Approval  9/19/13

[Signature]
JUSTIFICATION

Fluid power systems are used in almost all industries and in automobiles and other mobile equipment. The last two times this course was taught as ME 4933 Advanced Topics in Mechanical Engineering, the enrollments were: Spring 2010 – 16 students, and Spring 2011 – 21 students. Students request the course almost every semester.

For years the Biological Engineering Department offered BE 4360 Mobile Fluid Power and this new course was designed to extend the material covered in the BE course. However, BE has no plans to offer BE 4360 and it will most likely be dropped from the catalog. The ME course will fill the need for Fluid Power Systems knowledge and BE students will be able to take it as an elective.

With generic courses like ME 4933, there is no way to enforce prerequisites and co-requisites. Having an official course number will allow prerequisites and co-requisites to be programmed into the system.

Some ME students choose projects for Capstone Design every year that include hydraulic systems.

Graduate students will not be treated differently from undergraduate students.

This course has 1 hour of Engineering Science and 2 hours of design.
## Course Outline

<table>
<thead>
<tr>
<th>Week</th>
<th>Reading – complete before class</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fluid Properties</td>
</tr>
<tr>
<td>2</td>
<td>Fluid Mechanics</td>
</tr>
<tr>
<td>3</td>
<td>Dynamic Systems and Controls</td>
</tr>
<tr>
<td>4</td>
<td>Dynamic Systems and Controls</td>
</tr>
<tr>
<td>5</td>
<td>Hydraulic Control Valves</td>
</tr>
<tr>
<td>6</td>
<td>Hydraulic Pumps, Exam 1</td>
</tr>
<tr>
<td>7</td>
<td>Hydraulic Actuators</td>
</tr>
<tr>
<td>8</td>
<td>Hydraulic Actuators</td>
</tr>
<tr>
<td>9</td>
<td>Valve-Controlled Hydraulic Systems</td>
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<td>10</td>
<td>Valve-Controlled Hydraulic Systems</td>
</tr>
<tr>
<td>11</td>
<td>Pump-Controlled Hydraulic Systems</td>
</tr>
<tr>
<td>12</td>
<td>Pump-Controlled Hydraulic Systems, Exam 2</td>
</tr>
<tr>
<td>13</td>
<td>Pneumatic Systems</td>
</tr>
<tr>
<td>14</td>
<td>Pneumatics Logic Systems</td>
</tr>
</tbody>
</table>

Chap 1
Chap 2
Chap 3.1-3.5
Chap 3.6-3.9
Chap 4
Chap 5
Chap 6.1-6.3
Chap 6.4-6.5
Chap 7.1-7.2
Chap 7.3-7.5
Chap 8.1-8.2
Chap 8.3-8.4
Handouts
Handouts
ME 4863 FLUID POWER SYSTEMS

Catalog Description:

Prerequisite by Topic:
1. Fluid Mechanics.
2. Statics

Textbook(s), Other Required &/or Reference Materials:

Course Objectives:
Students will learn to use accepted engineering methodologies to design safe, reliable, and economical fluid power components and systems. Students will use basic scientific principles, mathematics, and modern programming to analyze fluid power systems.

Topics:
1. Fluid Properties
2. Fluid Mechanics
3. Dynamic Systems and Controls
4. Hydraulic Control Valves
5. Hydraulic Pumps
6. Hydraulic Actuators
7. Valve-Controlled Hydraulic Systems
8. Pump-controlled Hydraulic Systems

Relationship of Course to Program Objectives:
As an elective undergraduate course of the ME curriculum, the objectives and outcomes of this course will enhance LSU ME's Undergraduate Program Objectives:

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, societal, political, ethical, health and safety, manufacturability, and sustainability;
d) An ability to identify, formulate, and solve engineering problems;
e) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Assessment & Grading:
A typical breakdown of grading is illustrated below.

Grades: Homework Assignments (10%); Two Mid-Term Exams (30% each -- total 60%); Final Exam (30%).
A ≥ 90; B ≥ 80; C ≥ 70; D ≥ 60; F < 60

Homework: Ten (10) homework sets will be assigned consisting about sixty (60) problems. Each problem will weigh 10 points. Solutions will also be provided after handing in your homework assignments.

Student Responsibility: It is expected that the students have read the assigned chapters or pages prior to class for the background necessary to properly participate in the discussion and think critically about the concepts.
addressed. As a general policy, for each hour you are in class, the student should plan to spend at least two hours preparing for the next class. Since this class is for three credit hours, you should expect to spend around six hours outside of class each week reading or solving problems.

**Contribution to Professional Component (Estimated ABET Category Contents):**

<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics &amp; Basic Sciences</td>
<td>0 credit</td>
</tr>
<tr>
<td>Engineering Science</td>
<td>1.5 credits</td>
</tr>
<tr>
<td>Engineering Design</td>
<td>1.5 credit</td>
</tr>
<tr>
<td>Other</td>
<td>0 credit</td>
</tr>
</tbody>
</table>

**Coordinator:** ME Faculty

**Prepared by:** Jack E. Helms

**Date:** 9/27/13
BE is aware and does not object to ME creating a course in Fluid Power Systems.

Richard L. Bengtson

Department Engineering/Undergraduate Coordinator

As we discussed after last Academic Matters Committee meeting, please send me a note that BE is aware and does not object that ME is creating a course in Fluid Power Systems (previously taught as Advanced Topics in ME).

Thanks,

Jack

Jack E. Helms, Ph.D., P.E.
Professional-in-Residence & Undergraduate Coordinator & ABET Coordinator
Dept. of Mechanical Engineering
2210 Patrick F. Taylor Hall
Louisiana State Univ-craty
Baton Rouge, LA 70803
Phone: 225-578-6299
Fax: 225-578-5924
Email: helms@me.lsu.edu

Printed for "Jack E. Helms, Jr." <helms@me.lsu.edu>
REQUEST FOR ADDITION OF NEW COURSE

Department: Mechanical & Industrial Engineering
Date: 6/3/13

College: Engineering

PROPOSED COURSE Short Title: VEHICLE DYNAMICS (5-19 characters)
Rubric & No.: ME 4193 Title: Vehicle Dynamics

COURSE CREDIT Graduate Credit: YES NO
Semester Hours of Credit: 3 (For combination course types only: Lecture Hrs. Lab/Sem/Rec Hrs.
If course may be repeated for credit (i.e. special topics), course may be taken for a max. of credit
Credit will not be given for this course and:

GRADING Final Exam: YES NO Grading System: LETTER GRADE PASS/FAIL
(Indicate rubrics and course numbers)

COURSE TYPE (Indicate hours in the appropriate course type)

/ LEC/REC / LEC/SEM 3 LEC / LEC/LAB SEM CLIN/PRACT RES/IND

Maximum enrollment per section: 25 (use integer, e.g. 25 not 20-30)

CATALOG TEXT (Concise catalog statement exactly as you wish it to appear in the LSU General Catalog)

BUDGET IMPACT If this course is approved, will additional staff be needed? YES NO
Will additional space, equipment, special library materials or other major expense be involved? YES NO
(If answer to either question above is "yes" attach explanation.) Academic Affairs Approval:

ATTACHMENTS ATTACH THE FOLLOWING TO YOUR PROPOSAL.

JUSTIFICATION: Justification must explain why this course is needed and how it fits into the curricula. Will the course duplicate other courses?

SYLLABUS: Including 14 week outline of the subject matter; titles of text, lab manual, and/or required readings; grading scale and criteria
(For 4000-level, specify graduate student grading criteria if requirements differ for graduate and undergraduate students).

APPROVALS Department Faculty Approval 5/15/13
College Faculty Approval 9/19/13

Department Chair's Signature 6/24/13

College Dean's Signature (date)

Graduate Dean's Signature (for 4000 level and above) 10-7-13

Chair, FS C&C Committee (date)

College Contact: ____________________________
(Please print name.)

College Contact E-mail: ____________________________

Academic Affairs Approval (date)
JUSTIFICATION

Many ME students are interested in automobiles and Vehicle Dynamics is a popular course. The last three times it was taught as ME 4933 Advanced Topics in Mechanical Engineering, the enrollments were: Fall 2010 – 15 students, Spring 2012 – 35 students, and Spring 2013 – 28 students. Students request the course almost every semester.

With generic courses like ME 4933, there is no way to enforce prerequisites and co-requisites. Having a course number will allow prerequisites and co-requisites to be programmed into the system.

Some ME students choose vehicle related projects for Capstone Design every year. This year we have one group designing a component system for the FSAE race car and one group designing a car for the Mini-BAJA competition. This course covers both on and off-road vehicles.

Graduate students will not be treated differently from undergraduate students.

This course has 2 hour of Engineering Science and 1 hours of design.

REV. 1/2008

REQUEST FOR DROPPING A COURSE
PLEASE SUBMIT 17 COPIES OF EACH REQUEST

Department Biological & Agricultural Engineering ____________________________ Date 9-16-13
College Engineering ______________________________________________________
Course rubric & no. BE 4360 ____________________________________________ Title Mobile Fluid Power Control
Semester hours of credit: 3

NOTE: Affected departments must be notified in writing and with adequate time allowed for written response(s).
Responses must be included with this form.
Has this drop been discussed with and approved by all departments/colleges affected? Yes (X) No ( ) N/A ( )

This course is presently included in the following curriculum, minor, concentration, area of specialization:

__________________________________________________________________________

__________________________________________________________________________

Is this course a prerequisite for any other courses? Yes ( ) No (X)
If answer to above is yes, please list courses by rubric and course number.
Rubric ________ Course # ________ Rubric ________ Course # ________
Rubric ________ Course # ________ Rubric ________ Course # ________

Is this course on the general education list? Yes ( ) No (X)
If yes, attach approval of drop from General Education Committee

REASON FOR REQUEST TO DROP COURSE:
The instructor left the university and there is no one to teach the course.
## Course Outline

<table>
<thead>
<tr>
<th>Week</th>
<th>Reading - complete before class</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mechanics of Pneumatic Tires</td>
</tr>
<tr>
<td>2</td>
<td>Mechanics of Pneumatic Tires</td>
</tr>
<tr>
<td>3</td>
<td>Terramechanics</td>
</tr>
<tr>
<td>4</td>
<td>Terramechanics</td>
</tr>
<tr>
<td>5</td>
<td>Performance of Road Vehicles</td>
</tr>
<tr>
<td>6</td>
<td>Performance of Road Vehicles, Exam 1</td>
</tr>
<tr>
<td>7</td>
<td>Performance of Off-Road Vehicles</td>
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<td>8</td>
<td>Performance of Off-Road Vehicles</td>
</tr>
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<td>9</td>
<td>Handling of Road Vehicles</td>
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<tr>
<td>10</td>
<td>Handling of Road Vehicles</td>
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<tr>
<td>11</td>
<td>Vehicle Ride Characteristics</td>
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<tr>
<td>12</td>
<td>Vehicle Ride Characteristics, Exam 2</td>
</tr>
<tr>
<td>13</td>
<td>Random Vibrations</td>
</tr>
<tr>
<td>14</td>
<td>Roll Characteristics</td>
</tr>
</tbody>
</table>
ME 4193 VEHICLE DYNAMICS

Catalog Description:


Prerequisite by Topic:

System Dynamics.

Textbook(s), Other Required &/or Reference Materials:


Course Objectives:

Students will learn to use accepted engineering methodologies to analyze and design vehicle system related to ride and handling. Students will use basic scientific principles, mathematics, and modern programming to analyze vehicle components and systems.

Topics:

1. Mechanics of Pneumatic Tires
2. Terramechanics
3. Performance Characteristics of Road Vehicles
4. Performance Characteristics of Off-Road Vehicles
5. Handling Characteristics of Road Vehicles
6. Vehicle Ride Characteristics
7. Random Vibrations
8. Roll Characteristics

Relationship of Course to Program Objectives:

(a) an ability to apply knowledge of mathematics, science, and engineering
(b) 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
(c) an ability to identify, formulate, and solve engineering problems
(k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Assessment & Grading: A typical breakdown of grading is illustrated below.

Grades: Homework Assignments (10%); Two Projects (20% -- 10% each); Two Mid-Term Exams (40% -- 20% each); Final Exam (30%).
A ≥ 90; B ≥ 80; C ≥ 70; D ≥ 60; F < 60

Homework: Six (6) homework sets will be assigned consisting about thirty (30) problems. Each problem will weigh 10 points. Solutions will also be provided after handing in your homework assignments.

Projects: Each project will involve numerically solving the differential equations of automobile performance and handling. The student will write a program in MATLAB, Excel Visual Basic, or other language, to solve the equations and then complete parametric studies to determine the effect of the different parameters on vehicle performance and handling. An engineering report detailing the findings is required for each project. The actual projects assigned vary each time the course is offered.
Student Responsibility: It is expected that the students have read the assigned chapters or pages prior to class for the background necessary to properly participate in the discussion and think critically about the concepts addressed. As a general policy, for each hour you are in class, the student should plan to spend at least two hours preparing for the next class. Since this class is for three credit hours, you should expect to spend around six hours outside of class each week reading or solving problems.

Contribution to Professional Component (Estimated ABET Category Contents):

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</tr>
<tr>
<td>Other</td>
<td>0</td>
</tr>
</tbody>
</table>

Coordinator: ME Faculty

Prepared by: _______________ Jack E. Helms ___________ Date: ___9/27/13____
REQUEST FOR ADDITION OF NEW COURSE

Department: Electrical and Computer Engineering  Date: 9/06/2013
College: 

PROPOSED COURSE
Rubric & No.: EE 7722  Title: GPU Microarchitecture

COURSE CREDIT
Graduate Credit: X YES  NO
Semester Hours of Credit: 3  (For combination course types only  Lecture Hrs.  Lab/Sem/Rec Hrs. If course may be repeated for credit (i.e. special topics), course may be taken for a max. of ___ credit hours. Credit will not be given for this course and: 

GRADING
Final Exam: X YES  NO  Grading System: X Letter Grade  Pass/Fail
(Attach justification if the proposed course will not hold a final exam during examination week.)

COURSE TYPE
(Indicate hours in the appropriate course type)

1 LEC/REC  1 LEC/SEM  3 LEC  __ LAB  ___ LEC/LAB  ___ SEM  ___ CLIN/PRÁCT  ___ RESIND

Maximum enrollment per section: 25  (use integer, e.g. 25 not 20-30)

CATALOG TEXT
(Concise catalog statement exactly as you wish it to appear in the LSU General Catalog)

7722 GPU Microarchitecture (3) Prereq.: EE 4720 or equivalent. Organization, programming and design of graphics processing units (GPUs) and similar devices.

BUDGET IMPACT
If this course is approved, will additional staff be needed? X YES  NO
Will additional space, equipment, special library materials or other major expense be involved? X YES  NO
(If answer to either question above is ‘yes’ attach explanation.)  Academic Affairs Approval:  Date:

ATTACHMENTS
ATTACH THE FOLLOWING TO YOUR PROPOSAL.

JUSTIFICATION: Justification must explain why this course is needed and how it fits into the curricula. Will the course duplicate other courses?
SYLLABUS: Including 14 week outline of the subject matter; titles of text, lab manual, and/or required readings; grading scale and criteria (For 4000-level, specify graduate student grading criteria if requirements differ for graduate and undergraduate students).

APPROVALS
Department Faculty Approval  9/06/2013  (date)  College Faculty Approval  9/10/13  (date)
Department Chair's Signature  9/13/2013  (date)  College Dean's Signature  9/23/13  (date)
Byers  10-7-13  (date)  Chair, FS C&G Committee  10/15/13  (date)
Graduate Dean's Signature (for 4000 level and above)  (date)  Academid Affairs Approval  10/15/13  (date)
College Contact:  
College Contact E-mail:  

 Egyptians  19-7-18  (date) 
Proposal for Converting an Advanced Topics Course to a Catalog Course

EE 7722 — GPU Microarchitecture

Catalog Data

EE 7722 GPU Microarchitecture (3) Prereq: EE 4720 or equivalent. Organization, programming, and design of graphics processing units (GPUs) and similar devices.

Prerequisites by Topic

Programming (C or C++) and computer organization/architecture.

Course Objectives / Learning Outcomes

The course will cover the low-level use and design of GPUs (many-thread accelerators) and many-core accelerators, and will contrast these devices with general-purpose CPUs. Their use will be covered with lower-level languages, for example CUDA C or OpenCL, as well as at the machine instruction level. Hardware will be described at the functional-unit and storage device level. Students will be able to determine instruction execution rates based on these low-level features and understand the basis for common accelerator coding strategies. Students will understand what code characteristics are considered amenable to these devices and how to design GPUs and other accelerators to exploit them. Students will understand the evolution of GPUs and the ongoing research into future directions for application accelerators.

Text

Papers and handouts.

References

Course material will be drawn from a combination of research papers, manufacturer white papers, and product documentation. These sources will evolve with time, some current sources are listed here. The material describing GPUs will be drawn from manufacturer’s documentation including [6], whitepapers [5, 4], and descriptions appearing in the research literature [8]. Also drawn from the research literature will be performance characterizations and workload studies such as [9, 2], algorithm descriptions [7, 10], and GPU research directions [1, 3].


Topics

Overview (2 hours)
The GPU and its role in typical systems. Characteristics of GPU workloads. Survey of GPU programming APIs and systems. A brief history.

Parallelism and Other Basic Concepts (3 hours)
Threads, Speedup Latency, Throughput Performance Limiters

CPU Execution Features (3 hours)
Role of dynamic scheduling, caches, branch prediction. Execution efficiency for certain workloads.

Execution Architecture (7 hours)

Storage Hierarchy, Synchronization (7 hours)

Instruction Set (3 hours)
Memory access instructions, address spaces, locking. Predication, explicit reconvergence, barrier instructions.

Basic Algorithms and Techniques (9 hours)

Many Thread v. Many Core v. CPU, Research Directions (6 hours)
Workload Studies Warps v. Vectors Lots of Threads v. Prefetch Mixed CPU/GPU Cores Low-Energy Execution

Exam Review and Solutions (2 hours)

Total Hours: 42
Grading

Homework assignments, including coding assignments and a possible term project, 30%; Midterm Exam, 35%; Final Exam, 35%. Homework assignments will be graded 0-10, exams and projects (if any) will be graded 0-100. Numeric grade will reflect correctness and completeness of solutions. These numeric grades will effectively be mapped to a 0-100 range in such a way that a mapped grade of 90 to 100 reflects mastery of material; 80 up to 90, competence with material; 70 up to 80, partial competence with material; 65 up to 70, minimum acceptable competence; otherwise less than 65. Letter grades will be assigned as follows: A, 90-100; B, 80 up to 90; C, 70 up to 80; D, 65 up to 70; F, strictly less than 65.

Schedule

Three lectures/week of 50 minutes each.

Participation Grading

Students are encouraged to participate in class, but are not graded for it.

Credit Hour Justification

Course lectures will cover key concepts and examples, students are expected to fill in details through out-of-class readings and to build a working understanding of the material through out-of-class study and problem solving. In particular, students are expected to prepare for lectures by reading assigned papers. After each lecture students are expected to review material covered during the lecture and to themselves re-do derivations, re-solve problems, and sketch complex designs presented in class; this should take a half hour to an hour or more per lecture depending on the student's understanding of the day's lecture. In addition to reading assignments, students will have six to ten homework assignments. Each assignment will consist of several problems. Some assignments require writing programs and analyzing their output, some require reading and answering questions about what was read, and some require the solving of problems.

The homework assignments are graded, verifying student participation. Solving exam problems requires practice tackling such problems, providing evidence of a student's out-of-class efforts.

Justification

By some accounts the CPU has been the most successful general purpose machine ever built. The same basic design has served in systems as diverse as desktop computers, computing clusters, and embedded systems. The history of computing is filled with examples of specialized CPU architectures that were to be superior to the general-purpose CPU for a particular application area, such as databases, artificial intelligence, or scientific computation. None of these attempts at specialization have succeeded in displacing the general purpose CPU. Until now.

The GPU is an important component of many computer systems, from home computers and game consoles to scientific supercomputers. Emerging from so-called fixed-function and partially programmable devices intended for real time 3D graphics, the first modern GPUs appeared about 2000, and have been evolving since then. Programmability served the real time graphics market, in part by accelerating so-called game physics. With their high performance on scientific codes they were slowly adopted for scientific computing, gradually establishing themselves as an important component in scientific computing clusters.

Since the design of these devices is rapidly evolving, there is a demand for computer engineers familiar with them Programming of GPUs is also different than CPUs, and a detailed knowledge of their microarchitecture will aid GPU programmers. Indeed microarchitectural awareness is much more important for GPUs, which are notoriously unforgiving to the unschooled.
work in the area of graphics and scientific computing, two important areas for LSU.

Though CPUs and GPUs are similar in the sense that they both execute instructions, they have significant differences that require treatment in separate courses. The proposed course builds on undergraduate-level computer architecture and organization courses, which cover CPU designs. The programming aspects of the proposed course cover lower-level topics, including GPU machine language, complementing existing courses which cover GPU programming for graphics (EE 4702-X–GPU Programming), graphics and image processing courses (EE 4730–3D Graphical and Geometric Modeling, EE 4780–Introduction to Computer Vision, CSC 4263–Video Game Design Theory, CSC 4356–Interactive Computer Graphics), scientific programming courses (CSC 7800–High Performance Computing I, CSC 7810–High Performance Computing II, CSC 7620–High Performance Computing III), and parallel computation courses (EE 7728–Multithreaded Computer System Design, EE 7785–Program Parallelization). The proposed course may cover basic algorithms, perhaps drawing on the areas of scientific computation or graphics, but these will be for the purposes of illustrating basic techniques, rather than covering a wide set of algorithms for a particular field.

The course has been offered four times in its current form, each Spring from 2010 to 2013, averaging 6 students.

Prepared by: David M. Koppelman

Date: 2013
EE 7722 Endorsement

This course packet was discussed with faculty from Computer Science and they endorse this course.
REQUEST FOR ADDITION OF NEW COURSE

Department: Electrical and Computer Engineering  Date: 9/06/2013
College: Engineering

PROPOSED COURSE
Short Title: SPEC TOP ECE W/LAB (≤ 19 characters)
Rubric & No.: EE 4003  Title: Engineering with Lab

COURSE CREDIT
Graduate Credit: X YES  NO
Semester Hours of Credit: 3  (For combination course types only: 2 Lecture Hrs.  Lab/Sem/Rec Hrs.
If course may be repeated for credit (i.e. special topics), course may be taken for a max. of 6 credit hours.
Credit will not be given for this course and:

GRADING
Final Exam: X YES  NO  Grading System: X Letter Grade  Pass/Fail
(Attach justification if the proposed course will not hold a final exam during examination week.)

COURSE TYPE
(Indicate hours in the appropriate course type)

/ LELEC / LEC/SEM  LEC  LAB 2/2  LEC/LAB  SEM  CLIN/FRACT  RESIND

Maximum enrollment per section: 36  (use integer, e.g. 25 not 20-30)

CATALOG TEXT
(Concise catalog statement exactly as you wish it to appear in the LSU General Catalog)
4003 Special Topics in Electrical and Computer Engineering with Lab (3) May be taken for a max. of 6 hrs. of credit when topics vary. 2 hrs. lecture; 2 hrs. lab. Prerequisites will vary depending on the topic.

BUDGET IMPACT
If this course is approved, will additional staff be needed? YES X  NO
Will additional space, equipment, special library materials or other major expense be involved? YES X  NO
(if answer to either question above is "yes," attach explanation.)  Academic Affairs Approval:

ATTACHMENTS
ATTACH THE FOLLOWING TO YOUR PROPOSAL.

JUSTIFICATION: Justification must explain why this course is needed and how it fits into the curricula. Will the course duplicate other courses?
SYLLABUS: Including 14 week outline of the subject matter; titles of text, lab manual, and/or required readings; grading scale and criteria
(For 4000-level, specify graduate student grading criteria if requirements differ for graduate and undergraduate students).

APPROVALS
Department Faculty Approval  9/06/2013  College Faculty Approval  9/19/13
Department Chair's Signature  9/13/2013  College Dean's Signature  9/23/13
Graduate Dean's Signature (for 4000 level and above)  10-7-13  Chair, FS C&C Committee  10/5/13

College Contact:

(Please print name)

College Contact E-mail:
Sample Course Outline

EE 4003 Special Topics in Electrical and Computer Engineering with Lab

Course Outline

Catalog Data: 4003 Special Topics in Electrical and Computer Engineering with Lab(3) May be taken for a max. of 6 hrs. of credit when topics vary. 2 hrs. lecture; 2 hrs. lab. Prerequisites will vary depending on the topic.

Course Description: Special topics courses involving general lectures and labs on topics in areas in electrical and computer engineering

Textbook: Courses generally will use a prescribed text or will be based on recent research literature in the particular area.

Objectives: The courses will provide students with a broad view of areas within the discipline and/or more in-depth coverage of topics relating to emerging technologies.

Prerequisites by topics: Topics will vary depending on course material but will typically require one or more core undergraduate courses at the 3000 level.

Out of class work requirement:
Each 50 minute lecture will require a minimum of two hours of academic work such as reading assignments, home works, project, etc. Each 120 minute lab session will require students to work 2 hours to prepare a lab report.

Grading:
- Midterm (30%); Final Exam (30%); Lab Reports (25%); Homework Assignments (15%)
- Total 100 points: A≥90; 90>B≥80; 80>C≥70; 70>D≥60; 60>F
- The instructor may deviate from this grading scale depending on the course needs

Our grading policy implicitly meets participation criteria, as it includes students' work presentation either individually or in a group (for courses with lab and design components in it). For lectures, pop quizzes indirectly involve participation.
Credit hours justification:
This course has 2 lecture hours and 2 lab hours and meets the new credit hour policy where every lecture hour in the class should match with at least 2 hours of related academic work at home. This is being met with HWs, Lab Reports, Practice problems, text book chapter reading prior to class, and design related efforts.

Justification for EE 4003 Courses:
The division of electrical and computer engineering currently has special topics courses (EE 4000, 4001, 4002), however none of them allow for the creation of a 2 hour lecture 2 hour lab format. With many of these types of new courses being developed, a vehicle to deliver these courses is needed.

Course Outcomes: This special topic course teaches intermediate/advanced material on the topic. It will appropriately meet both hard and soft learning skills required by ABET as Student Outcomes (SOs). Similar to other course in the Division, this course will meet appropriate SOs for learning. The SOs are constantly monitored as part of embedded assessment and modified as necessary.
# REQUEST FOR ADDITION OF NEW COURSE

**Department:** Electrical and Computer Engineering  
**College:** Engineering  
**Date:** 9/06/2013

### PROPOSED COURSE

**Rubric & No.:** EE 3001  
**Title:** Engineering with Lab

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<tr>
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<td>SPCL TOP ECE W/LAB</td>
<td>19</td>
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### COURSE CREDIT

**Graduate Credit:**  
3 Semester Hours of Credit:  
1 Lecture Hrs.  
1 Lab/Sem/Rac Hrs.  
Credit will not be given for this course and:

### COURSE TYPE

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<th>Course Type</th>
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**Maximum enrollment per section:** 36

### CATALOG TEXT

3001 Special Topics in Electrical and Computer Engineering with Lab (3) May be taken for a max. of 6 hrs. of credit when topics vary. 2 hrs. lecture; 2 hrs. lab. Prerequisites will vary depending on the topic.

### BUDGET IMPACT

**If this course is approved, will additional staff be needed?**  
**YES X NO**

**Will additional space, equipment, special library materials or other major expense be involved?**  
**YES X NO**

**Academic Affairs Approval:**

### ATTACHMENTS

**ATTACH THE FOLLOWING TO YOUR PROPOSAL.**

**JUSTIFICATION:** Justification must explain why this course is needed and how it fits into the curricula. Will the course duplicate other courses?

**SYLLABUS:** Including 14 week outline of the subject matter; titles of text, lab manual, and/or required readings; grading scale and criteria. 

### APPROVALS

**Department Faculty Approval:**  
9/06/2013

**College Faculty Approval:**  
9/19/13

**Department Chair's Signature:**  
P.K. Aymer  
9/13/2013

**Graduate Dean's Signature (for 4000 level and above):**  
(date)

**College Contact:**  
*(Please print name)*

**College Contact E-mail:**  
*(Please provide email)*

**Chair, FS C&C Committee:**  
(date)

**Academic Affairs Approval:**  
(date)
Sample Course Outline

EE 3001 Special Topics in Electrical and Computer Engineering with Lab
(Breadth Elective)

Catalog Data: EE 3001 Special Topics in Electrical and Computer Engineering with Lab(3). May be taken for a max. of 6 hrs. of credit when topics vary. 2 hrs. lecture; 2 hrs. lab. Prerequisites will vary depending on the topic.

Course Description: Special topics courses involving general lectures and labs on topics in areas in electrical and computer engineering.

Textbook: Courses generally will use a prescribed text or will be based on recent research literature in the particular area.

Objectives: The courses will provide students with a broad view of areas within the discipline and/or more in-depth coverage of topics relating to emerging technologies.

Prerequisites by topics: Topics will vary depending on course material but will typically require one or more core undergraduate courses at the 2000 level.

Out of class work requirement:
Each 50 minute lecture will require a minimum of two hours of academic work such as reading assignments, homework, project, etc. Each 120 minute lab session will require students to work 2 hours to prepare a lab report.

Grading:
- Midterm (30%); Final Exam (30%); Lab Reports (25%); Homework Assignments (15%)
- Total 100 points: A≥90; 90>B≥80; 80>C≥70; 70>D≥60; 60>F
- The instructor may deviate from this grading scale depending on the course needs

Our grading policy implicitly meets participation criteria, as it includes students' work presentation either individually or in a group (for courses with lab and design components in it). For lectures, pop quizzes indirectly involve participation.
Credit hours justification:
This course has 2 lecture hours and 2 lab hours and meets the new credit hour policy where every lecture hour in the class should match with at least 2 hours of related academic work at home. This is being met with HWs, Lab Reports, Practice problems, textbook chapter reading prior to class, and design related efforts.

Justification for EE 3001 Courses:

The division of electrical and computer engineering recently revised their programs to include junior level electives called *Breadth Electives.* Currently there is no vehicle to introduce new breadth electives as special topics courses. The department currently uses 4000 and 7000 rubrics to introduce new courses as special topics courses. The department would like to use EE 3000 and EE 3001 to introduce a new course on a trial basis as a special topics course. If the course is successfully developed, a new permanent course will be added to the catalog.

EE 3001 will be used for lecture/lab courses. The course will meet 2 hours for lecture and 2 hours for lab.

Course Outcomes: This special topic course teaches intermediate/advanced material on the topic. It will appropriately meet both hard and soft learning skills required by ABET as Student Outcomes (SOs). Similar to other course in the Division, this course will meet appropriate SOs for learning. The SOs are constantly monitored as part of embedded assessment and modified as necessary.
REQUEST FOR ADDITION OF NEW COURSE

Department: Electrical and Computer Engineering Date: 9/06/2013
College:

PROPOSED COURSE
Short Title: SPECIAL TOPICS ECE (Limit 19 characters)
Special Topics in Electrical and Computer Engineering
Rubric & No.: EE 3000 Title: Engineering

COURSE CREDIT
Graduate Credit: YES x NO
Semester Hours of Credit: 3 (For combination course types only: Lecture Hrs. Lab/Sem/Rec Hrs.
If course may be repeated for credit (i.e. special topics), course may be taken for a max. of 6 credit hours.
Credit will not be given for this course and:

GRADING
Final Exam: x YES NO Grading System: x Letter Grade Pass/Fail
(Attach justification if the proposed course will not hold a final exam during examination week)

COURSE TYPE
(Indicate type in the appropriate course type)
1 LEC/REC 1 LEC/SEM 3 LEC 1 LAB 1 LECLAB 1 SEM 1 CLIN.PRACT 1 RESIND
Maximum enrollment per section: 38 (use integer, e.g. 25 not 20-30)

CATALOG TEXT
(Concise catalog statement exactly as you wish it to appear in the LSU General Catalog)
3000 Special Topics in Electrical and Computer Engineering (3) May be taken for a max. of 6 hrs. of credit when topics vary. Prerequisites will vary depending on the topic.

BUDGET IMPACT
If this course is approved, will additional staff be needed? YES x NO
Will additional space, equipment, special library materials or other major expense be involved? YES x NO
(If answer to either question above is “yes” attach explanation.) Academic Affairs Approval:

ATTACHMENTS
ATTACH THE FOLLOWING TO YOUR PROPOSAL.

JUSTIFICATION: Justification must explain why this course is needed and how it fits into the curricula. Will the course duplicate other courses?
SYLLABUS: Including 14 week outline of the subject matter; titles of text, lab manual, and/or required readings; grading scale and criteria
(For 4000-level, specify graduate student grading criteria if requirements differ for graduate and undergraduate students).

APPROVALS
Department Faculty Approval 9/6/2013
College Faculty Approval 9/19/13

P. K. Emmero 9/13/2013
Department Chair's Signature

Graduate Dean's Signature (for 4000 level and above) (date)
Chair, FS C&C Committee (date)

College Contact: (Please print name.)
College Contact E-mail: 

Academic Affairs Approval (date)
Sample Course Outline

EE 3000 Special Topics in Electrical and Computer Engineering
(Breadth Elective)

Catalog Data: EE 3000 Special Topics in Electrical and Computer Engineering (3).
May be taken for a max. of 6 hrs. of credit when topics vary. Prerequisites will vary depending on the topic.

Course Description: Special topics courses involving general lectures on topics in areas in electrical and computer engineering

Textbook: Courses generally will use a prescribed text or will be based on recent research literature in the particular area.

Objectives: The courses will provide students with a broad view of areas within the discipline and/or more in-depth coverage of topics relating to emerging technologies.

Prerequisites by topics: Topics will vary depending on course material but will typically require one or more core undergraduate courses at the 2000 level.

Out of class work requirement:
Each 50 minute lecture will require a minimum of two hours of academic work such as reading assignments, home works, project, etc.

Grading:
- Midterm (30%); Final Exam (30%); Term Paper (25%); Homework Assignments (15%)
- Total 100 points: A≥90; 90>B≥80; 80>C≥70; 70>D≥60; 60>F
- The instructor may deviate from this grading scale depending on the course needs

Our grading policy implicitly meets participation criteria, as it includes students’ work presentation either individually or in a group (for courses with lab and design components in it). For lectures, pop quizzes indirectly involve participation.
Credit hours justification:
This course meets the new credit hour policy where every lecture hour in the class should match with at least 2 hours of related academic work at home. This is being met with HWs, Practice problems, text book chapter reading prior to class, and design related efforts.

Justification for EE 3000 Courses:

The division of electrical and computer engineering recently revised their programs to include junior level electives called Breadth Electives. Currently there is no vehicle to introduce new breadth electives as special topics courses. The department currently uses 4000 and 7000 rubrics to introduce new courses as special topics courses. The department would like to use EE 3000 and EE 3001 to introduce new courses on a trial basis as a special topics course. If the course is successfully developed, a new permanent course will be added to the catalog.

EE 3000 will be used for 3 hour lecture courses.

Course Outcomes: This special topic course teaches intermediate/advanced material on the topic. It will appropriately meet both hard and soft learning skills required by ABET as Student Outcomes (SOs). Similar to other course in the Division, this course will meet appropriate SOs for learning. The SOs are constantly monitored as part of embedded assessment and modified as necessary.
REQUEST FOR ADDITION of NEW COURSE

Department: Agricultural Economics and Agribusiness  Date: 07/19/13
College: Agriculture

PROPOSED COURSE

Short Title: NONMARKET VALUATION

Rubric & No.: AGEC 7523 Title: Natural Resources

COURSE CREDIT

Graduate Credit: X YES NO (complete for 4000 level courses only)

Semester Hours of Credit: 3  (For “Lecture/Lab” type courses only: Lecture Hrs. ___ Lab Hrs. ___)

If course may be repeated for credit (i.e. special topics), course may be taken for a max. of ___ credit hours.
Credit will not be given for this course and: __________________________

(Indicate rubrics and course numbers)

GRADING
Final Exam: X YES NO  Grading System: X Letter Grade ___ Pass/Fail

(Attach justification if the proposed course will not hold a final exam during examination week.)

COURSE TYPE

Check one type:  X LEC ___ LAB ___ LEC/LAB ___ SEM ___ CLIN / PRACT ___ RES / IND

Maximum enrollment per section: ___  (use integer, e.g. 25 not 20-30)

Total weekly contact hours: ___  (If lecture/lab, contact hours of: Lecture ___ Lab ___)

CATALOG TEXT

(Concise catalog statement exactly as you wish it to appear in the LSU General Catalog)

AGEC 7523 Nonmarket Valuation in Agriculture and Natural Resources (3)  Economic concepts and methods of nonmarket valuation applied to agricultural and natural resource economics. Contingent valuation, hedonic pricing, travel cost, conjoint analysis and contingent ranking, and benefit transfer.

BUDGET IMPACT

If this course is approved, will additional staff be needed? ___ YES X NO

Will additional space, equipment, special library materials or other major expense be involved? ___ YES X NO

(If answer to either question above is "yes" attach explanation.)  Academic Affairs Approval: ___ Date: ___

ATTACHMENTS

ATTACH THE FOLLOWING TO YOUR PROPOSAL.

JUSTIFICATION: Justification must explain why this course is needed and how it fits into the curricula. Will the course duplicate other courses?

SYLLABUS: Including 14 week outline of the subject matter; titles of text, lab manual, and/or required readings; grading scale and criteria
(For 4000-level, specify graduate student grading criteria if requirements differ for graduate and undergraduate students).

APPROVALS

Department Faculty Approval 10/07/11  College Faculty Approval 10/13/13

Department Chair’s Signature: 9/11/13  College Dean’s Signature: 10/13/13

Graduate Dean’s Signature (for 4000 level and above) 10-7-13  Chair, FS C&C Committee: 10/15/13

Academic Affairs Approval: 10/13/13
Justification

With greater enrollment in the Agricultural Economics Ph.D. program, we have the opportunity to provide more depth in the natural resource and environmental economics area by developing a field course sequence in this area. The first course (AGEC 7513) will concentrate on dynamic optimization techniques in natural resource economics while this one will concentrate on nonmarket valuation methods. The previous AGEC 7503 course covered a wide range of natural resource economics topics and was open to both M.S. and Ph.D. students. Some of the later topics in that course could not be covered in sufficient depth for Ph.D. students because the M.S. students did not have sufficient background. The newly proposed course will also be open to both M.S. and Ph.D. students, concentrating on those topics most relevant to both M.S. and Ph.D. students (nonmarket valuation). The previous course, AGEC 7503, which covered both of the topics for the new AGEC 7513 (already approved) and this course, will be dropped.

Expected Enrollment

Based upon earlier enrollments in AGEC 7503, demand for the new field of study in Natural Resource and Environmental Economics in the Ph.D. program in Agricultural Economics, the need for some of our M.S. students to learn about nonmarket valuation methods, and the fact that the course will be an every-other-year offering, we expect 5-10 students to be enrolled in the course each time it is taught.
NONMARKET VALUATION METHODS IN AGRICULTURE AND
NATURAL RESOURCES
(AGEC 7523)

Instructor: Krishna P. Paudel
Office: 225 Ag. Administration Building
Phone: 578-7363
Email: kpaudel@agcenter.lsu.edu
Office Hours: TBD
Class time: TBD

Catalog Course Description

AGEC 7523 Nonmarket Valuation (3) F-E. Economic concepts and methods of nonmarket
valuation applied to agricultural and natural resource economics. Contingent valuation, hedonic
pricing, travel cost, conjoint analysis and contingent ranking, and benefit transfer.

Course Objectives

1. To teach students how economists conduct nonmarket valuation research.
2. To teach students how to perform research in applied economics with an emphasis on
   environmental economics related topics.
3. To teach students to write, present, and critique papers using nonmarket valuation
   methods.

Note the following homework assignments, readings, and term paper, together which will require
significant work outside the classroom. It is expected that the students will have read the
assigned chapters or pages prior to class for the background necessary to properly participate in
the discussion and think critically about the concepts addressed. As a general policy, for each
hour you are in class, you (the student) should plan to spend at least two hours preparing for the
next class. Since this course is for three credit hours, you should expect to spend around six
hours outside of class each week reading or writing assignments for the class.

Exams and Grades

Midterm and final exams will be in-class exams. These exams will be scheduled based on the
guidance provided in the 2011 LSU Spring semester bulletin. The midterm exam will be based
on the material covered through the hedonic method lecture. This will cover the chapters from
Haab and McConnell and microeconomic tools (demand theory). Besides scheduled exams and
term paper writing, students will also be asked to summarize articles/book chapters. Students
must read all journal articles/book chapters assigned and understand the major points. Students
are required to attend all the departmental seminars and summarize the major findings in a
written two-page length format. The summary should be written in a critique form. If a
student’s schedule does not allow him/her to attend a departmental seminar, he/she should let me
know immediately so that I can provide a substitute article to read and summarize. I do not give
incomplete grades in this class except under extenuating circumstances.
Mid-term Exam 30
Homework and Departmental Seminar Participation 10
Term Paper 30
Final Exam 30
**Total possible points:** 100

**Grade Distribution**
- A 90 ≤ A ≤ 100
- B 75 ≤ B < 90
- C 65 ≤ C < 75
- D 60 ≤ D < 65
- F Below 60

**Student Term Paper**
Students are required to write a term paper on a topic approved/selected by the instructor.
Students will have 25 minutes to present the paper in class. The presentation and paper will be evaluated based on the following items:

i. Motivation for the research.
ii. Discussion of the research questions.
iii. Conceptual model and use of economic theory.
iv. Link between the conceptual and empirical models.
v. Implications of the research.

**Term Paper Deadlines**
- Term paper topic selection Feb 8
- Problem statement and conceptual model Feb 22
- Analytical technique March 24
- First complete draft April 30
- Class presentation May 7
- Final version of the paper submitted Same day of the Final Exam

*If you do not meet any of the deadlines mentioned above, I will subtract 10% of the assigned mark on that particular section of the research proposal.*

**Disability Statement:** Louisiana State University is committed to providing reasonable accommodations for all persons with disabilities. The syllabus is available in alternate formats upon request. If you have a disability that may have some impact on your work in this class and for which you may require accommodations, please see a staff member in Disability Services (115 Johnston Hall) so that such accommodations can be considered. Students that receive accommodation letters, please meet with me to discuss the provisions of those accommodations as soon as possible.

**Academic Dishonesty:** Students are responsible for reading and understanding the LSU Code of Student Conduct regarding academic dishonesty.
Suggested Books

Topics Covered
i. Economic theory and econometrics related to nonmarket valuation
ii. Contingent valuation method
iii. Hedonic price method
iv. Travel cost method
v. Conjoint analysis and choice experiments
vi. Benefit transfer

LECTURE DETAILS

Week 1

i. ECONOMIC THEORY AND ECONOMETRICS
Lecture 1: Welfare economics
Layard and Walters – Chapter 1
Lecture 2: Welfare economics for nonmarket valuation
Haab and McConnell, Chapter 1

Journal article readings


Weeks 2, 3, 4, and 5

ii. CONTINGENT VALUATION METHOD
Week 2
Lectures 3, 4: Contingent valuation method
Garrod and Willis, Chapter 5
Haab and McConnell: Chapter 4
Week 3
Lectures 5, 6: Discrete Choice method
    Garrod and Willis, Chapter 6
    Haab and McConnel, Chapter 5

Week 4
Lectures 7, 8: Parametric models for contingent valuation
    Haab and McConnel, Chapters 2

Week 5
Lectures 9, 10: Distribution free models for contingent valuation
    Haab and McConnel, Chapters 3

Journal article readings for the weeks 2,3,4, and 5

Bishop, Champ, and Mullarkey, Contingent Valuation, Handbook of Environmental Economics


Weeks 6 and 7

iii. HEDONIC PRICE METHOD
Lectures 11, 12: Hedonic Price Method
    Garrod and Willis – Chapter 4

Journal article readings

Lectures 13, 14: Hedonic price equations
    Haab and McConnel: Chapter 9
Journal article readings


MID-TERM EXAM

Weeks 8 and 9

iv. TRAVEL COST METHOD

*Lecture 15*: Travel cost method  
Garrod and Willis – Chapter 3

*Lecture 16*: Modeling the demand for recreation  
Haab and McConnell: Chapter 6

Journal article readings

*Lecture 17*: Single site demand estimation  
Haab and McConnell: Chapter 7

*Lecture 18*: Site choice model  
Haab and McConnell: Chapter 7

Journal article readings


Week 10-11

v. CONJOINT ANALYSIS AND CONTINGENT RANKING

*Lectures 19, 20*: Stated preference for multiple attributes  
Haab and McConnell, Chap 10

Journal article readings


Lectures 21, 22: Combining stated and revealed preference
Haab and McConnell Chapter 10

Week 12
vi. BENEFIT TRANSFER

Lectures 23, 24: Benefit transfer
Garrod and Willis, Chapter 12

Journal article readings

FINAL EXAM AND TERM PAPER DUE
Professor Jeffrey M. Gillespie  
Graduate Director  
Department of Agricultural Economics and Agribusiness  
LSU  

Dear Jeff:  

Regarding your department’s new course proposals, the Department of Economics has no objections to the introduction of AGEC 7213 and AGEC 7523. We don’t anticipate any conflicts between these courses and courses currently offered by the Economics Department.  

Best wishes,  

\[\text{Signature}\]  

W. Douglas McMillin  
Mack Hornbeak Professor, Graduate Director, &  
Co-Editor, Journal of Macroeconomics  
Dept. of Economics  
LSU  
Baton Rouge, LA 70803
Faculty Senate Courses and Curricula Committee

July 16, 2012

From: Lawrence Rouse, Chair, Courses and Curricula Committee
To: Gail L. Cramer, Department Head and Professor, Agricultural Economics and Agribusiness

At their July 13th, 2012 meeting, the Faculty Senate Courses and Curriculum Committee took the following actions regarding the Agricultural Economics proposals.

**AGEC 7213**

- Conditionally approved the proposal to add AGEC 7213: Applied Food Demand and Consumer Behavior pending a letter of support from the Economics department to ensure there is no overlap in content with previously established courses within the Economics department.

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- Returned the proposal to change AGEC 7503: Natural Resource Economics. The Committee considers the revision to be a complete restructure of the course title and content. Therefore, the Committee requests proposals to drop the current AGEC 7503 and to add a new course detailing this restructure. The Committee also requests a letter of support from the Economics department ensuring no overlap in course content as well as a revised syllabus detailing the 15 week course schedule.

**AGEC 7803**

- The Committee tabled the proposal to drop AGEC 7803: Agricultural Economic Applications. The proposal will be reviewed upon the submission of a revised proposal for AGEC 7503.

**AGEC 7513**

- Conditionally approved the proposal to add AGEC 7513: Dynamics in Natural Resource Economics pending letters of support from the Environmental Sciences and Environmental Engineering departments to ensure there is no overlap in content with previously established courses within their departments.

Please submit the requested documentation to Anna Castrillo in the Office of the University Registrar at 112 Thomas Boyd Hall or by email at acastril@lsu.edu.

If you have any questions regarding the request, please feel free to contact me at lrouse@lsu.edu.
REQUEST FOR ADDITION OF NEW COURSE

Department: Agricultural Economics and Agribusiness  Date: 02/26/12
College: Agriculture

PROPOSED COURSE
Short Title: APPLIED FOOD DEMAND (≤ 20 characters)
Rubric & No.: AGEC 7213 Title: Applied Demand for Food Commodities

COURSE CREDIT
Graduate Credit: X YES   NO (complete for 4000 level courses only)
Semester Hours of Credit: 3 (For “Lecture/Lab” type courses only: Lecture Hrs. ___ Lab Hrs. ___)
If course may be repeated for credit (i.e. special topics), course may be taken for a max. of ___ credit hours.
Credit will not be given for this course and:

GRADING
Final Exam: X YES   NO Grading System: X Letter Grade Pass/Fail
(Attach justification if the proposed course will not hold a final exam during examination week.)

COURSE TYPE
Check one type: X LEC  LAB  LEC/LAB  SEM  CLIN/PRACT  RES/IND
Maximum enrollment per section: 25 (use integer, e.g. 25 not 20-30)
Total weekly contact hours: 3 (If lecture/lab, contact hours of: ___ Lecture ___ Lab)

CATALOG TEXT
(Concise catalog statement exactly as you wish it to appear in the LSU General Catalog)

Applied Demand for Food Commodities (3) Examination of demand for food commodities from analytical and empirical perspectives. Emphasis on providing students with an understanding of economic principles that, combined with proper analytical techniques, enable them to derive theoretically-based demand systems for various components of the food and related marketing sectors.

BUDGET IMPACT
If this course is approved, will additional staff be needed? X YES   NO
Will additional space, equipment, special library materials or other major expense be involved? X YES   NO
(If answer to either question above is “yes” attach explanation.) Academic Affairs Approval: Date:

ATTACHMENTS
ATTACH THE FOLLOWING TO YOUR PROPOSAL.

JUSTIFICATION: Justification must explain why this course is needed and how it fits into the curricula. Will the course duplicate other courses?

SYLLABUS: Including 14 week outline of the subject matter; titles of text, lab manual, and/or required readings; grading scale and criteria (For 4000-level, specify graduate student grading criteria if requirements differ for graduate and undergraduate students).

APPROVALS
Department Faculty Approval 10/07/11
Department Chair’s Signature 9/14/13
College Dean’s Signature 10-7-13

College Faculty Approval 10/3/13
Graduate Dean’s Signature (for 4000 level and above) 10/15/13
Academic Affairs Approval 10/22/13

Kenneth P. Kooren 10/4/13
Chair, FS CAB Committee 10/19/13
Justification

With greater enrollment in the Agricultural Economics Ph.D. program, we have the opportunity to provide more depth in the consumer economics and marketing area by developing a field course sequence in this area. The first course (AGEC 7203 Advanced Agricultural Marketing Theory), which is already in existence, concentrates on analytical procedures in consumer marketing research. The proposed second course (AGEC 7213) will concentrate on consumer behavior and demand, emphasizing demand systems. Such systems are widely used throughout the Agricultural Economics literature, but our Ph.D. program has not addressed them in a rigorous framework in the past. AGEC 7203 is suitable for both M.S. and Ph.D. students, but the proposed course will be targeted primarily to Ph.D. students. The prerequisites of the proposed course are generally taken only by Ph.D. students.

Expected Enrollment

AGEC 7213 was taught as a special topics course in Fall 2012. It will be part of the Consumer Demand and Marketing field that has been established for the Ph.D. program. This is one of four fields in the Department; every Ph.D. student must select two of the four fields. The other course required for that field is AGEC 7203, which has been taught on an alternate-year basis with enrollments of 6 students in 2011 and 11 students in 2009. With 25 students in the Ph.D. program, of which approximately 50% are expected to be in the Consumer Demand and Marketing field, we estimate there will be 6 Ph.D. students required to take the course each time it is offered since it will be offered on an alternate-year basis. Some additional M.S. and Ph.D. students will also take the course to fulfill their elective requirements.
Applied Demand for Food Commodities
AGEC 7213

Instructor: Walter R. Keithly, Jr

Prerequisites: Price Theory II (Econ 7720) and Econometric Methods I (Econ 7630)

Course Catalog Description: Applied Demand for Food Commodities (3). Examination of demand for food commodities from analytical and empirical perspectives. Emphasis on providing students with an understanding of economic principles that, combined with proper analytical techniques, enable them to derive theoretically-based demand systems for various components of the food and related marketing sectors.

Course Objectives: Simply stated, the primary objective of this course is to provide the students with the economic concepts necessary to critically review relevant research in the demand field as well as to be able to formulate and estimate appropriate demand models for the food and marketing sectors.

Note the following homework assignments, readings, and term paper, together which will require significant work outside the classroom. It is expected that the students will have read the assigned chapters or pages prior to class for the background necessary to properly participate in the discussion and think critically about the concepts addressed. As a general policy, for each hour you are in class, you (the student) should plan to spend at least two hours preparing for the next class. Since this course is for three credit hours, you should expect to spend around six hours outside of class each week reading or writing assignments for the class.

Homework: There will be a number of homework assignments given throughout the semester (approximately 4 to 6). Most of these homework assignments will be conceptual and/or empirical in nature with emphasis given to estimation of many of the demand models discussed throughout the semester. As such, we will move from conceptualization/estimation of naive single-equation models to complete demand systems and finally to incorporation of habits and other exogenous factors (e.g., change in tastes and preferences). You are free to use whatever software package you wish when estimating these models, but examples in class will rely on SAS. I encourage you to collaborate in answering the homework problems.

Finally, you will be asked to review a number of articles related to food demand analysis. These reviews will primarily be conducted during the later part of the class after we have covered much of the theoretical background material.

Term Paper: Students are expected to apply what is covered in class in analyzing demand for a given food product/commodity. In developing the theme for the paper, students should address the following questions: (1) What is the problem? (2) Why does this problem need to be addressed?, (3) What is the appropriate technique for addressing this problem? (4) What sources of data will be used in the analysis?, and (5) What do you expect to find? I ask that each student (or group; see below) turn in by
the end of the eighth week of class a brief topic outline of the product/commodity he/she wishes to examine (I suggest that each student discuss potential topics with his/her major professor at an early stage or with me). Readings based on empirical applications of the various theoretical models examined in class will then be selected based on students interests.

Disability Statement: Louisiana State University is committed to providing reasonable accommodations for all persons with disabilities. The syllabus is available in alternate formats upon request. If you have a disability that may have some impact on your work in this class and for which you may require accommodations, please see a staff member in Disability Services (115 Johnston Hall) so that such accommodations can be considered. Students that receive accommodation letters, please meet with me to discuss the provisions of those accommodations as soon as possible.

Academic Dishonesty: Students are responsible for reading and understanding the LSU Code of Student Conduct regarding academic dishonesty.

Reference Texts: There is no text for this course but numerous readings will be assigned throughout the semester. Recommended references include:
3. Peter Helmsberger and Jean-Paul Chavas. 1996. The Economics of Agricultural Prices, Prentice Hall, Upper Saddle River, New Jersey

Grading:

1. Exam: There will be final exam at the end of the course which will cover all material introduced throughout the semester. This exam will constitute 30% of the final grade.
2. Assignments: There will be a number of conceptual/problem-solving exams throughout the semester. These assignments serve two purposes. First, they help the students ‘sharpen’ their analytical skills. Second, they provide feedback to the instructor as to progress being made by students in grasping relevant concepts. While each student is to turn in each assignment, students are encouraged to work as groups in addressing the questions. These assignments will constitute 15% of the final grade.
3. Review of Journal Articles: Three journal article reviews will constitute 15% of the final grade. As with the assignments, students are encouraged to collaborate on these reviews but each student is to turn in his separate reviews.
4. Term Paper: This manuscript, which includes estimation of the appropriate demand/marketing margin relationships, should be developed around the concepts considered throughout the semester. It should address an issue relevant to demand analysis and should be theoretically and empirically sound. With the instructor’s permission, more than one student may collaborate on this manuscript. While not a requisite, it is hoped that many of these manuscripts can be subsequently turned into a publication. This manuscript will constitute 40% of the final grade.
Grading System:

A = 90+ ; B = 80-89; C = 70-79; D = 60-69; F = Below 60.

Course Outline

1. Demand Function Specification (Much of the information through section 1.3.2 has been covered in the Price Theory classes and, as such, only two to three weeks will be spent reviewing the information through section 1.3.2)\(^1\)

Week 1

1.1 Introduction

*Readings:*

1.2 Concepts of Neoclassical Theory

1.2.1 Direct Utility Functions
1.2.2 Indirect Utility Functions

Week 2

1.3 From Utility Theory to Demand Theory

1.3.1 Theoretical Consistency
1.3.1.1 Adding-up Conditions
1.3.1.2 Homogeneity Conditions
1.3.1.3 Slutsky Symmetry Conditions

*Readings:*
Tomek, W. G. and K. L. Robinson. 1981. *Agricultural Product Prices*, 2\(^{nd}\) edition. Cornell University Press (Read chapter 2. This chapter will provide a very elementary discussion of what we will be covering in this section of the syllabus).
George, P.S. and G.A. Kings. 1971. *Consumer Demand for Food Commodities in the United States With Projections for 1980*. Department of Agricultural and Resource Economics, University of California, Davis Giannini Foundation Monograph Number 26 (Read pages 1-12; this section provides a very succinct review using basic calculus)

\(^1\) These times are approximations and subject to change based on student interests as well as other factors.

Brown, A. and A. Deaton. 1972. “Surveys in Applied Economics: Models of Consumer Behaviour.” *The Economic Journal* 82:1145-1236 (Read Section 2.1: The Static Theory of Consumer Preference; This section presents the fundamental matrix equation approach to demand theory. While we will not be concentrating on the matrix approach, it will show up in various readings so it is worthwhile being exposed to the concept at this point.). 


Week 3

1.3.2 Aggregation and Separability

1.3.2.1 Aggregation Across Consumers

1.3.2.2 Aggregation Across Groups of Commodities (Weak Separability)

*Readings:*


Week 4

1.3.3 Single Equation Estimations (as related to both time-series and cross-section data)

1.3.3.1 Direct Demand Models

1.3.3.2 Indirect (Price Dependent) Demand Models

King, R. A. 1979. "Choices and Consequences." *American Journal of Agricultural Economics* 61: 839-48. (Note: this briefly covers the LES model which will be covered in more detail in the following section)


Weeks 5-8

### 1.3.4 Static Demand Systems

#### 1.3.4.1 Quantity Dependent Demand Systems (The Linear Expenditure System, The Rotterdam Model, The Almost Ideal Demand System and linear approximation, and Generalizations of these models)


Barten, A. P. 1993. “Consumer Allocation Models: Choice of Functional Forms.” *Empirical Economics*, 18:129-58. *(Note: this paper goes into considerable detail on ‘hybrid’ models that combine properties of the AIDS model and the Rotterdam model. We will not be considering these hybrid models in detail and a summary of them can be found in Okrent and Alston)*
Week 9

1.3.4.2 Inverse Demand Systems
    Brown, M. G., J. Lee, and J. L. Seale. 1995. “A Family of Inverse Demand Systems and Choice of Functional Form.” Empirical Economics, 20:519-530 (Note: like the Barten paper, this paper goes into considerable detail on ‘hybrid’ models. We will not be considering these hybrid models in detail).

1.3.4.3 Mixed Models (one class)

Week 10

1.3.5 Dynamic Specifications of Demand Systems (as related to time-series analysis)
    Note: At this stage of the class, students should have turned in term paper topics (see discussion at beginning of syllabus). Based on selected topics, a number of empirically-based studies will then be discussed in class.

1.3.6 Issues of Simultaneity
    Readings:
Weeks 11 and 12

1.3.7 The Issue of Quality
1.3.7.1 Sources of Price Variation
1.3.7.2 Quality Adjustment of Prices in Cross Sectional Analysis

Readings:

Weeks 13 and 14

2. Derived Demand and Marketing Margins
2.1 Farm-Retail Price Spreads
2.2 Fixed Proportion Models of the Farm-Retail Spread
2.3 Variable Proportion Models of the Farm-Retail Spread
2.4 Applications

Readings:
Professor Jeffrey M. Gillespie  
Graduate Director  
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