



Undergraduate Advising Manual

***University of Arkansas, Ralph E. Martin
Department of Chemical Engineering***

Revised: March 2015

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Introduction

The Educational Objectives of our chemical engineering program are to prepare students for career and professional accomplishments after graduation, including:

- Successfully practicing as an engineer or in some other professional pursuit, including traditional or emerging fields of chemical engineering.
- Entering and successfully participating in a graduate or professional program that continues career development.

Our chemical engineering program prepares graduates to achieve these educational objectives through the development of their skills as outlined in our educational outcomes and taught in our curriculum. By the time of graduation, our students will attain the following educational outcomes:

- an ability to apply knowledge of mathematics, science, and engineering
- an ability to design and conduct experiments, as well as to analyze and interpret data
- 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
- an ability to function on multidisciplinary teams
- an ability to identify, formulate, and solve engineering problems
- an understanding of professional and ethical responsibility
- an ability to communicate effectively
- the broad education necessary to understand the impact of engineering solutions in global, economic, environmental, and societal contexts
- a recognition of the need for, and an ability to engage in life-long learning
- a knowledge of contemporary issues
- an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

The purpose of this document is to outline the undergraduate program of study, including pre- and co-requisites, as well as the other requirements for graduation, to serve as an advising tool for students and faculty.

Programs of Study

Most of the students studying Chemical Engineering now use a 128 hour degree program (established in Fall 2013 and modified for Fall 2015), although it is possible to use the previous 132 hour program of study if you entered the university prior to Fall 2013. **Students using the 132 hour program of study should be aware of the following course substitutions:**

- CHEM 3813, Introduction to Biochemistry, or CHEM 4813H, Honors Biochemistry I, may be substituted in place of MEEG 2003, Statics; CHEG 3713, Chemical Engineering Materials, may be substituted in place of MEEG 3013, Mechanics of Materials. Note that MEEG 2003 is a prerequisite for MEEG 3013.
- Two hours of free elective (along with six hours of upper level science, from the approved list) may be used to satisfy the requirement of eight hours of upper level science electives. For those students transferring from FEP, GNEG 1111 and GNEG 1121 will satisfy the free elective requirement since GNEG 1111, Introduction to Engineering I, and GNEG 1121, Introduction to Engineering II, are not requirements in the 132 hour program of study.

- CHEG 2221, Professional Practice Seminar, is no longer offered, and is replaced by one hour of free elective.

The optional four year, 132 hour suggested program of study is shown as a listing of courses and as a course sequence diagram in the Appendix.

The College of Engineering has other **substitutions which may apply in either the 128 hour or 132 hour program of study:**

- The College of Engineering no longer allows students to use upper level humanities/social science electives as part of the degree program. Only upper level humanities/social science electives taken (or transferred) prior to Fall 2012 or approved (by appeal to the College of Engineering) during the Fall 2012 semester may be used to satisfy the requirement. Upper level humanities/social science electives taken after the Fall 2012 semester will not count toward an Engineering degree. Engineering students entering the university in Fall 2012 or later may use only lower level humanities/social electives (one humanities course, one fine arts class, three social science classes including ECON 2143, Basic Economics, or ECON 2013, Macroeconomics) to complete the humanities/social elective requirements.
- All Engineering students entering the College of Engineering as Freshmen in Fall 2012 or later must participate in the Freshman Engineering Program (FEP). FEP participation is waived for advanced transfer students, but GNEG 1111 and GNEG 1121 must then be replaced by 2 hours of electives in the 128 hour program of study. Transfer students entering the program in Fall 2014 or later must use STEM (science, technology, engineering or math) classes to replace the hours for GNEG 1111 and GNEG 1121.

As was noted above, there are two 128 hour courses of study in Chemical Engineering. Since some of the courses in the older 128 hour program no longer exist (as of Spring 2015), participation in the 128 hour programs is governed by course offerings, as follows:

- If a student has completed CHEG 3143, Heat Transport, CHEG 3232 Chemical Engineering Laboratory II, and CHEG 3153, Non-equilibrium Mass Transfer, prior to Fall 2015, the student will follow the older 128 hour program of study that contains these courses. CHEG 3143, CHEG 3153 and CHEG 3232 no longer exist in the chemical engineering curriculum.
- Conversely, if a student has not completed these courses, the student will most likely be using the new 128 hour program of study.
- Students who have completed courses from the older 128 hour program that are no longer in the new 128 hour program (such as CHEG 2123, Introduction to Chemical Engineering II, and CHEG 2212, Chemical Engineering Laboratory I) will be given technical elective credit for these courses. Consult your advisor for specific course substitutions.

The older four-year, 128 hour, suggested program of study containing CHEG 2123, CHEG 2212, CHEG 3143, CHEG 3153 and CHEG 3232 is shown as a listing of courses in Table 1 and as a course sequence diagram in Figure 1. Note that all courses are not offered each semester and that certain pre- and co-requisites are required for most courses.

Table 1. Older 128 Hour Suggested Program of Study

Fall—Year 1	Spring—Year 1
MATH 2554, Calculus I	MATH 2564, Calculus II
CHEM 1113, Engineering Chemistry I	CHEM 1133, Engineering Chemistry II

ENGL 1013, Composition I
 PHYS 2054, University Physics I
GNEG 1111, Introduction to Engineering I
 15 hours

Fall—Year 2
 MATH 2574, Calculus III
 CHEM 3603, Organic Chemistry I
 CHEM 3601L, Organic Chemistry I Lab
 CHEG 2113, Intro to Chemical Engineering I
 CHEG 2212L, Chemical Engineering Lab I
HIST 2003, HIST 2013 or PLSC 2003
 16 hours

Fall—Year 3
 CHEM 3813, Intro to Biochemistry or CHEM 4813H,
 Honors Biochemistry I
 CHEG 3143, Heat Transport
 CHEG 3232L, Chemical Engineering Lab II
 CHEG 3323, Thermodynamics of Multicomp. Systems
 CHEG 3253, Computer Methods
Humanities/Social Science Elective, 3 hours
 17 hours

Fall—Year 4
 CHEG 4163, Equilibrium Stage Mass Transfer
 CHEG 4413, Chem Engr Design I
 CHEG 4813, Chemical Process Safety
 Technical or Advanced Science Elective, 3 hours
Advanced Science elective—3 hours
 15 hours

CHEM 1131L, Engineering Chemistry II Lab
 ENGL 1023, Composition II
 PHYS 2074, University Physics II
GNEG 1121, Introduction to Engineering II
 16 hours

Spring—Year 2
 MATH 2584, Differential Equations
 CHEM 3613, Organic Chemistry II
 CHEM 3611L, Organic Chemistry II Lab
 CHEG 2123, Intro to Chemical Engineering II
 CHEG 2133, Fluid Mechanics
CHEG 2313, Thermodynamics of Single Comp
 17 hours

Spring—Year 3
 CHEG 3713, Materials Technology
 CHEG 3333, Chemical Engr Reactor Design
 CHEG 3153, Non-equilibrium Mass Transfer
 ECON 2143, Basic Economics (ECON 2013
 may be substituted)
Humanities/Social Science Elective, 3 hours
 15 hours

Spring—Year 4
 CHEG 4332, Chemical Engineering Lab III
 CHEG 4423, Auto Process Control
 CHEG 4443, Chem Engr Design II
 Advanced Science or Chemical Engineering
 elective—3 hours
 Humanities/Social Science Elective, 3 hours
Humanities/Social Science Elective, 3 hours
 17 hours

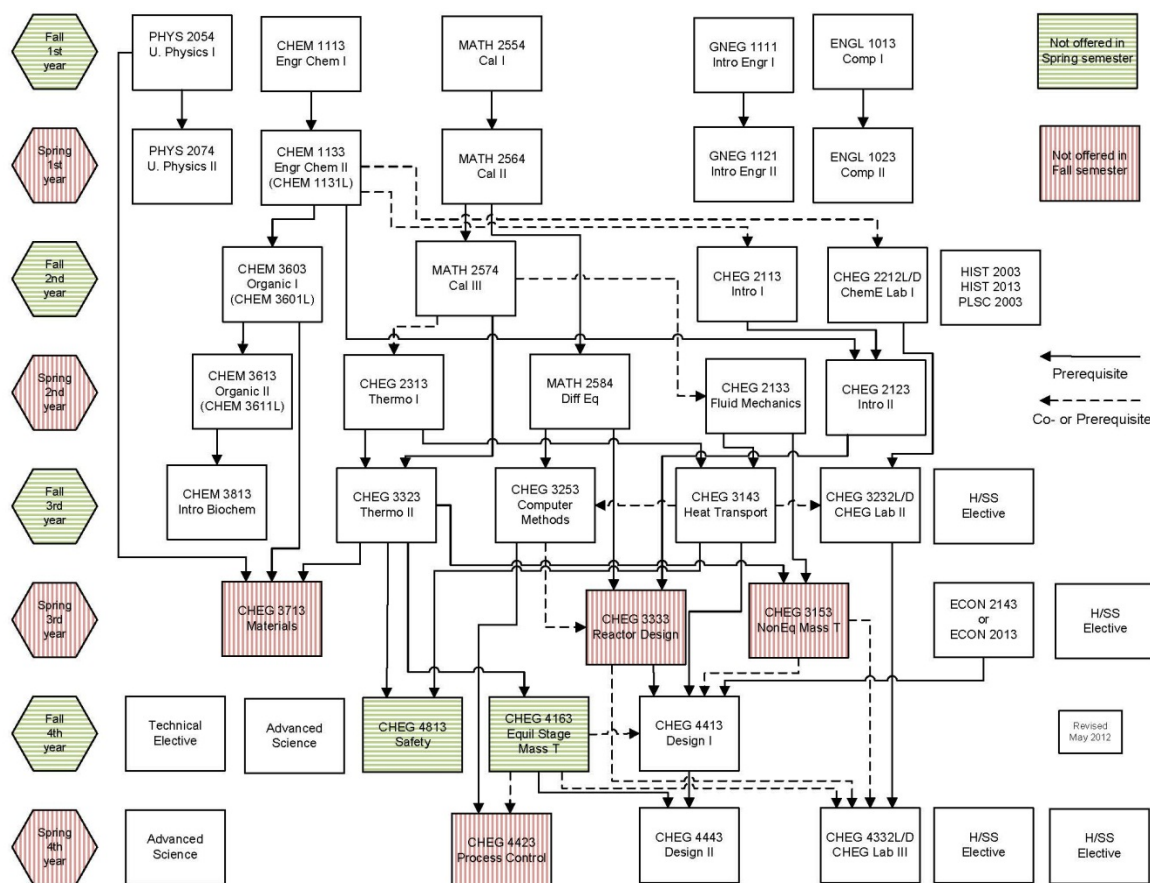


Figure 1. Older 128 Hour Suggested Program of Study

The newer 128 hour suggested program of study containing additional elective options as chemical engineering and technical electives is shown as a listing of courses in Table 2 and as a course sequence diagram in Figure 2. Once again, it should be noted that all of the courses are not offered each semester and that certain pre- and co-requisites are required for most courses.

Table 2. Newer 128 Hour Suggested Program of Study

Fall—Year 1
 MATH 2554, Calculus I
 CHEM 1113, Engineering Chemistry I
 ENGL 1013, Composition I
 PHYS 2054, University Physics I
 GNEG 1111, Introduction to Engineering I
 15 hours

Spring—Year 1
 MATH 2564, Calculus II
 CHEM 1133, Engineering Chemistry II
 CHEM 1131L, Engineering Chemistry II Lab
 ENGL 1023, Composition II
 PHYS 2074, University Physics II
 GNEG 1121, Introduction to Engineering II
 16 hours

Fall—Year 2
 MATH 2574, Calculus III

Spring—Year 2
 MATH 2584, Differential Equations

CHEM 3603, Organic Chemistry I
CHEM 3601L, Organic Chemistry I Lab
CHEG 2113, Intro to Chemical Engineering
Humanities/Social Science Elective, 3 hours
HIST 2003, HIST 2013 or PLSC 2003
17 hours

Fall—Year 3

CHEM 3813, Intro to Biochemistry or
CHEM 4813H, Honors Biochemistry I
CHEG 3253, Computer Methods
CHEG 3323, Thermodynamics of
Multicomp. Systems
Technical Elective, 3 hours
ECON 2143, Basic Economics (ECON 2013
may be substituted)
Humanities/Social Science Elective, 3 hours
18 hours

Fall—Year 4

CHEG 4163, Separation Processes
CHEG 4413, Chem Engr Design I
CHEG 4813, Chemical Process Safety
Advanced Science or CHEG Elective, 3 hours
Advanced Science or Technical elective, 3 hours
15 hours

CHEM 3613, Organic Chemistry II
CHEM 3611L, Organic Chemistry II Lab
CHEG 2133, Fluid Mechanics
CHEG 2313, Thermodynamics of Single Comp
Humanities/Social Science Elective, 3 hours
17 hours

Spring—Year 3

CHEG 3713, Materials Technology
CHEG 3333, Chemical Engr Reactor Design
CHEG 3144, Heat and Mass Transfer
CHEG 3233, CHEG 1st Lab
Humanities/Social Science Elective, 3 hours
16 hours

Spring—Year 4

CHEG 4332, CHEG 2nd Lab
CHEG 4423, Auto Process Control
CHEG 4443, Chem Engr Design II
Advanced Science or CHEG elective, 3 hours
Advanced Science or Technical elective, 3 hours
14 hours

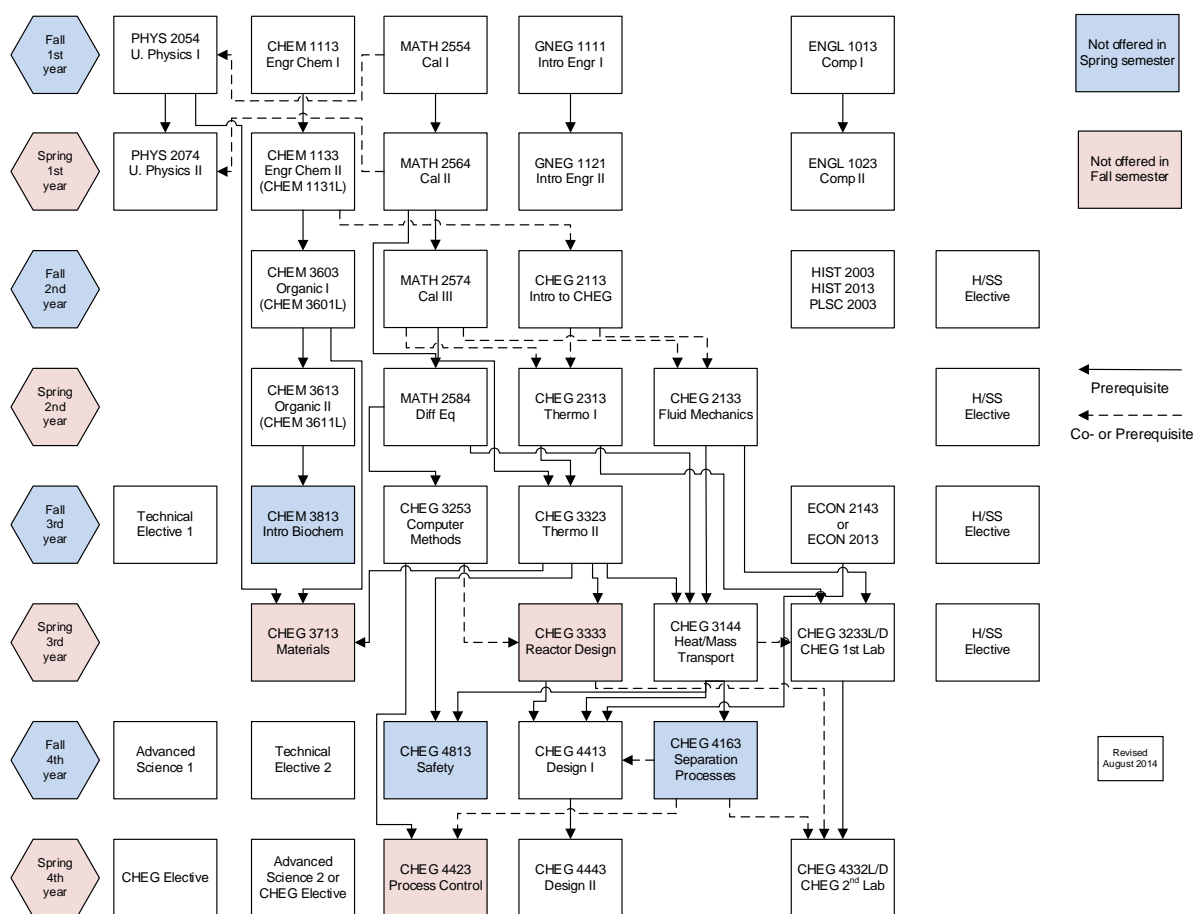


Figure 2. Newer 128 Hour Suggested Program of Study

It is realized that students progress through the curriculum at different rates. It is the responsibility of both the student and his/her advisor to carefully plan a student's schedule of classes to balance course offerings with the required pre- and co-requisites.

Elective Options in Chemical Engineering

An undergraduate education in chemical engineering provides a firm foundation for many areas of specialization. Students may elect to take courses in areas of specialization as technical electives, upper level Chemistry/Physics electives or elective courses outside the Chemical Engineering curriculum. Courses in the following areas can strengthen the background of a student in a particular area of expertise:

- Biotechnology/Biomedical Engineering
- Chemical Process Safety
- Environmental Engineering
- Food Process Engineering
- Materials Science and Engineering
- Microelectronics
- Nuclear Power Engineering

Pre-medicine

Simulation and Optimization

Consult with your advisor for specific courses and their applicability to the Chemical Engineering program.

Humanities and Social Science Electives

The Requirements

1. All students are required to take HIST 2003, HIST 2013 or PLSC 2003.
2. Of the 15 hours of Humanities and Social Science Elective courses that remain, the Humanities/Social Science Elective requirement states that
 - a. THREE hours MUST be in HUMANITIES from the approved list of classes.
 - b. THREE hours MUST be in FINE ARTS from the approved list of classes.
 - c. NINE hours MUST be in SOCIAL SCIENCES from the approved list of classes. Since ECON 2143 or ECON 2013 is specifically required in the Chemical Engineering degree program, SIX additional hours are required.
3. If the student entered the program prior to Fall 2012 and elects to use the old system for Humanities and Social Science Electives (with the previous requirement for both upper and lower level classes) or a hybrid of the old system and new system,
 - a. SIX hours MUST be in HUMANITIES or FINE ARTS from the approved list, and NINE hours MUST be in SOCIAL SCIENCES (again, ECON 2143 or ECON 2013 is specifically required in the Chemical Engineering degree program).
 - b. TWO or more academic departments MUST be included in each category. Note that ARCH 1003, ARHS 1003, ARTS 1003, COMM 1003, DANC 1003, DRAM 1003, HUMN 1003, LARC 1003 and MLIT 1003 are all part of the FINE ARTS (FNAR) Department.
 - c. If the student selects upper level courses from the SOCIAL SCIENCES only, three hours of the lower level humanities must be from FINE ARTS and three hours must be from other HUMANITIES.

Approved Courses

A listing of the approved humanities/social science electives may be found on the College of Engineering web site at <http://www.engr.uark.edu/home/4343.php>. Consult with your advisor to see if your selection of upper level courses meet the requirements.

Technical Electives

Technical electives are part of each of the degree plans, as follows:

- Six hours of technical electives are required in the 132 hour Chemical Engineering curriculum
- Three hours of technical electives are required in the older 128 hour curriculum
- Six hours of technical electives are required in the newer 128 hour curriculum

In general, any upper level (3XXX-level or above) course in the sciences, math or engineering may serve as a technical elective, with prior approval by your academic advisor. Technical electives can be chosen from the list of advanced science/chemical engineering elective classes, if desired. BIOL 2013, BIOL 2213, BIOL 2323 and BIOL 2443 are 2XXX-level courses that can also serve as technical electives, and are also useful for students applying to medical school. INEG 2313, INEG 2333, INEG 2413 and INEG 2513 are statistics-oriented classes, and may be used for technical elective credit. Upper-level courses in non-

technical areas such as business may also serve as technical electives with prior approval by your academic advisor. Finally, students who have completed courses from the older 128 hour program that are no longer in the new 128 hour program (such as CHEG 2123, Introduction to Chemical Engineering II, and CHEG 2212, Chemical Engineering Laboratory I) will be given technical elective credit for these courses. Consult your advisor for specific course substitutions. There is no specific list of approved technical electives.

Advanced Science/Chemical Engineering Elective Courses

Advanced science/chemical engineering elective courses are required in the two 128 hour degree plans, as follows:

- Six hours of Advanced Science/Chemical Engineering elective courses are required in the older 128 hour curriculum. A maximum of three hours of approved chemical electives may be used to satisfy this requirement.
- Six hours of Advanced Science/Chemical Engineering elective courses and three hours of Chemical Engineering elective courses are required in the newer 128 hour curriculum. Thus, a maximum of six hours of approved chemical electives may be used to satisfy this requirement.

Table 3 shows the approved list of courses by category (Advanced Science or Chemical Engineering electives). Courses not on the list *may* satisfy the requirement with student appeal and approval by the Chemical Engineering faculty. CHEM 3813 or CHEM 4813H may be used as an upper level elective if not used as a substitute for MEEG 2003 in the optional 132 hour curriculum, but double counting is not allowed. Additional Chemical Engineering elective course offerings are planned for the newer 128 hour curriculum—consult the course offerings on ISIS.

Table 3. Approved List of Advanced Science/Chemical Engineering Elective Courses

ADVANCED SCIENCE ELECTIVES

- CHEM 2263, Analytical Chemistry Lecture (CHEM 2261 is not a required corequisite for chemical engineering students)
- CHEM 2261, Analytical Chemistry Laboratory
- CHEM 3451L, Elements of Physical Chemistry Laboratory (note co-requisite of CHEM 3453)
- CHEM 3453, Elements of Physical Chemistry (course not allowed with CHEM 3504 or CHEM 3514; CHEM 3451 is not a required corequisite for chemical engineering students)
- CHEM 3504, Physical Chemistry
- CHEM 3514, Physical Chemistry II
- CHEM 4211L, Instrumental Analysis Laboratory (note co-requisite of CHEM 4213)
- CHEM 4213, Instrumental Analysis (CHEM 4211 is not a required corequisite for chemical engineering students)
- CHEM 4843H, Biochemistry II (must have CHEM 4813H to take this course)
- CHEM 4853, Biochemical Techniques
- FDSC 4304, Food Chemistry
- PHYS 3113, Analytical Mechanics
- PHYS 3414, Electromagnetic Theory
- PHYS 3544, Optics
- PHYS 3614, Modern Physics
- PHYS 4333, Thermal Physics

- PHYS 4621L, Modern Physics Laboratory
- PHYS 4734, Introduction to Laser Physics

CHEMICAL ENGINEERING ELECTIVES

Students may elect to take **one** course from the following list of upper level Chemical Engineering classes:

- CHEG 4273/5273, Corrosion Control
- CHEG 488V, 3 hours, lecture classes only; research/special problems classes are not allowed in satisfying the upper level Chemistry/Physics/Chemical Engineering course requirement
- CHEG 5013, Membrane Separation and System Design
- CHEG 5023, Nanobiophotonics
- CHEG 5033, Technical Administration
- CHEG 5043, Colloids and Surfaces
- CHEG 5113, Transport Processes I
- CHEG 5133, Advanced Reactor Design
- CHEG 5213, Advanced Chemical Engineering Calculations
- CHEG 5333, Advanced Thermodynamics
- CHEG 5353, Advanced Separations
- CHEG 5503, Molecular Biology
- CHEG 5513, Biochemical Engineering Fundamentals

Courses Satisfying the ENGL 1013 and ENGL 1023 Exemption

Some students entering the University of Arkansas are *exempted* from ENGL 1013 and ENGL 1023 because of high ACT scores, but do not receive credit for the courses. Credit for ENGL 1013 and ENGL 1023 upon entering the university usually comes from AP or CLEP credit, or from the transfer of the classes from another university. The ENGL 1013/ENGL 1023 exemption can be satisfied by six hours of any non-remedial courses.

Transfer Credit Rules

Transfer credits from other institutions are evaluated by the Registrar's Office, in conjunction with the Engineering Dean's office and the Department of Chemical Engineering. Grades earned at other institutions are not used in calculating a student's grade point average at the University of Arkansas. Several rules apply regarding transfer credit:

- No "D" grades are allowed for transfer credit without special appeal.
- No more than 68 hours of lower division (1XXX-, 2XXX-level) courses can be transferred
- Courses that satisfy the State Minimum Core (SMC) at another institution of higher learning in Arkansas, typically shown as 299TT courses, are fully transferrable to the University of Arkansas, assuming a grade of "C" or better.
- There is no limit on the number of upper division (3XXX-level or above) courses that may be transferred to the University of Arkansas, but transfer students must also satisfy the Residence Requirement (see U of A catalog for more information).
- The Chemical Engineering Department has the final say on whether courses may transfer for credit to the University of Arkansas with one major exception—humanities/social electives. The

transfer for credit for all lower and upper level humanities/social science electives must be approved by either the Registrar's office, the home department at the U of A in which the course was taken (for example, the Economics Department for CHEG 299T transferring as ECON 2013 or ECON 2143) or a committee of the College of Engineering.

Courses that do not Count toward Degree Requirements

Remedial 0003 courses, MATH 1203, MATH 1213, MATH 1284 and ENGL 2003 cannot be counted toward the requirements for an Engineering degree. Co-op/internship classes (for example, GNEG 3801 or GNEG 3811) do not count for credit toward a degree in Chemical Engineering.

Student Advising

All Chemical Engineering students will be required to meet with their academic advisor prior to removal of the advising hold and being allowed to sign up for courses. Students on co-op may be allowed to satisfy this requirement by e-mail, at the discretion of the advisor.

The Advising Process:

1. To initiate the advising process, students are requested to copy the appropriate advising sheet (see Appendix), and simply "X" out the courses they have taken or are presently taking.
2. As a second step, the student is requested to list the humanities/social electives, advanced science/chemical engineering electives and technical electives that he/she has taken or is taking in the appropriate categories.
3. As a final step, the students are requested to "circle" the courses they plan to take in the next semester. If a student is to be advised in the Spring for both the summer and fall semesters, write an "S" in the appropriate circles for summer and an "F" in the appropriate circles for fall. The student should always be looking ahead to foresee potential pitfalls with courses that might occur in later semesters, and your advisor will often help you plan out schedules for several subsequent semesters. If a student does not know which courses to take or would like to discuss course offerings with his/her advisor, simply stop the process after placing an "X" in the courses that have been taken and after listing the humanities/social electives and technical electives that have been taken. As was noted above, it is the responsibility of both the student and his/her advisor to carefully plan the student's schedule of classes to balance course offerings with the required pre- and co-requisites. This does not mean that pre- and co-requisites will *never* be violated, but it does mean that significant efforts should and will be made to *avoid pre- and co-requisite violations* because the pre- and co-requisites are carefully set by the faculty to facilitate student success in courses.
4. All students should also fill out or update the Employment, Research, Honors College, Study Abroad form (see Appendix), and all Honors students should complete the Honors Advising form (found at <http://www.engr.uark.edu/home/4380.php>) when appropriate. The Honors Advising form is due in the Engineering Dean's Office 15 months prior to graduation. For more details on the Honors program and required forms, see the Departmental Honors Program Guidance Document, found on the Departmental website.

The student brings the appropriate advising forms to a meeting with his/her academic advisor, who is best contacted by e-mail to set up an appointment. This subsequent meeting may be very short if the

scheduling of classes is straight-forward, or may be a bit lengthy if the student is having trouble scheduling classes or needs to develop a plan for all of the semesters remaining in the degree plan. In general, this is not the best time to get into lengthy advising discussions, but this is a time to set up a time for later lengthy advising discussions. After discussing the class schedule and listing of Honors courses, the advisor will remove the advising hold, which will permit the student to sign up for classes. If the student is required to make changes to the schedule due to conflicts, the student should communicate this information to his/her advisor.

Degree Check

During the advising session *prior to* the start of a student's final semester before graduation, he/she should make arrangements with their advisor for a preliminary degree check, which ensures that the student is taking all of the required courses, and will satisfy all requirements for graduation. Since many of our students can currently choose their program of study (128 hours, older or newer, or 132 hours), this choice must be made at the time of the preliminary degree check. The degree check is a course by course match of degree requirements with courses taken at the university, transfer courses and credit courses. It is also an opportunity to make sure that the student's grade point average and other requirements are sufficient for graduation. The result of the degree check is a list of courses still required for graduation, and any questions regarding grade point average, transfer credit, etc. This information will be transmitted to the student by e-mail for follow-up, if necessary. The preliminary degree check is completed prior to the last semester so that the student will have an opportunity to complete any courses that may have initially been a surprise to the student. A final degree check is made just after graduation.

Requirements for Graduation

The Engineering Dean's office will be making sure that each student meets the following graduation requirements. Consult the catalog for clarification and any additional requirements:

- The student's overall cumulative grade point average must be ≥ 2.0
- The student's cumulative grade point average in engineering courses presented for graduation must be ≥ 2.0
- The student's cumulative grade point average in Chemical Engineering courses presented for graduation must be ≥ 2.0
- Of the courses **taken on this campus and presented for graduation**, <15% of the hours may be "D" grades. For student entering the College of Engineering in Fall 2014 or later, a maximum of six hours of "D" grades may be presented.
- The total hours taken must be \geq the required hours (currently 128 or 132 hours in the Chemical Engineering Department, depending on degree plan)
- The student must complete the State Minimum Core (SMC):
 - English (6 hours—ENGL 1013, ENGL 1023 or waived by ACT score)
 - Mathematics (3 hours)
 - Science (8 hours)
 - Humanities (3 hours)
 - Fine Arts (3 hours)
 - Social Science (9 hours, and 3 hours of ECON 2143 or 2013 is required in Chemical Engineering))

- U.S. History/American Government course
- The ENGL 1013 and ENGL 1023 Exemption must not be satisfied by remedial coursework
- No 0003 courses, MATH 1203, MATH 1213, MATH 1285 and ENGL 2003 are counted toward the requirements for an engineering degree
- No “D” grades are transferred into the University of Arkansas without special appeal
- No more than 68 hours of lower division (1XXX-, 2XXX-level) courses are transferred into the University of Arkansas
- The residence requirement is satisfied
- All departmental course requirements are satisfied
- The degree check has been made, and all subsequent requirements (courses, no “D” grades, etc.) have been met

APPENDICES

Optional 132 Hour Suggested Program of Study

May be Used by Students Entering the University prior to Fall 2013

(numbers in parentheses (XXXX) are the current course numbers for the same courses)

Fall—Year 1

MATH 2554, Calculus I

CHEM 1123, University Chemistry II^aCHEM 1121L, University Chemistry II Lab^a

ENGL 1013, Composition I

CHEG 1113 (2113), Intro to Chemical Engineering I

HIST 2003, HIST 2013 or PLSC 2003

17 hours

Spring—Year 1

MATH 2564, Calculus II

ENGL 1023, Composition II

CHEG 1123 (2123), Intro to Chemical Engineering II

CHEG 1212L (2212), Chemical Engineering Lab I

Humanities/Social Science Elective, 3 hours

15 hours

Fall—Year 2

MATH 2574, Calculus III

CHEM 3603, Organic Chemistry I

CHEM 3601L, Organic Chemistry I Lab

PHYS 2054, University Physics I

CHEG 2221, Pro Practice Seminar^bCHEG 2313, Thermodynamics of Single Comp

16 hours

Spring—Year 2

MATH 3404 (2584), Differential Equations

CHEM 3613, Organic Chemistry II

CHEM 3611L, Organic Chemistry II Lab

PHYS 2074, University Physics II

CHEG 2133, Fluid Mechanics

CHEG 3323, Thermo of Multicomp. Systems

18 hours

Fall—Year 3

CHEM elective—4 hours^cCHEM 3813, Intro to Biochemistry^d

CHEG 3143, Heat Transport

CHEG 3232L, Chemical Engineering Lab II

CHEG 3253, Chem Engr Computer Methods

Humanities/Social Science Elective, 3 hours

18 hours

Spring—Year 3

CHEM elective—4 hours^dCHEG 3713, Materials Technology in ChE^e

CHEG 3333, Chemical Engr Reactor Design

CHEG 3153, Non-equilibrium Mass Transfer

ECON 2143 or ECON 2013

16 hours

Fall—Year 4

CHEG 4163, Equilibrium Stage Mass Transfer

CHEG 4413, Chem Engr Design I

CHEG 4813, Chemical Process Safety

Technical Elective, 3 hours

Humanities/Social Science Elective, 3 hours

15 hours

Spring—Year 4

CHEG 4332, Chemical Engineering Lab III

CHEG 4443, Chem Engr Design II

ELEG 3903, Electric Circuits and Machines

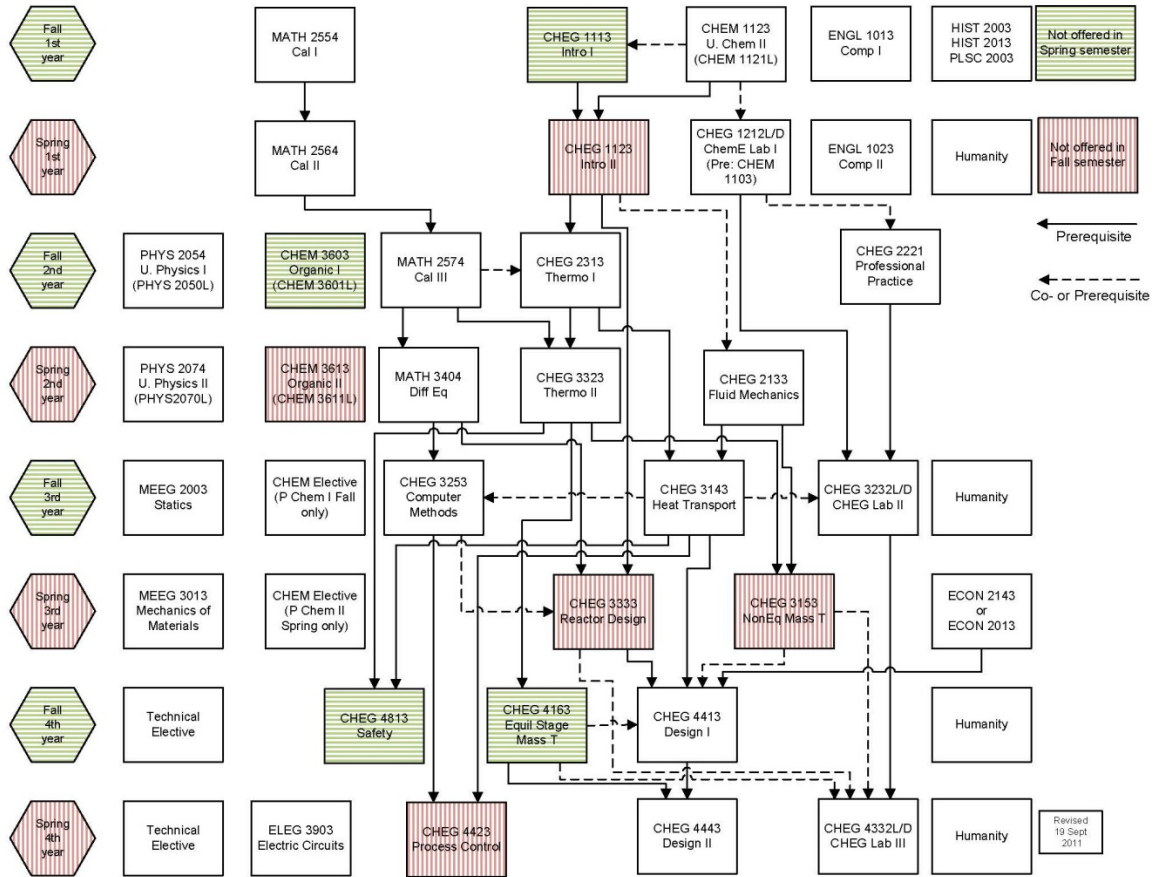
CHEG 4423, Auto Process Control

Technical Elective, 3 hours

Humanities/Social Science Elective, 3 hours

17 hours

^aOr CHEM 1133/CHEM 1131L^bNow a free elective^cThe CHEM elective requirement may be satisfied with 6 hours of upper level chemistry, physics and chemical engineering classes (3 hours maximum for chemical engineering classes), and 2 hours of free elective^dor MEEG 2003^eor MEEG 3013



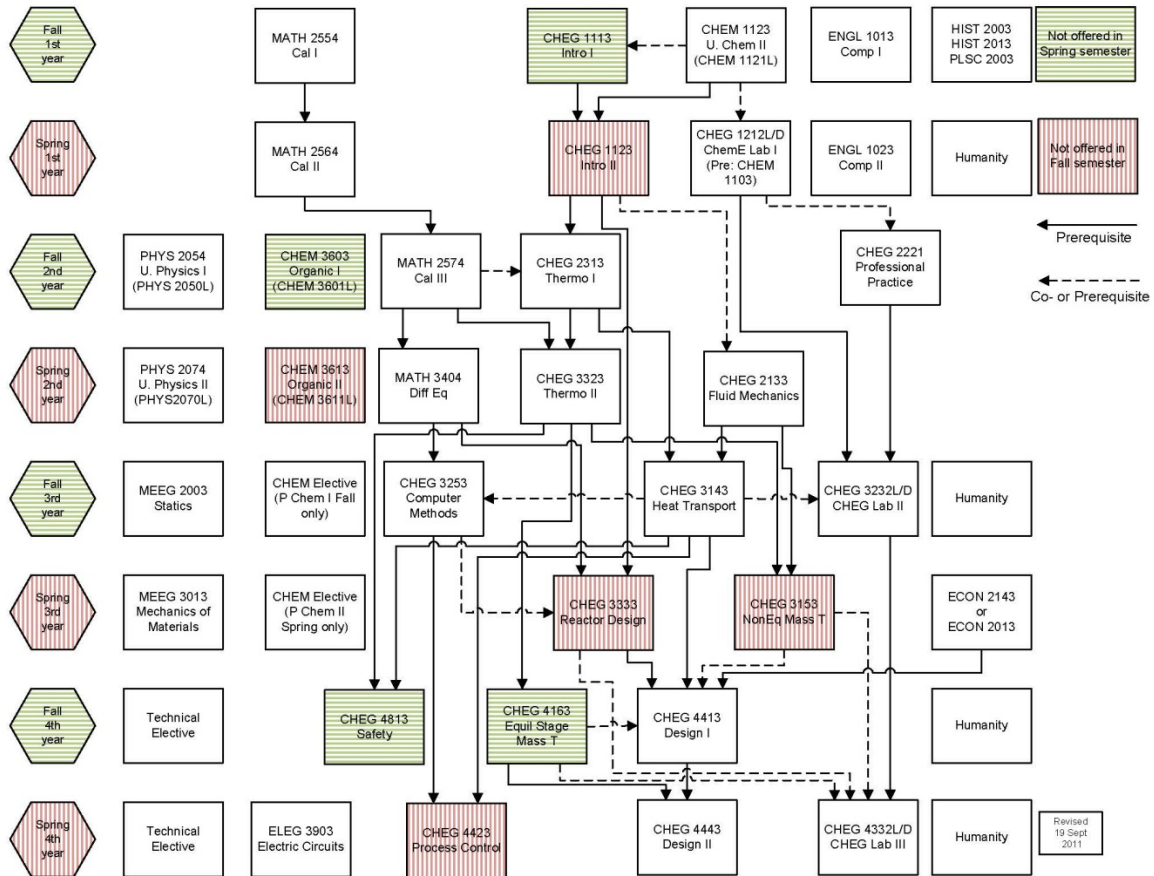
132 Hour Optional Suggested Program of Study
 (May be Used by Students Entering the University prior to Fall 2013)

Advising Forms

University of Arkansas
Ralph E. Martin Department of Chemical Engineering
Optional 132 hour plan (option for students entering prior to Fall 2013)

Name: _____ Date: _____ Semester: _____

“X” out the courses you have passed, or are taking; circle the classes you are planning to take



HSS Electives (18 hr)

1. HIST 2003, 2013 or PLSC 2003
2. Hum 1: _____
3. Hum 2: _____
4. Soc Sci 1: ECON 2143 or ECON 2013
5. Soc Sci 2: _____
6. Soc Sci 3: _____

Technical Electives (6 hr)

1. _____
2. _____

Upper Level Chem/Physics (8 hr)

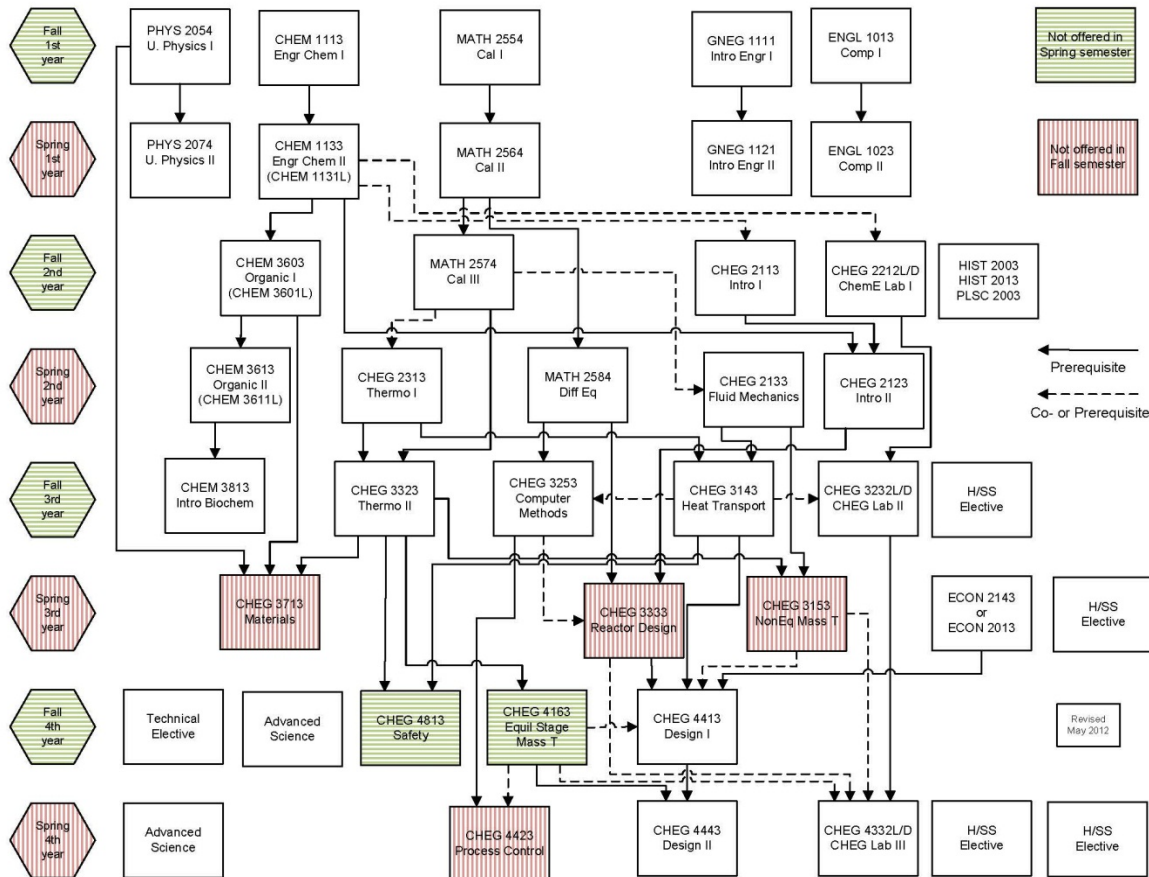
1. _____
2. _____
3. _____

Revised
19 Sept
2011

University of Arkansas
Ralph E. Martin Department of Chemical Engineering
Standard 128 hour plan

Name: _____ Date: _____ Semester: _____

“X” out the courses you have passed, or are taking; circle the classes you are planning to take



History/HSS Electives (18 hr)

1. HIST 2003, 2013 or PLSC 2003
2. Hum: _____
3. Fine Arts: _____
4. Soc Sci 1: ECON 2143 or ECON 2013
5. Soc Sci 2: _____
6. Soc Sci 3: _____

Technical Elective (3 hr)

1. _____

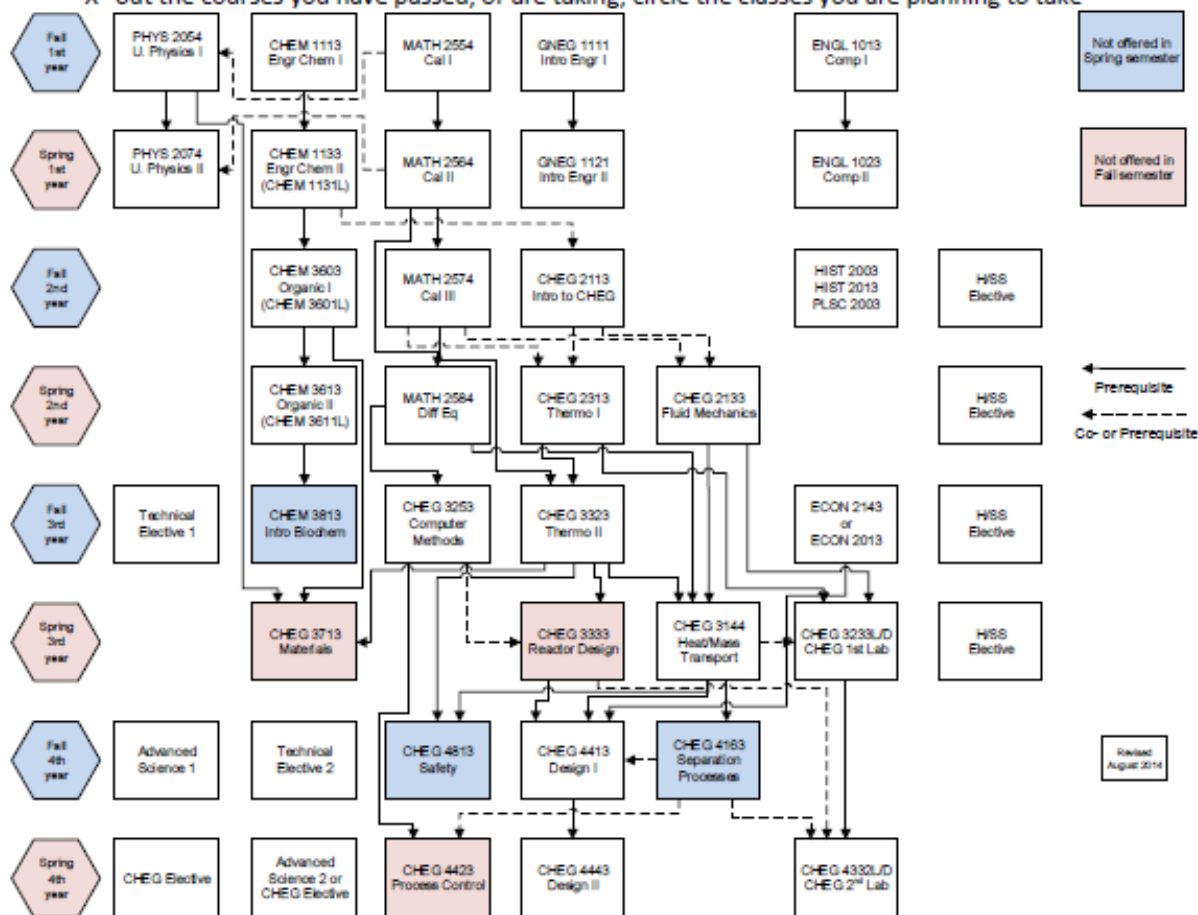
Advanced Science/CHEG Electives (6 hr)

1. _____
2. _____

University of Arkansas
Ralph E. Martin Department of Chemical Engineering
(New Fall 2015 Curriculum Plan)

Name: _____ Date: _____ Semester: _____

"X" out the courses you have passed, or are taking; circle the classes you are planning to take



H/SS Electives (18 hr)

1. HIST 2003, 2013 or PLSC 2003
2. Hum 1: _____
3. Fine Arts: _____
4. Soc Sci 1: ECON 2143 or ECON 2013
5. Soc Sci 2: _____
6. Soc Sci 3: _____

Technical Electives (6 hr)

1. _____
2. _____

Advanced Science/CHEG Electives (9 hr total)

1. (3 hr Adv Sci) _____
2. (3 hr Adv Sci or CHEG) _____
3. (3 hr CHEG) _____

2014-2015 Employment, Research, Honors College, Study Abroad— Ralph E. Martin Department of Chemical Engineering

Name: _____ Student i.d.: _____
 e-mail: _____ Expected graduation date: _____
 gpa: _____ Plans after graduation: _____
 Note: Ask your advisor for a degree check if you graduating next semester

Employment

Accepted permanent job. Company: _____ Location: _____
 Seeking permanent employment. Restrictions: _____
 Seeking temporary employment. Co-op Internship Part-time
 Had employment during May, 2014-May, 2015. Co-op Internship Part-time
 Company: _____ Location: _____
 Have had employment some time during academic career.
 Company Location Employment Dates Type of Employment

Research

Have research experience. REU Research at U of A Other
 Location of Research Mentor Dates of Research Activity

Received SURF/Honors College grant(s). When?: _____
 Doing research during May, 2014-May, 2015. Mentor: _____
 Seeking research opportunity. REU Research at U of A Other

Honors College Activity

Member of Honors College Plan to graduate with Honors
 Honors Courses completed (list, including AP classes): _____

Submitted Honors Advising form, if within 15 months of graduation
 Honors thesis project: _____

Study Abroad

Location Dates Received Travel Grant

The Honors Thesis/Project Proposal form, Library Transmittal form, the Honors Paper/Thesis Duplication Release and the Honors College Graduation Certification form are found at <http://www.engr.uark.edu/home/4380.php>.