

Semester System



**SAMFORD UNIVERSITY
BULLETIN/CATALOG
1985-1986**

(USPS 253-020)

Samford University is operated on a nondiscriminatory basis. Samford University abides by the provisions of Title VI of the Civil Rights Act of 1964, Title IX of Educational Amendments of 1972, and the Rehabilitation Act of 1973, Section 504. Samford is authorized under Federal law to enroll nonimmigrant alien students.

Samford University is in compliance with the provisions of the Family Educational Rights and Privacy Act of 1974. A copy of the Act and the University Policy concerning Student Educational Records and Information are on file in the Office of the Vice President and Dean of Students and in the Office of the Registrar.

The *Samford University Bulletin* is published quarterly by Samford University at Birmingham, Alabama 35229. Second class postage is paid at Birmingham, Alabama.

Volume 144

No.2

June 1985

47

Samford University grants 21 degrees:

- Associate of Divinity (A.D.)
- Associate of Science (A.Sc.)
- Associate of Science in Nursing (A.S.N.)
- Bachelor of Arts (A.B.)
- Bachelor of General Studies (B.G.S.)
- Bachelor of Music (B.M.)
- Bachelor of Science (B.S.)
- Bachelor of Science in Business Administration (B.S. in B.A.)
- Bachelor of Science in Education (B.S. in Ed.)
- Bachelor of Science in Nursing (B.S. in Nu.)
- Bachelor of Science in Paralegal Studies (B.S. in Lgl.)
- Bachelor of Science in Pharmacy (B.S. in Pha.)
- Master of Arts (M.A.)
- Master of Business Administration (M.B.A.)
- Master of Humane Studies (M.H.S.)
- Master of Music (M.Mus.)
- Master of Music Education (M.Mus.Ed.)
- Master of Science (M.S.)
- Master of Science in Education (M.S. in Ed.)
- Educational Specialist (Ed.S.)
- Doctor of Jurisprudence (J.D.)

The requirements for the Bachelor of Arts degree and the Bachelor of Science degree are the same. Students who have majored in art, English, foreign languages, history, religion and philosophy, sociology, or speech and dramatic arts are usually awarded the Bachelor of Arts degree. Those who have majored in biology, chemistry, mathematics, or physics are usually awarded the Bachelor of Science degree.

The A.S.N., B.M., the B.S. in Pha., the B.S. in B.A., the B.S. in Ed., the B.S. in Nu., the M.B.A., the M.Mus., the M.Mus.Ed., the M.S. in Ed., the Ed.S., and J.D. are professional degrees conferred upon students who have completed closely prescribed courses of study varying in duration and in the number of semester hours of credits required. Students in those professional divisions should consult the appropriate dean for details of their degree requirements as early as possible.

Regardless of academic achievement, a student on disciplinary probation may not graduate from Samford University until the probation has been removed.

THE DEGREE WITH HONORS PROGRAM

The primary goal of the Honors Program is to provide the superior undergraduate student with individualized intellectual opportunities designed to maximize the student's learning potential. Freshmen who have ACT scores of 26 and above or SAT scores of 1155 may apply for admission into the program. In addition, students who have just completed their freshman year and who have a grade point average of 3.50 and above may participate in the program. Successful completion of the Honors Program leads to a Degree with Honors from the University. There are three basic requirements of the Honors Program:

1. During the first year or as soon as possible, each student will take the two Honors Seminars each of which carries three hours credit. In the fall in the ID 107 seminar, the student is introduced to various disciplines and their diverse approaches to learning. In the spring in the ID 108 seminar, the student utilizes the insight gained during the first semester to explore topics or problems of special interest.



SEMESTER-TERM CREDIT-HOURS

2. Honors students must take at least four regular course credit during their college career. In these courses, Honors students do extra work and/or research. Completion of these courses at Honors level is rewarded with the grade of H which carries the same number of quality points given for an A. If the student receives an H at Honors level, a student receives a regular grade.
3. Students must complete an Honors project which is supervised and directed by a professor in the student's field. Each department or school constructs its program to fit its needs and design. The Honors Project course as 477 which usually carries three semester hours credit.

Samford University operates on the semester system. Two semesters (fall and spring) constitute the regular academic year, and a summer term is scheduled between the two semesters. Credits earned during the semester are expressed as semester hours of credit for each class hour a week. The number of hours earned will vary according to the specific course. (Examples: English 101 is a lecture course meeting three hours a week and carrying three semester hours credit. Biology 105 consists of both lectures and laboratory work and carries four semester hours credit.)

JANUARY TERM

The Samford academic calendar provides for a short term (Regular courses are offered in a term starting about January 15). Those students who wish to complete all requirements for their degree in three academic years). Entering freshmen are not required to take the January term.

An additional interterm of three weeks during January is scheduled as a supplement to the established academic program. Courses in the three-week interterm are designed to help students become intellectually independent, to develop broader personal interests, and to encourage deeper involvement in the learning process. Some programs emphasize interdisciplinary cooperation enriched by the stimulating interaction among the teaching staff, guest experts, and the students. Others are intended to give students the opportunity for uninterrupted and intensive study in an area of his/her particular interest. Other programs enable a student to accelerate his progress toward graduation. Interterm opportunities include research in libraries or laboratories, contacts with visiting scholars, creative writers and artists, field trips, and many other activities. Several courses are taught at the London Study Center. Satisfaction requires each student to attend at least two interterms and complete at least three semester hours in two courses designated for the January Term making a total of six semester hours. A student is permitted to participate in four interterms.

The main emphasis and primary intent of the interterm is to provide the student a wider world view, a richer experience in integrating knowledge from a variety of specialties, and a deeper consciousness of the relevance of the student's studies to his/her life and career. The absence of customary grading procedures in many courses will stimulate the exploration of subjects a student might otherwise avoid and also encourage the pursuit of knowledge and the development of latent talents.

Required Writing

Samford 1985-86

REQUIRED WRITING COURSES

The University believes that the development of the student's writing ability is one of its most important objectives. In order to emphasize this objective all students must take two courses, beyond the General Curriculum requirements, which require a significant amount of writing. These courses are designated "W" in the semester schedules. One of the courses will be in the student's major or minor discipline and one in some other area of study.

STUDENT EXCHANGE PROGRAM

Samford University cooperates with the University of Alabama at Birmingham and Birmingham-Southern College in a student exchange program designed to expand the educational opportunities for students at these institutions. This arrangement affords Samford students the opportunity to enroll in a variety of courses at either institution. Credit for work taken at UAB or B-SC will be recorded as if earned at Samford University and will not be treated as transfer credit.

Students who propose to take courses at UAB or B-SC must obtain approval from the appropriate Dean and the Registrar. Registration for these courses will be a part of the regular Samford University registration procedure, and students will pay tuition for these courses at Samford in the usual manner.

COOPERATIVE EDUCATION PROGRAM

The Cooperative Education Program combines a student's formal academic study with specific periods of work experience in business, industry, and professional organizations. These work experiences are an integral part of the student's education, supplementing academics with personal growth and professional development.

Application to the program may be made by students presently enrolled at Samford University or by students who have been accepted for admission. A student is required to have completed at least one year of academic study prior to entering a co-op work experience (one semester, if a transfer). Work assignments will be arranged when a suitable opening becomes available that matches a student's career objectives, but only under conditions mutually satisfactory to the student, the employer, and Samford.

Assignments may be on an alternating (full-time work alternated with full-time school) or parallel (part-time work while normal course load is continued) basis. Academic credit is available in certain curricula and is customarily graded on a pass-fail basis.

Participating academic areas are the School of Arts and Sciences, School of Business, School of Education, School of Nursing, the Division of Paralegal Studies, and the School of Pharmacy.

GENERAL REQUIREMENTS FOR THE BACHELOR'S DEGREE

A minimum of 128 semester hours must be completed with an average grade of C. This means that the number of quality points earned in college must be twice the number of hours attempted. A student must also have an average grade of C in the major and minor fields. Not more than eight hours in music ensembles, drama participation, and physical education activity courses may apply toward the 128 hours required for graduation.

At least 40 semester hours of credit must be earned in junior and senior level courses, and the last 32 semester hours must be earned at

General Requirements

Samford University. Every candidate for a degree shall file with the Registrar an application for a record check not later than the end of the junior year. It is the responsibility of the student to see that all requirements are met.

1. General Curriculum Requirements

Certain basic general curriculum requirements are required for all undergraduate degree programs. Such courses are designated in the degree requirements for each school. It is the responsibility of the student to complete all of the requirements except those for the arts in the freshman and sophomore years.

2. January Term Requirements

Students attending Samford University for all undergraduate work are required to participate in at least one January Term and pass at least three semester hours of credit in designated courses in each of the two January Terms. Students transferring to Samford with 32 or more semester hours are required to pass only three semester hours of January Term course work. Those who enter with more than 32 semester hours will be excused from the January Term requirements.

3. Honors at Graduation

Students earning a grade point average of 3.4 or higher are graduated cum laude; those earning grade point average of 3.6 or higher are graduated magna cum laude; and those with a grade point average of 3.90 are graduated summa cum laude.

4. Additional Degrees

A student who has received a bachelor's degree and completed at least 32 semester hours (including six hours of credit in the first degree in order to receive an additional degree) may apply for a second degree.

5. English Proficiency Test

At the end of the sophomore or the beginning of the junior year, or before graduation, all undergraduate students (including transfer students) will be given a writing proficiency test. Tests will be administered by a committee including members of the English Department. Those whose performance is unsatisfactory will complete successfully before graduation an additional composition course (Eh. 111) which will count toward semester hours of elective credit. This requirement applies to all students who enter after January 1, 1985.

GENERAL REQUIREMENTS FOR THE ASSOCIATE OF SCIENCE DEGREE

A total of 64 semester hours must be completed (69 for nursing) with an average grade of C (2.3 for nursing courses). Transfer students are required to complete 23 semester hours of residence in Samford curriculum courses.

THE GRADING SYSTEM

Grades are indicated by the symbols A, H, B+, B, C+, C, F, and I.

A represents the highest proficiency in ability and achievement. H represents the same proficiency as the A grade plus honors. The requirements for the University honors program.

General Requirements

Samford 1985-86

GENERAL CURRICULUM REQUIREMENTS

The general curriculum courses are required of all undergraduate students in the Howard College of Arts and Sciences. Students should complete all of the requirements except fine arts appreciation in the freshman and sophomore years.

Students planning to earn Alabama teaching credentials should see their department heads and consult the School of Education section of this Catalog for special requirements.

Humanities

The basic requirement of 18 semester hours in the humanities consists of the following: two courses (six semester hours) must be selected from Religion 101, Re 102, and Re 300. English 101 and 102 (six semester hours) are required of all students except those who score high enough on the English placement test to qualify for English 103. The remaining six semester hours are to be taken from English 201, 202, 211, and 212.

Students taking English 103 (three semester hours) may complete the humanities requirement by taking six semester hours from English 201, 202, 211, and 212 and one course (three semester hours) selected from the following: Philosophy 301 or 302, Speech 205, any junior or senior level English course, or any junior or senior level literature course in a foreign language.

Entering students whose placement scores indicate deficiencies in English will be required to take English 100 (an intensive study of basic writing and reading techniques) before enrolling in English 101.

Natural Sciences

The requirement of four courses in the natural sciences consists of the following: students whose scores on the mathematics entrance test are below the national 50th percentile satisfy this requirement with two courses in mathematics (Ma 103-201, 111-112, 101-102, 101-108, or 101-205) and two courses in laboratory science (astronomy, biology, chemistry, or physics).

Students planning to earn an Alabama teaching certificate in biology should see the Head of the Department of Biology for special requirements and should consult the School of Education section of this Catalog.

Physical Activity

The physical activity requirement of four semester hours may be satisfied in any one of the following ways: students may complete four activity courses in physical education including PE 120 or 121, students may complete four terms of Air Force Reserve Officer Training Corps (AFROTC) or a combination of four terms of physical education activity courses and AFROTC.

Veterans who have completed two years of active duty are not required to satisfy physical activity requirements. Veterans with at least one year of active duty (but less than two years) will be required to satisfy one-half of the physical activity requirements. Students over age 30 and students with physical disabilities may consult with the Head of the Department of Health, Physical Education, and Recreation or the Dean of the Howard College of Arts and Sciences for special consideration.

Students planning to teach must have four semester hours credit in physical education. See specific requirements in the School of Education section of this Catalog.

Samford 1985-86

Social Sciences

Social Sciences

The basic requirement is 12 semester hours. Students satisfy this requirement with History 101 and 102 (six semester hours of history) and one course in each of any two of the following fields: economics, geography, political science, psychology, and sociology (six semester hours).

Fine Arts

The requirement of four semester hours of fine arts appreciation may be satisfied by either Art 300 (two semester hours), Mu 300 (two semester hours), or SDA (Drama) 300 (two semester hours); these courses should be taken in either the junior or senior year.

Foreign Languages

All students majoring in any of the 14 areas of the Howard College of Arts and Sciences are required to take two years of a foreign language. (A foreign language is not required for the B. of Music, B. of General Studies, B.S. in Pharmacy B.S. in Business Administration, B.S. in Law Enforcement, B.S. in Education, and B.S. in Nursing degrees, and in certain concentrations.)

Students who have two years of the same foreign language in high school may complete the foreign language requirement by taking Foreign Language 201 and 202 (six semester hours) if they qualify on a placement test (see page 47).

Other students complete the foreign language requirements by taking Foreign Language 101 and 102 (eight semester hours) and Foreign Language 201-202 (six semester hours). Students majoring in religion may follow a special program to meet language requirements.

ARTS AND SCIENCES DEGREES MAJORS AND MINORS

Two degrees are offered: the Bachelor of Arts (A.B.) and the Bachelor of Science (B.S.). These degrees may be earned with honors. The 13 departments offer 18 majors and 24 minors.

A major and minor field should be chosen by all students and registered in the Registrar's Office. A faculty member from the major department will thereafter be the student's advisor with the responsibility of checking and approving the student's schedule each registration period. A transfer student must take a minimum of two three-hour courses in his/her major field and one three-hour course in his/her minor field in residence at Samford. A student must have at least a 1.0 average on courses in both the major and minor fields.

Students earning teaching certificates must generally select two majors and must earn at least 1.2 average in each. See section of this Catalog under School of Education for special requirements.

ENGINEERING, AND COMPUTER SCIENCES

MATHEMATICS, ENGINEERING, AND COMPUTER SCIENCE

Professor Peebles, *Head*
Professors Wheeler and Kelley
Associate Professors Crocker and Dean
Assistant Professor Hudson
Instructors Acker and Shoemaker

The Department of Mathematics encourages students of mathematics to achieve the following goals:

1. To acquire the ability to use the language of mathematics effectively, including the ability to write and speak ideas involving mathematical terms, to read technical manuscripts with speed and understanding, and to listen intelligently;
2. To attain an understanding of mathematics necessary for successfully meeting the complex demands of modern society;
3. To apply the principles of logic and reason to mathematics and to all areas of study;
4. To develop an understanding of mathematical theory in addition to skill in manipulation and problem solving;
5. To master the mathematics essential for a professional career.

Ma 103, 201, 202, and 203 are required for a major or minor in mathematics. In addition, the minimum requirements of at least 12 hours for a major or six hours for a minor selected from junior and senior courses must be satisfied. All mathematics majors and minors are expected to acquire proficiency in a computer language.

Students planning to earn an Alabama teacher's certificate in mathematics should consult with the head of the department for special requirements and should see the School of Education section in the Catalog.

Premedical and pre dental students and students whose area of concentration is pharmacy, chemistry, physics, business administration, or engineering are subject to specific requirements in mathematics and should consult with the head of the department concerned.

Candidates for the Bachelor of Science degree should take algebra followed by trigonometry unless special courses are required by the major department. Special courses (Ma 111 General Elementary College Mathematics, and Ma 205 Statistics) are recommended for the Bachelor of Arts degree. Students planning to receive a secondary teacher's certificate with a major in mathematics should take Ma 301 College Geometry.

General curriculum requirements may be satisfied by two courses chosen from the following sequences: Ma 103, 201; 101, 102; 101, 108 (for business only); 101, 205; 111, 205; or 111, 112 (for elementary education and early childhood education majors only).

Graduate students should consult with the department head to determine their requirements. Only those courses numbered 400 or above can be counted for graduate credit.

MATHEMATICS

Ma 100
INTERMEDIATE COLLEGE
ALGEBRA

This course is designed primarily for freshmen whose curriculum requirements include college algebra but whose grade on the entrance test does not permit their registration for Ma 101. This course does not satisfy any mathematics requirement for graduation at Samford University. Credit, three hours.

courses

Arts & Sciences 79

Samford 1985-
86

Samford
1985-86

Mathematics, Engineering, and Computer Science

- Ma 101**
COLLEGE ALGEBRA
Prerequisites: Ma 100, or one year of high school algebra and satisfactory score on the entrance test. Credit, three hours.
- Ma 102**
TRIGONOMETRY
Prerequisites: Plane Geometry and Ma 101 (or corequisite). Credit, three hours.
- Ma 103**
ANALYTIC GEOMETRY
Prerequisites: Ma 101 and 102, or a satisfactory score on entrance test. This course is usually offered as a combined course with Ma 201. Credit, three hours.
- Ma 108**
BUSINESS CALCULUS
SURVEY
Prerequisite: Ma 101. This course presents the applications of differential and Integral Calculus to problems in business and the social sciences. A geometric introduction to linear programming is included. Credit, three hours.
- Ma 111**
GENERAL ELEMENTARY
COLLEGE MATHEMATICS
This course is designed for those studying in the humanities, religious education, and certain social science fields as well as those working toward a teacher's certificate in elementary education. This course emphasizes the philosophy, history, logic, and cultural values of modern mathematics in an attempt to enable the student to read, write, and speak effectively the language of mathematics. Credit, three hours.
- Ma 112**
MATHEMATICS FOR
ELEMENTARY TEACHERS
Prerequisite: Ma 111. Satisfies three hours of mathematics graduation requirements for elementary or early childhood education teachers only. Credit, three hours.
- Ma 201**
DIFFERENTIAL CALCULUS
Prerequisite or corequisite: Ma 103. The differential calculus of algebraic and transcendental functions is studied. Credit, three hours.
- Ma 202**
INTEGRAL CALCULUS
Prerequisite: Ma 201. A study of the integral calculus of algebraic and transcendental functions. Credit, three hours.
- Ma 203**
INTERMEDIATE CALCULUS
Prerequisite Ma 202. This course includes a study of infinite series, partial derivatives, and multivariable calculus. Credit, three hours.
- Ma 205**
STATISTICS
Designed to present the statistics needed to understand factual information as well as probability decision making in today's complex civilization. Prerequisites: Ma 101 or 111. Credit, three hours.
- Ma 301**
COLLEGE GEOMETRY
This course reexamines elementary geometry from an advanced viewpoint and introduces other geometries. Credit, three hours.
- Ma 302**
DIFFERENTIAL EQUATIONS
Prerequisite: Ma 202. A study of the solutions of ordinary differential equations. Credit, three hours.
- Ma 304**
LINEAR ALGEBRA
A study of linear algebra using matrices. Credit, three hours.
- Ma 305**
APPLIED MATHEMATICS FOR
PHYSICS AND ENGINEERING
Prerequisite: Ma 202. A study of vector calculus including line integrals, Green's theorem, Stokes theorem and the divergence theorem. Credit, three hours.
- Ma 325**
DISCRETE MATHEMATICS
A mathematical foundation for computer science including topics such as sets, logic relations, graphs, recurrence relations, Boolean algebra, and combinatorics. Prerequisites: Ma 108 or Ma 201. Credit, three hours.

Mathematics, Engineering, and Computer Science

- Ma 400**
THEORY OF NUMBERS
An introduction to the theory of numbers through a study of divisibility, congruences, quadratic reciprocity, Diophantine equations, factorization, and algebraic numbers. Credit, three hours.
- Ma 402**
MODERN ABSTRACT
ALGEBRA
An introduction to abstract algebra by discussing properties of semigroups, monoids, groups, rings, integral domains, etc. Prerequisites: Ma 304 or 400. Credit, three hours.
- Ma 404**
THEORY OF FUNCTIONS OF
A COMPLEX VARIABLE
Analytic functions, transformation and mapping, power series, residues and poles, conformal mapping, etc. theory of functions. Prerequisite: Ma 203. Credit, three hours.
- Ma 405**
SPECIAL FUNCTIONS
Series solution of differential equations, Bessel functions, Legendre polynomials, Legendre functions, Mathieu functions, etc. problems. Prerequisite: Ma 302. Credit, three hours.
- Ma 408**
MATHEMATICS SEMINAR
For honors thesis or special reading. Credit, one to three hours. Minimum nine hours.
- Ma 409-410**
MATHEMATICAL PROBABILITY
AND STATISTICS
Probability, discrete and continuous random variables, distributions, and moments, special distributions, sampling, point estimation, multivariate normal, sampling distributions, tests of hypothesis and linear analysis, experimental design, and non-parametric methods. Prerequisite: Ma 202. Credit, three hours each.
- Ma 411**
NUMERICAL ANALYSIS
Finite differences, interpolations, differentiation and integration, Lagrangian formulas, solutions of equations and systems, and curve fitting. Prerequisite: Ma 203. Credit, three hours.
- Ma 412**
NUMERICAL SOLUTION OF
DIFFERENTIAL EQUATIONS
A study of the application of numerical procedures to ordinary and partial differential equations including the study of convergence. Prerequisite: Ma 203. Credit, three hours.
- Ma 416**
OPERATIONS RESEARCH
A study of linear programming problems using the simplex method and theory of duality. Special types of linear programming problems considered are transportation, transshipment, assignment, and route problems; critical path scheduling; minimal tree search; maximal flow problems. Also, dynamic programming and queueing theory. Prerequisite: Ma 203. Credit, three hours.
- Ma 419**
ADVANCED CALCULUS
FUNCTIONS OF ONE VARIABLE
Elements of set theory, topology of the real line, function theory, series, continuity, differentiation, and the Riemann integral. Prerequisite: Ma 203. Credit, three hours.
- Ma 420**
ADVANCED CALCULUS
FUNCTIONS OF SEVERAL
VARIABLES
Partial derivatives, differentials, Jacobians, multiple integrals, and surface integrals. Prerequisite: Ma 203. Credit, three hours.
- Ma 421**
GENERAL TOPOLOGY
Elementary set theory, topological spaces, including metric spaces, bases for topology, connectedness, compactness, continuous mappings and topological invariance. Credit, three hours.

Samford
1985-
86

Mathematics, Engineering, and Computer Science

SUMMER WORKSHOPS FOR TEACHERS

Credit, three hours each.

Ma 206
ALGEBRA FOR TEACHERS

Credit, three hours.

Ma 207
STATISTICS FOR TEACHERS

Credit, three hours.

Ma 308
MATH CONCEPTS
FOR TEACHERS

Credit, three hours.

Ma 309
GEOMETRY FOR TEACHERS

Credit, three hours.

ENGINEERING

A minor in engineering may be obtained by successfully completing 18 hours with at least six hours at the junior or senior level. Engineering courses not taught at Samford may be taken at the University of Alabama at Birmingham through the cooperative program with that university.

Eg 102
ENGINEERING DRAWING I

An introduction to the principles and practices involved in construction of engineering drawings. Credit, three hours.

Eg 103
ENGINEERING DRAWING II

A continuation of Eg 102. Descriptive Geometry is included in this course. Prerequisite: Eg 102. Credit, two hours.

Eg 107
SURVEY OF ENGINEERING

Prerequisite: Ma 101 (corequisite: Ma 102). An introduction to the different branches of engineering as well as a study of logical approaches to engineering problems. Credit, one hour.

Eg 207
FORTRAN PROGRAMMING

See CS 207.

Eg 300
MATERIALS OF ENGINEERING

Prerequisites: Ch 111, Ma 103 and 201, and Ph 203 with a corequisite of Ma 102 and Ph 204. An introductory course to the physical properties of engineering materials and basic concepts of phase information. Credit, three hours.

Eg 308
LANGUAGE COMPUTER
PROGRAMMING

See CS 308.

Eg 310
ENGINEERING MECHANICS

See Ph 310.

Eg 330
ELECTRICAL ENGINEERING

See Ph 330.

Eg 334
ELECTRONICS

See Ph 334. Credit, four hours.

Mathematics, Engineering, and Computer Science

Eg 420
THERMODYNAMICS

See Ph 420.

Eg 430
ADVANCED ELECTRONICS

See Ph 430.

COMPUTER SCIENCE

CS 101, 201, 215, 308, 310, 320, 370, 420 and 430 are required as corequisites for a major in Computer Science. An additional nine hours of junior or senior level Computer Science courses, excluding CS 398, are required. Computer Science majors are required to take Ma 201, 202, 203, 304, 325, and 409, thus satisfying the requirements for a minor in Mathematics.

A minor in Computer Science requires CS 101, 201 and 12 hours selected from CS 215 and junior or senior level CS courses.

CS 100
INTRODUCTION TO
DATA PROCESSING

A survey course which includes a history of computers, description of system components, programming fundamentals, a discussion of programming language, processing methods and applications, and computer system management. Credit, three hours.

CS 101
INTRODUCTION TO
COMPUTER PROGRAMMING

Introduction to problem-solving methods, algorithm development, and techniques of good programming style. Topics include computer organization, programming language, constructs and algorithm development techniques. A high-level programming language such as Fortran is studied. Prerequisite: CS 100. Credit, three hours.

CS 201
COMPUTER PROGRAMMING

A continuation of CS 101. Topics include structured programming concepts, control flow, stepwise refinement of statements and data structures, top-down programming debugging and testing, string processing, internal searching and sorting, data structures, recursion, and algorithm analysis. Prerequisite: CS 101. Credit, three hours.

CS 215
INTRODUCTION TO
COBOL PROGRAMMING

Presentation of the basic concepts of the Common Business Oriented Programming Language (COBOL), and utilization of COBOL in lab setting. Prerequisite: CS 100 and Ma 101. Credit, three hours.

CS 308
ASSEMBLER LANGUAGE
PROGRAMMING

This course is designed to introduce the student to the basic concepts of computer systems and computer architecture and to the study of assembly language programming techniques. Topics include register sets, symbolic addresses, addressing techniques, parameter-passing methods, and data representation. Prerequisite: CS 201. Credit, three hours.

CS 309
INTRODUCTION TO
SYSTEMS ANALYSES

A study of the techniques of systems analysis emphasizing the life-cycle of an information system. Case study methods will be used. Prerequisites: CS 201 and CS 215. Credit, three hours.

CS 310
FILE PROCESSING

A study in the design, creation, and maintenance of data files. Sorting and searching techniques using auxiliary storage will be considered. Prerequisites: CS 201 and CS 215. Credit, three hours.

Samford

1985-86

Mathematics, Engineering, and Computer Science

CS 320 INTRODUCTION TO COMPUTER ORGANIZATION

A study of the organization and structure of the major hardware components of computers, the mechanics of information transfer and control within a computer system, and the fundamentals of logic design. Prerequisite: CS 201. Ma 325 desirable. Credit, three hours.

CS 370 DATA STRUCTURES

Problems in specific information storage are studied. The theoretical structures underlying these problems and algorithms to handle them are considered. Prerequisites: CS 201 and Ma 325. Credit, three hours.

CS 391 CO-OP EXPERIENCE

Prerequisite: CS 201 and permission of the department. Credit, one hour. Pass-fail only.

CS 392 CO-OP EXPERIENCE

Prerequisite: CS 201 and permission of the department. Credit, one hour. Pass-fail only.

CS 393 CO-OP EXPERIENCE

Prerequisite: CS 201 and permission of the department. Credit, one hour. Pass-fail only.

CS 394 CO-OP EXPERIENCE

Prerequisite: CS 201 and permission of the department. Credit, one hour. Pass-fail only.

CS 395 CO-OP EXPERIENCE

Prerequisite: CS 201 and permission of the department. Credit, one hour. Pass-fail only.

CS 396 CO-OP EXPERIENCE

Prerequisite: CS 201 and permission of the department. Credit, one hour. Pass-fail only.

CS 401 INDEPENDENT STUDY

Available, with consent of the instructor, to any student with a working knowledge in a high-level language. Prerequisites: CS 210, written proposal, and consent of the instructor. Credit, one hour, with a maximum of three hours allowable toward a major or minor in computer science.

CS 402 INDEPENDENT STUDY

Prerequisites: CS 210, written proposal and consent of the instructor. Credit, one hour, with a maximum of three hours allowable on CS 401-403 toward a major or minor in computer science.

CS 403 INDEPENDENT STUDY

Prerequisites: CS 210, written proposal and consent of the instructor. Credit, one hour, with a maximum of three hours allowable on CS 401-403 toward a major or minor in computer science.

CS 411 NUMERICAL ANALYSIS

See Ma 411.

CS 412 NUMERICAL SOLUTION OF DIFFERENTIAL EQUATIONS

See Ma 412.

CS 416 OPERATIONS RESEARCH

See Ma 416.

CS 420 OPERATING SYSTEMS AND COMPUTER ARCHITECTURE

A detailed study of the organization and architecture of computer systems. Introduction to the major concepts of operating systems principles. Prerequisites: CS 308 and CS 320. Credit, three hours.

Mathematics, Engineering, and Computer Science

CS 430 ORGANIZATION OF PROGRAMMING LANGUAGES

A study of the organization of programming languages, with emphasis on the run-time behavior of programs. Introduction to the formal specification and analysis of programming languages. Prerequisites: CS 308 and CS 370. Credit, three hours.

CS 440 DATABASE MANAGEMENT SYSTEMS DESIGN

A study of the underlying concepts and structures in design and implementation of database management systems. Prerequisites: CS 310 and CS 370. Credit, three hours.

CS 450 ALGORITHMS

Analysis of problems and their algorithmic solutions. Problems are from diverse areas such as combinatorics, graph theory, numerical analysis, systems programming, and artificial intelligence. Topics include complexity classes and problem-solving techniques such as divide-and-conquer, dynamic programming, backtracking, and branch-and-bound. Prerequisites: CS 370 and Ma 202. Ma 409 desirable. Credit, three hours.

EVENING COURSES

CS 103 INTRODUCTION TO RPG

Additional computer science courses offered in the evening include:

Credit, three hours.

CS 216 COBOL PROGRAMMING

Credit, three hours.