

# CSCE Undergraduate Handbook 2011-2012

The purpose of this handbook is to summarize the Computer Science and Computer Engineering undergraduate programs.

It is the *students' responsibility* to consult the University Catalog of Studies and their faculty advisor when planning a program of study.

## Departmental Contacts:

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## 1. University of Arkansas Information

### ***Campus Information:***

Catalog of Studies

<http://catalogofstudies.uark.edu>

479-575-7678

<http://honorscollege.uark.edu>

College of Engineering Scholarships

479-575-3051

<http://www.engr.uark.edu/Scholarships&FinancialAid.htm>

Registered Student Organizations

479-575-5255

<http://leadership.uark.edu>

Career Development Center

479-575-2805

<http://www.engr.uark.edu/home/4394.php>

Enhanced Learning Center

479-575-2885

<http://elc.uark.edu>

Study Abroad

479-575-7582

<http://www.engr.uark.edu/home/4462.php>

University Health Center

479-575-4451

<http://health.uark.edu>

Honors College

## 2. CSCE Department Information

### ***Academic Advising:***

Students are assigned a CSCE faculty advisor their first semester of enrollment in a CSCE program. Typically, this advisor will remain with the student throughout their academic career. Students can find the name of their faculty advisor in the ISIS system in their student account or by contacting the CSCE Department.

Faculty contact information can be found at <http://www.csce.uark.edu/2211.php>

### **How Advising Works:**

Priority Registrations are held in the fall and spring semesters, allowing currently enrolled students to register for classes prior to new students entering the university. Students are strongly encouraged to register during these periods because certain classes tend to fill up fast and low enrollments could mean that classes get cancelled.

Students must see their advisor prior to any registration periods to review the course plans, answer questions, and get assistance with any academic problems. Advising periods are scheduled the week before Priority Registration begins, the advisor will contact advisee's via email to encourage them to sign up for advising times.

Advisors will be provided with updated materials to assist in advising prior to registration periods.

## **How to Get Advised:**

### Step 1:

Complete a copy of the Advising plan, which can be found at <http://www.csce.uark.edu/Advising-plan.pdf>. List the courses that you plan to take, take this to your advisor and obtain his/her signature.

### Step 2:

Schedule an appointment with your faculty advisor during the advertised times. The advisor will review the course plan and verify that pre-requisites have been met. This is also a good opportunity to talk about career plans, co-ops, and other academic issues.

### Step 3:

Return the completed form (***must be signed by the student and advisor***) to the Administrative Support Supervisor in JBHT 504. The advising hold will be removed within 3 business days.

## ***Degree Program Changes:***

Students must meet all requirements of their degree programs and are expected to keep informed concerning current regulations, policies, and program requirements in their field of study. Changes made in curriculum at a level beyond that at which a student is enrolled might become graduation requirements. Changes made in the curriculum at a lower level than the one at which a student is enrolled are not required for that student. Students should consult their faculty advisor for additional information.

## ***CSCE Majors:***

The department offers the following undergraduate degrees:

- Bachelor of Science in Computer Engineering
- Bachelor of Science in Computer Science
- Bachelor of Arts in Computer Science (granted through the Fulbright College of Arts and Sciences)

In addition, the department also offers the following graduate degrees:

- Master of Science in Computer Engineering
- Master of Science in Computer Science
- Doctor of Philosophy in Computer Science
- Doctor of Philosophy in Engineering with a major in Computer Engineering

## **Changing Majors:**

Any student interested in changing their major to Computer Science or Computer Engineering should first visit with the Associate Department Head.

Students wanting to switch from CS to CE or CE to CS should discuss this first with their faculty advisor. The first two semesters of study are identical, so the transfer at that point is easy. There are minor differences in the third and fourth semester that still allow for change. After the fifth and sixth semester there are differences that might create some issues (such as having to take more coursework).

Completion of the forms to process the change of major should be done in the Academic Student Office in Bell Engineering room 3189.

### 3. Degree Requirements Information

#### 3.1 CSCE Honors Program

Admission requirements for the Honors Program are as follows: entering freshman must have at least a 3.5 high school GPA and at least 28 composite score on the ACT; entering transfer students must have a 3.25 GPA on their transfer work. Students who do not qualify initially for the Honors Program are eligible after one year if they earn at least a 3.25 GPA.

Application for the Honors Program must be made through the Academic Dean's office in Bell 3189.

The department considers the following requirements necessary to graduate with honors:

- The candidate must satisfy the requirements set forth by the College of Engineering.
- A student must obtain at least a 3.5 grade-point average in required Computer Engineering and/or Computer Science courses.
- The student must complete a total of 12 hours. Seven hours of Honors credit in the major, which includes 4 hours of Honors Thesis taken as two consecutive semesters of CSCE 4912H and 3 hours of non-thesis class work.

Guidelines for completion of the honors program and required forms for submission of thesis and verification for degree completion can be found at <http://www.csce.uark.edu/2309.php>

#### 3.2 CSCE B.S. Technical Electives

The CSCE Technical electives can be chosen from any CSCE 4000+ course except CSCE 490V, Individual Study.

In addition, the Computer Engineering students can choose to take the following course:

ELEG 3923 Microprocessor System Design

#### 3.3 CSCE B.S. Humanities/Social Science Electives

All students at the University of Arkansas-Fayetteville are required to meet the University Core (State Minimum Core). If the core is not met, it could affect graduation. For specific course listings see page 39 of the Catalog of Studies.

All CSCE students are required to take:

- **3 hours** of Humanities or Fine Arts from the following list:
  - Fine Arts – ARCH 1003, ARHS 1003, COMM 1003, DANC 1003, DRAM 1003, LARC 1003, MLIT 1003

- **3 hours** U.S. History or Government

Choose one of the following:  
 HIST 2003, HIST 2013, PLSC 2003

- **9 hours** of Social Science

Courses must be taken from at least two different departments:

AGEC 1103, AGECE 2103  
 ANTH 1023  
 ECON 2013, ECON 2023, ECON 2143  
 GEOG 1123, GEOG 2003  
 HESC 1403, HESC 2413  
 HIST 1113, HIST 1123, HIST 2003\*, HIST 2013\*  
 HUMN 1114H, HUMN 2114H  
 PLSC 2003\*, PLSC 2013, PLSC 2203  
 PSYC 2003  
 RESM 2853  
 RSOC 2603  
 SOCI 2013, SOCI 2033

*\*If not selected to meet the History/Government elective*

- **6 hours** of 3000+ Humanities or Social Science

**PHIL 3103** (this is a required course for CE & CS B.S. majors)

Any course numbered 3000 or above selected from the approved list at

<http://csce.uark.edu/Humn-Social-electives.pdf>

### **3.4 Computer Engineering B.S.**

The following information pertains only to the Computer Engineering program. The degree check is a useful tool to track progress through the program and is a condensed version of the form submitted for graduation clearance. The eight-semester program of study can be found in the Catalog of Studies online at <http://catalogofstudies.uark.edu/>

Computer Engineering majors have two options to fulfilling the humanities/social science requirement and must pay careful attention to completing either Option 1 **OR** Option 2:

#### **Option 1**

History/Government

Social Science

Social Science

Social Science

PHIL 3103

Humanities 3000+

#### **Option 2**

History/Government

Social Science

Social Science

Humanities

PHIL 3103

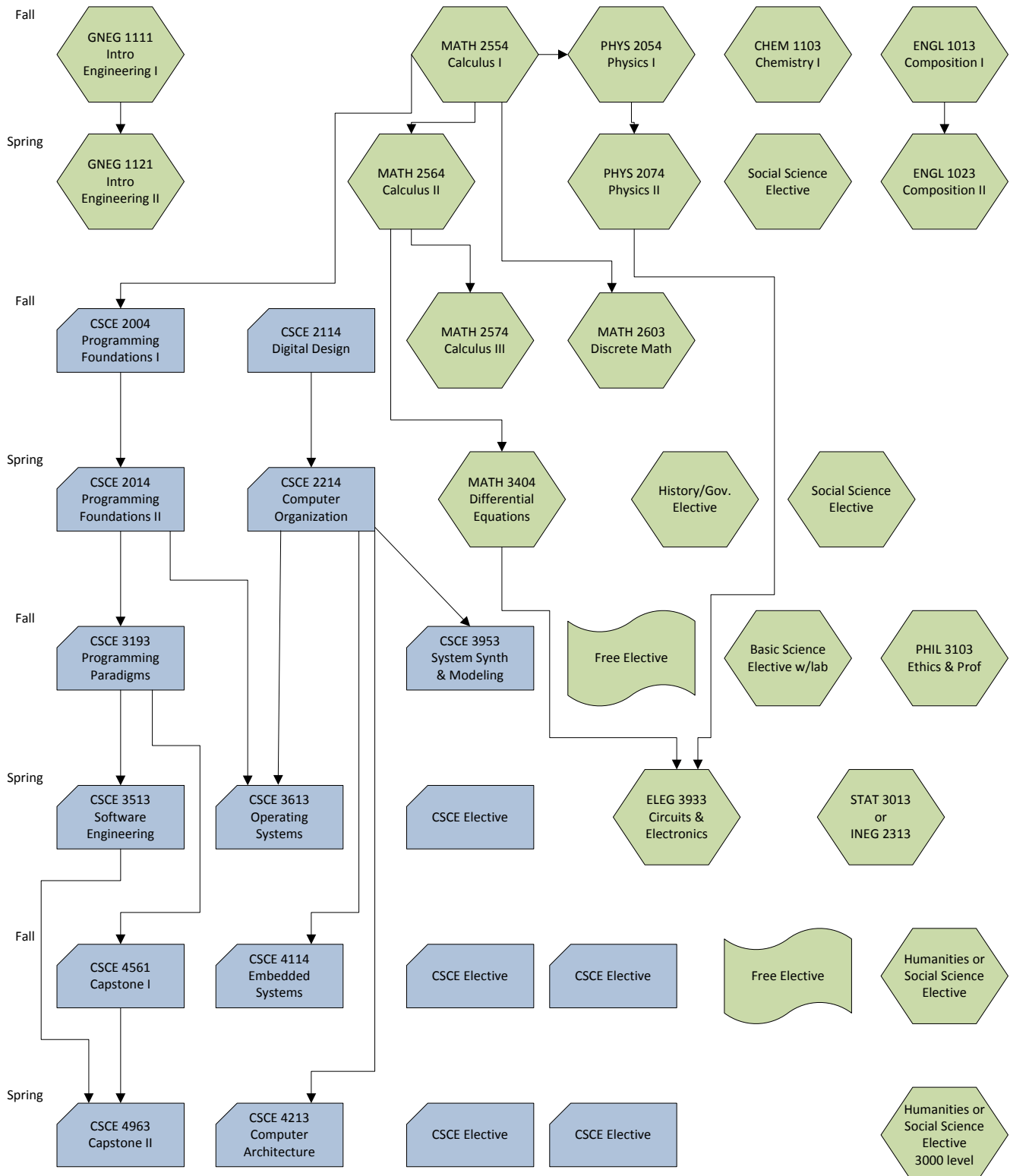
Social Science 3000+

COMPUTER ENGINEERING DEGREE CHECK FORM - CATALOG 2011-2012

Engineering	Course Name	Req. hrs	Term	Grade	Hrs	D's	G.P.	Substitutions/Comments	
CSCE 2004	Prog. Found. I	4							
CSCE 2014	Prog. Found. II	4							
CSCE 2114	Digital Design	4							
CSCE 2214	Computer Org	4							
CSCE 3193	Programming Paradigms	3							
CSCE 3513	Software Engineering	3							
CSCE 3613	Operating Systems	3							
CSCE 3953	System Synthesis/Mod	3							
CSCE 4114	Embedded Systems	4							
CSCE 4213	Computer Arch.	3							
CSCE 4561	Capstone I	1							
CSCE 4963	Capstone II	3							
ELEG 3933	Circuits/Electronics	3							
		3							CSCE elective
		3							CSCE elective
		3							CSCE elective
		3							CSCE elective
		3							CSCE elective
Other	Course Name	Req. hrs	Term	Grade	Hrs	D's	G.P.	Substitutions/Comments	
ENGL 1013	Composition I	3							
ENGL 1023	Composition II	3							
		3							Free Elective
		3							Free Elective
GNEG 1111	Intro to Engineering I	1							
GNEG 1121	Intro to Engineering II	1							
MATH	Course Name	Req. hrs	Term	Grade	Hrs	D's	G.P.	Substitutions/Comments	
MATH 2603	Discrete Math	3							
MATH 2554	Calculus I	4							
MATH 2564	Calculus II	4							
MATH 2574	Calculus III	4							
MATH 3404	Differential Equations	4							
		3							STAT 3103 OR INEG 2313
Human/Soc	Course Name	Req. hrs	Term	Grade	Hrs	D's	G.P.	Option 1	Option 2
		3						<i>Hist/ Govt.</i>	<i>Hist/ Govt.</i>
		3						<i>Social Science</i>	<i>Social Science</i>
		3						<i>Social Science</i>	<i>Social Science</i>
		3						<i>Social Science</i>	<i>Humanities</i>
PHIL 3103	Ethics/Profession	3						<i>Reqd Humanities</i>	<i>Reqd Humanities</i>
		3						<i>Humanities 3000+</i>	<i>Social Science 3000+</i>
Science	Course Name	Req. hrs	Term	Grade	Hrs	D's	G.P.	Substitutions/Comments	
CHEM 1103	Univ. Chemistry I	3							
PHYS 2054	Univ. Physics I	4							
PHYS 2074	Univ. Physics II	4							
		3							Basic Science Elective
		1							Basic Science Elective lab
Total hours for degree requirement -		126	<b>Completed -</b>						

# Computer Engineering – Bachelor of Science

Fall 2011



CSCE Undergraduate Handbook & Advising materials can be found at <http://csce.uark.edu/2219.php>



### **3.4 Computer Science B.S.**

The following information pertains only to the Computer Science program. The degree check is a useful tool to track progress through the program and is a condensed version of the form submitted for graduation clearance. The eight-semester program of study can be found in the Catalog of Studies.

Computer Science B.S. majors have an additional 6 hours of humanities/social science requirement beyond the State Minimum Core. The additional 6 hours may be satisfied by any humanities or social science course.

#### **CS Humanities/Social Science**

History/Government

Humanities

Social Science

Social Science

Social Science

Humanities or Social Science

PHIL 3103

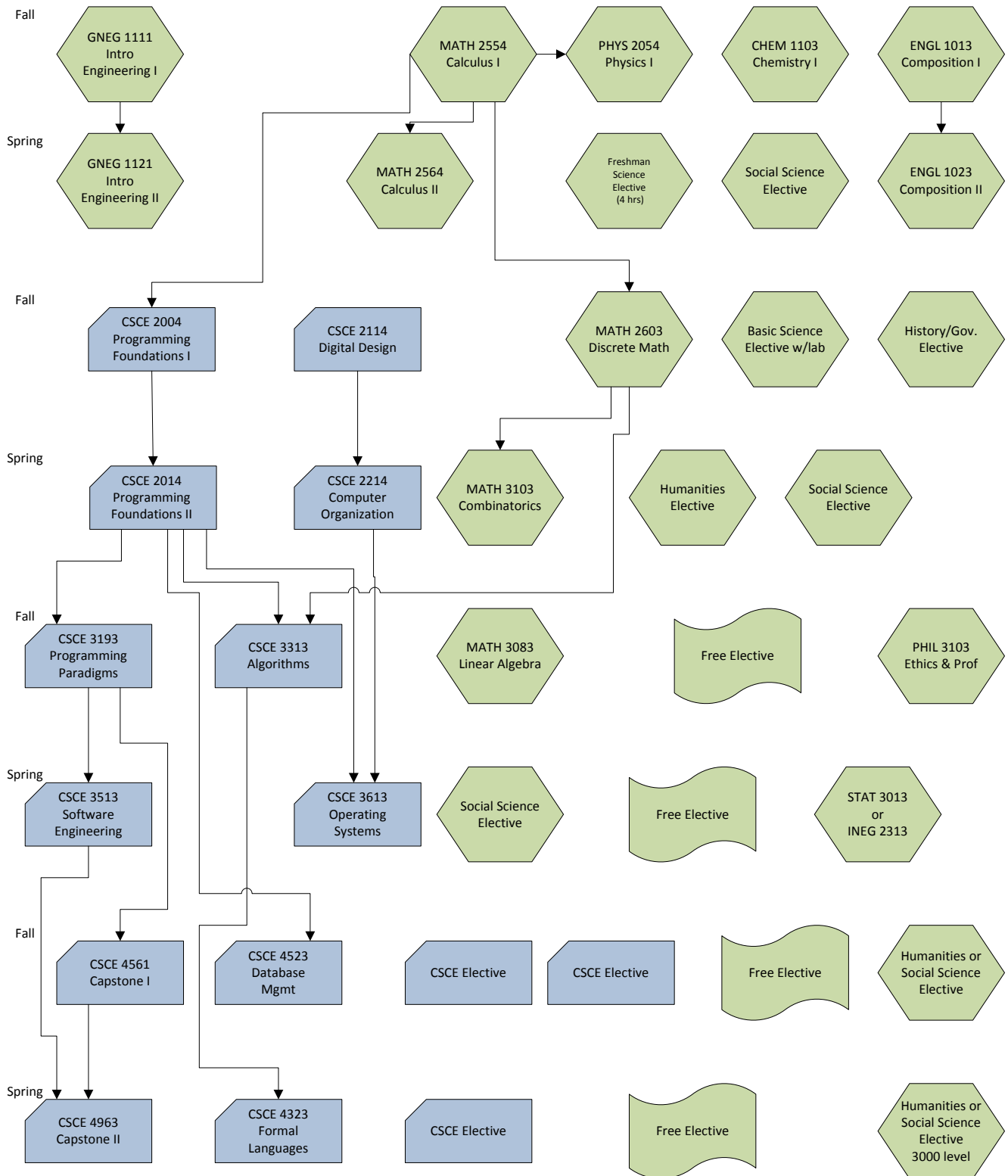
3000+ Humanities or Social Science

COMPUTER SCIENCE BS DEGREE CHECK FORM CATALOG 2011-2012

Major	Course Name	Req. hrs.	Term	Grade	Hrs	D's	G.P.	Substitutions/Comments
CSCE 2004	Programming Found I	4						
CSCE 2014	Programming Found II	4						
CSCE 2114	Digital Techniques I	4						
CSCE 2214	Computer Organization	4						
CSCE 3193	Programming Paradigms	3						
CSCE 3313	Algorithms	3						
CSCE 3513	Software Engineering	3						
CSCE 3613	Operating Systems	3						
CSCE 4323	Formal Languages	3						
CSCE 4523	Database Mgmt.	3						
CSCE 4561	CS Capstone I	1						
CSCE 4963	CS Capstone II	3						
		3						CS elective
		3						CS elective
		3						CS elective
Required hours -		47	Completed hrs-					<input type="checkbox"/> Requirements met
Other	Course Name	Req. hrs.	Term	Grade	Hrs	D's	G.P.	Substitutions/Comments
ENGL 1013	Composition I	3						
ENGL 1023	Composition II	3						
		3						Free Elective
		3						Free Elective
		3						Free Elective
		3						Free Elective
GNEG 1111	Intro to Engineering I	1						
GNEG 1121	Intro to Engineering II	1						
Required hours -		20	Completed hrs-					<input type="checkbox"/> Requirements met
MATH	Course Name	Req. hrs.	Term	Grade	Hrs	D's	G.P.	Substitutions/Comments
MATH 2603	Discrete Mathematics	3						
MATH 2554	Calculus I	4						
MATH 2564	Calculus II	4						
MATH 3083	Linear Algebra	3						
MATH 3103	Combinatorics	3						
		3						Statistics Elective (INEG 2313 or STAT 3013)
Required hours -		20	Completed hrs-					<input type="checkbox"/> Requirements met
Human/Soc	Course Name	Req. hrs.	Term	Grade	Hrs	D's	G.P.	Substitutions/Comments
		3						History/ Govt.
		3						Humanities
		3						Social Science
		3						Social Science
		3						Social Science
PHIL 3103	Ethics/Profession	3						Req'd Humanities
		3						3000+ elective
Required hours -		24	Completed hrs-					<input type="checkbox"/> Requirements met
Science	Course Name	Req. hrs.	Term	Grade	Hrs	D's	G.P.	Substitutions/Comments
CHEM 1103	Univ. Chemistry I	3						
PHYS 2054	Univ. Physics I	4						
		4						Freshman Science elective II
		3						Basic Science Elective
		1						Basic Science Elective lab
Required hours -		15	Completed hrs-					<input type="checkbox"/> Requirements met

# Computer Science – Bachelor of Science

Fall 2011



CSCE Undergraduate Handbooks & Advising materials can be found at <http://csce.uark.edu/2210.php>

### 3.5 CSCE B.S. Common Information

#### CSCE Basic Science Electives

##### Courses with Lab\*:

ASTR 2003	Survey of the Universe	GEOL 1113	General Geology I
ASTR 2001L	Survey of the Universe Lab	GEOL 1111L	General Geology I Lab
BIOL 1543	Principles of Biology	BIOL 1613	Principles of Zoology
BIOL 1541L	Principles of Biology Lab	BIOL 1611L	Principles of Zoology Lab
BOTY 1003	Environmental Science	BIOL 2213	Human Physiology
BOTY 1001L	Environmental Science Lab	BIOL 2211L	Human Physiology Lab

CHEM 1123	University Chemistry II
CHEM 1121L	University Chemistry II Lab

##### Courses without Lab\*:

GEOL 4253	Petroleum Geology
GEOL 4413	Remote Sensing

\*If the lab is not required for the associated course – students may opt to take CHEM 1101L, University Chemistry I Lab, *if* a one hour lab is required to complete the degree

### 3.6 Computer Science B.A.

The following information pertains only to the Computer Science Bachelor of Arts degree. The degree check is a useful tool to track progress through the program and is a condensed version of the form submitted for graduation clearance. The BA degree has six Study Areas:

1. Computer Science - any CSCE course 2000 level or above (additional 9 hours above required coursework)
2. Enterprise Resource Planning - WCOB 4213; WCOB 4223; ISYS 4233\*\*
3. Enterprise Systems - WCOB 4213; ISYS 4453; ISYS 4463
4. Business Applications - WCOB 4213; ISYS 3293; ISYS 3393
5. Mathematics - MATH 3083; MATH 3103; MATH 4253; MATH 4353; MATH 4363
6. Geoinformatics - GEOS 3543 and two of the following: GEOS 4413; GEOS 4553; GEOS 4583; GEOS 4593

Students must select *only one* Study Area and meet the requirements of that area to graduate.

CS - Bachelor of Arts Catalog Year 2011-2012

Major	Course Name	Req. hrs	Term	Grade	Hrs	D's	G.P.	Substitutions/Comments
CSCE 1013*	Explorations in Computing	3					0	
CSCE 2004	Prog Foundations I	4					0	
CSCE 2014	Prog Foundations II	4					0	
CSCE3193	Programming Paradigms	3					0	
		3					0	CSCE Elective (1)
		3					0	CSCE Elective (2)
		3					0	CSCE Elective (3)
		3					0	BA Study Area (1)
		3					0	BA Study Area (2)
		3					0	BA Study Area (3)
		<b>32</b>	<b>Total hours</b>		<b>0</b>		<b>0</b>	
Other	Course Name	Req. hrs	Term	Grade	Hrs	D's	G.P.	Substitutions/Comments
ENGL 1013	Composition I	3					0	
ENGL 1023	Composition II	3					0	
ENGL 2003	Advanced Composition	3					0	
COMM 1313	Public Speaking	3					0	
		<b>12</b>	<b>Total hours</b>		<b>0</b>		<b>0</b>	
Free Electives	Course Name	Req. hrs	Term	Grade	Hrs	D's	G.P.	Substitutions/Comments
		3					0	
		3					0	
		3					0	
		3					0	
		3					0	
		3					0	
		3					0	
		3					0	
		3					0	
		3					0	
		3					0	3000 level or above
		3					0	3000 level or above
		3					0	3000 level or above
		3					0	3000 level or above
		<b>45</b>	<b>Total hours</b>		<b>0</b>		<b>0</b>	
MATH	Course Name	Req. hrs	Term	Grade	Hrs	D's	G.P.	Substitutions/Comments
STAT 2303	Principles of Statistics	3					0	
MATH 2554	Calculus I	4					0	
MATH 2603	Discrete Mathematics	3					0	
		<b>10</b>	<b>Total hours</b>		<b>0</b>		<b>0</b>	
Human/Soc	Course Name	Req. hrs	Term	Grade	Hrs	D's	G.P.	Substitutions/Comments
		3					0	HIST 2003, HIST 2013, or PLSC 2003
		3					0	Fine Arts from Category "a"***
PHIL 2203	Logic	3					0	Required Humanities
		3					0	Social Science
		3					0	Social Science
		3					0	Social Science
		<b>18</b>	<b>Total hours</b>		<b>0</b>		<b>0</b>	
Science	Course Name	Req. hrs	Term	Grade	Hrs	D's	G.P.	Substitutions/Comments
		3					0	Science elective from University Core
		1					0	Science associated lab
		3					0	Science elective from University Core
		1					0	Science associated lab
		<b>8</b>	<b>Total hours</b>		<b>0</b>		<b>0</b>	
<b>TOTAL HOURS FOR DEGREE</b>		<b>125</b>			<b>0</b>		<b>0</b>	