U A C

2011-2012

Southern Polytechnic State University in the University System of Georgia

1100 South Marietta Parkway
Marietta, Georgia 30060-2896

Southern Polytechnic State University is a comprehensive university in the University System of Georgia. Our academic, professional, outreach, and service programs embrace all aspects of technology, including the practical applied skills *(techne)* needed to solve today's real-world problems and the theoretical knowledge (*logos*) necessary to meet tomorrow's challenges. SPSU graduates are well prepared to lead the scientific and economic development of an increasingly complex state, nation, and world.

Our mission is to serve both traditional and non-traditional students at the undergraduate, graduate, and continuing education levels, in engineering and engineering technology, the sciences, applied liberal arts, business and professional programs. We work to develop the broader community's intellectual, cultural, economic, and human resources. Facilitated by our innovative faculty, dedicated staff, and supportive campus environment, our learning community empowers SPSU students with the ability and vision to transform the future.

Welcome to Southern Polytechnic

Southern Polytechnic is a place where students are educated for life and for leadership in an increasingly technological world. We prepare our students for their very first job after graduation, with the skills that make them highly marketable and successful. We feel it is just as important that a Southern Polytechnic education also prepares students for the last job in their careers. Thus, our courses and programs are structured to enable men and women to adapt, grow, and continue to learn over the years, developing the leadership skills needed to implement the vision of a technological future.

Our vision statement describes us well:

"Southern Polytechnic State University is a comprehensive university with a unique purpose. Through a fusion of technology with the liberal arts and sciences, we create a learning community that encourages thoughtful inquiry, diverse perspectives, and strong preparation of our graduates to be leaders in an increasingly technological world."

"The university - faculty, staff, students, and graduates - aspires to be the best in the world at finding creative, practical, and sustainable solutions to real-world problems and improving the quality of life for people around the globe."

Students at SPSU learn skills beyond the essential technological and scientific knowledge that qualifies our graduates to contribute to some of the fastest growing fields in the nation. They also learn traditional liberal arts skills that enable them to think critically, communicate clearly and persuasively, solve problems collaboratively, and develop an international perspective in an increasingly global marketplace.

At Southern Polytechnic, we are proud of our faculty and staff. We are motivated and challenged by our students. We are excited for our graduates. We appreciate the positive, participatory relationships we enjoy with our community and with prominent leaders in business and industry who help shape the nature of our educational vision. We also appreciate your interest in our university.
Again, welcome to Southern Polytechnic. We invite you to make your next visit a personal one to our campus.

Dr. Lisa A. Rossbacher
President

Fall 2011

4 August	Mon	New Student Orientation
17 August	Mon	Classes Begin
5 September	Mon	Labor Day Holiday
23-27 November	Wed - Sun	Thanksgiving Holiday for Students
5 December	Mon	Last Day of Classes
6-13 December	Wed-Tues	Final Exams
17 December	Sat	Commencement

Spring 2012

6 January	Thursday	New Student Orientation
9 January	Mon	First Day of Classes

For Your Information

Admissions	(678) 915-7281
Dean of Students	(678) 915-4102
Financial Aid	(678) 915-7290
President	(678) 915-7230
Registrar	(678) 915-4200
University Relations	(678) 915-7351
Vice President for Academic Affairs	(678) 915-7206
Vice President for Business and Finance	(678) 915-7232
Vice President for Student and Enrollment Services	(678) 915-3720
Continuing Education	(678) 915-7240

For additional phone numbers and contacts, see the Campus Directory

From outside the Atlanta Metro area (For Admissions Information Only) 800-635-3204
Southern Polytechnic State University
1100 South Marietta Parkway
Marietta, Georgia 30060-2896

Directory for Correspondence

For additional information on the following topics, please address inquiries as follows:

Admissions
VP, Student & Enrollment Services
Dr. Ron Koger

Athletics
Director of Athletics
Mr. Karl Staber

Health Services
Director of Wellness
Position Vacant

law-abiding citizen and to obey the laws of the City of Marietta, Cobb County, the State of Georgia, and the United States.

Responsibility for Notices

Students are expected to be awar

Mechanical Engineering (Bachelor of Science, Mechanical Engineering)

Mechanical Engineering Technology (Bachelor of Science)

Mechatronics Engineering (Bachelor of Science)

Physics (Bachelor of Arts)

Physics (Bachelor of Science)

Political Science (Bachelor of Science)

Psychology (Bachelor of Science)

Software Engineering (Bachelor of Science)

Surveying and Mapping (Bachelor of Science)

Systems Engineering (Bachelor of Science)

Technical Communication (Bachelor of Science)

Telecommunications Engineering Technology (Bachelor of Science)

Masters Degree Programs

(See the Graduate Catalog)

Accounting (Master of Science)

Master of Business Administration (MBA)

Computer Science (Master of Science)

Construction Management (Master of Science)

Engineering Technology (Electrical Concentration) (Master of Science)

Information Design and Communication (Master of Science)

Information Technology (Master of Science)

Instructional Design and Communication (Master of Science)

Quality Assurance (Master of Science)

Software Engineering (Master of Science)

Systems Engineering (Master of Science)

Certificates

In addition to the above degree programs, SPSU also offers certificates in the following areas. The offering department is listed in parentheses. Admissions requirements vary, depending on the certificate.

Apparel Product Development (Industrial Engineering Technology)

Business Administration (Business Administration)

Business Continuity (Information Technology)

Communication Management (English, Technical Communications, and Arts)

Computer Science (Computer Science)

Computer Science Transition Certificate (Computer Science

Content Development (English, Technical Communications, and Arts)

Engineering Sales (ETM or Business Administration)

Facilities Management (Construction Management)

Geographical Information Systems (GIS) Certificate (Civil Engineering Technology)

Instructional Design (English, Technical Communications, and Arts)

Information Security and Assurance (Information Technology)

Information Technology (Information Technology)

Information Technology Transition Certificate (Information Technology)

Land Development (Construction Management)

The statements set forth in this catalog are for informational

General Information

Admission to Southern Polytechnic State University is made without regard to race, nationality, sex, or religion. Admission to Southern Polytechnic State University is based on a number of factors depending upon your admissions type of entry and previous educational experience. The admission requirements for the University have been developed inaccordance with the rules and regulations of the Board of Regents for the University System of Georgia.

Falsification

Approval for admission is valid only for the term specified at the time of acceptance and does not imply that approval will be granted for a term not specified. The University reserves the right to withdraw admission prior to or following enrollment if the

		Composition Skills
Mathematics	4	Algebra I and II, Geometry and a fourth year to include courses such as Advanced Algebra and Trigonometry, Algebra III, Pre-calculus, Discrete Mathematics , Calculus, AP Calculus, Statistics, IB Mathematics, Analysis

- On-track for completion of CPC requirements by the end of the senior year in high school
- Written consent of the parent or guardian (if student is a minor)

A college course may not be used tofulfill the University System of Georgia's CPC requirements except:

- English Minimum required score of 530 on the SAT I Critical Reading (23 ACT-English)
- Social Studies Minimum requir ed score of 530 on the SAT I Critical Reading (23 ACT … English)
- Mathematics Minimum required score of 530 on the SAT I Math (22 ACT-Math)

Students who do not necessarily meet all of the above criteria but who demonstrate very high academic abilities through their SAT performance may be permitted to

Geography or Social & Cultural Anthropology	5	Area E, Group 4	3
History (any focus)	5	Area E, Group 2	3
Mathematics	4	MATH 1111, 1113, and (2253 or 2240)	10 or 11
Mathematics	5	MATH 1111, 1113, (2253 or 2240), 2254 and four additional credit hours based on exam content	18 or 19
Physics	5	(PHYS 1111K and 1112K) or (PHYS 2211K and 2212K)	8
Psychology	5	Area E, Group 3	3

Official results must be sent directly from the Admissions Testing Board of the College Board to SPSU for credit to be awarded.

D.S.S.T. (DANTES Subject Standardized Test) Exams

Transfer Admissions Standards for Sophomores and Upperclassmen

Transfer applicants with sufficient transferable hours to be classified as a sophomore, junior or senior at SPSU will be considered under the following policies:

- Applicants must have completed and exited all required remedial courses at their previous institution
- Applicants must not be on dismissal from their previous institution
- Applicants must have at least a 2.0 cumulative college GPA

Award of Transfer Credit

See Academic Regulations and Administrative Procedures for the policy on acceptance of transfer credit.

Special Admission Categories

SPSU has a number of special categories other than those for freshman and transfer applicants.

Nontraditional Freshman Admission Standards

Nontraditional freshman are those students who:

- Have not attended high school or college within the previous five years
- Have earned fewer than 30 transferable semester hours of credit
- Hold a high school diploma from an accredited secondary school or a GED certificate which satisfies the minimum requirement of the State of Georgia

Applicants eligible for review in this category are exempted from the SAT/ACT and College Preparatory Curriculum requirements; however, all other admission requirements must be met. These students will be required to take the COMPASS Exam and score 74 on the Reading, 60 on the Writing and 37 on the Algebra exams. The COMPASS Exam is given on the campus of SPSU.

Transient Students

Transient students are those students attending Southern Polytechnic State University for a limited period of time, usually one semester, and who are expected to return to their previous college at the beginning of the next semester.

Transient credit earned at Southern Polytechnic State University may not be applied toward the residency requirement.

Regents Engineering Transfer Program (RETP)

SPSU offers several engineering programs. A student who wishes to pursue an engineering program that is not offered at SPSU is invited to participate in the Regents Engineering Transfer Program. Students who choose this path may begin course work at SPSU and later transfer to Georgia Institute of Technology. Courses available include the University System core (areas A-E) and selected engineering courses. For additional information contact the RETP coordinator at (678) 915-3172.

International Students

Admission of Students with Non-U.S. Academic Credentials

Admission of students whose secondary education was completed outside of the United States system of education may be considered for admission with:

- Acceptable foreign credentials
- English language proficiency as described below

Academic Admissibility of Freshman Students Foreign Credentials

Students seeking to gain admission as freshmen must have:

- Academic performance as described by a certificate, diploma, or other documents generally equivalent to U.S. college preparatory studies
- Official or certified true copies of all secondary school records, with a certified English translation

(The University reserves the right to require foreign credentials to be evaluated by an approved professional foreign credential evaluation service at the expense of the applicant.)

English Proficiency

Students whose first language is not English and whose language of instruction throughout secondary school was not in English are required to demonstrate English proficiency.

Non-native speakers of English who:

- Transfer from institutions of higher education outside of the U.S. where English was not the language of instruction
- Have less than 30 semester hours of college credit

May be exempted from the SAT requirements; however, they must take the following tests with minimum scores as indicated:

Test	Minimum Score
Paper- based TOEFL or	550
Computer-based TOEFL or	213
Internet-based TOEFL	79
AND	
COMPASS	74 Reading 60 Writing 37 Algebra

The COMPASS examination is administered on the campus of SPSU.

Academic Admissibility of Transfer Students Foreign Credentials

Students seeking to gain admissions as transfer students must have:

- Academic performance equivalent to a 2.0 transfer grade point average from all colleges/universities previously undertaken by the student
- Official or certified true copies of all secondary school records, with a certified English translation is required

(The University reserves the right to require foreign credentials to be evaluated by an approved professional foreign credential evaluation service at the expense of the applicant.)

Additional Requirements for International Applicants

In addition to meeting the regular admission requirements, international applicants needing a student visa (F-1 or J-1) must complete a Financial Affidavit. The Financial Affidavit must show ability to meet the financial obligations of tuition, fees and living expenses before an I-20 or acceptance letter will be issued.

Current (less than one year old) letters of financial support must accompany the Financial Affidavit. Financial Affidavit forms are available in the Admissions Office.

All international students must purchase medical insurance made available through Southern Polytechnic State University.

Sources for Test Scores and Required Forms

SAT I and II Tests	ACT Tests
College Entrance Examination Board Box 6200 Princeton, NJ 08541 or register online at http://www.collegeboard.com SPSU's Institutional Code: 5626	American College Testing Program P.O. Box 414 Iowa City, Iowa 52243 or register online at http://www.act.org SPSU's Institutional Code: 0865
SAT I and II Tests	ACT Tests
College Entrance Examination Board	American College Testing Program

Box 6200 Princeton, NJ 08541 or register online at http://www.collegeboard.com SPSU's Institutional Code: 5626	P.O. Box 414 Iowa City, Iowa 52243 or register online at http://www.act.org SPSU's Institutional Code: 0865
Admission Application & Immunization Forms	TOEFL Exams

SPSU Office of Admissions 1100 South Marietta Parkway Marietta, GA 30060 or on SPSU's Website: http://www.spsu.edu	Educational Testing Services P.O. Box 6151 Princeton, NJ 08541, USA or http://www.toefl.org SPSU's Institutional Code: 5626

Limited Admissions

The University System permits SPSU to admit a limited number of traditional freshmen each year who do not meet all the minimum requirements listed above, but whose records are sufficiently strong enough to show promise for success at the University.

SPSU's minimum requirements for limited freshman admission include the following:

- Graduation from:
  - A regionally accredited high school
  - Or from a high school accredited by the Georgia Accreditation Commission
  - Or from a high school accredited by an approved University System of Georgia agency
  - Or from a public school under the authority of the State Department of Education
- Completion of the 16 required CPC units
- Have an academic High School GPA of at least a 2.5
- Minimum scores on the SAT or ACT as follows:

Test	Minimum Score
SAT I Critical Reading	450

Steps to Apply for Financial Aid and Cost of Attendance

Usually, step one in applying for financial aid is to fill out the Free Application for Federal Student Aid (FAFSA), which is available online at www.fafsa.ed.gov

Although applications are processed until all federal funds are expended, students who apply by the March 1st deadline have a greater chance of receiving financial aid than those who apply late.

Aid awarded to a student one year does not mean that he or she is eligible to receive aid in a subsequent year, unless the student continues to demonstrate need as defined by the U.S. Department of Education. An application, each year, is required to continue to receive financial aid.

Information concerning financial aid may be obtained by writing to:

Director of Financial Aid
Southern Polytechnic State University
1100 South Marietta Parkway
Marietta, Georgia 30060-2896

or by calling the Office of Scholarships and Financial Aid at 678/915-7290 or 800/635-3204, or email at finaid@spsu.edu.

Cost of Attendance

First-time-full-time Cost of Attendance for dorm student 2009-2010

Cost of Tuition and Mandatory Fees:

Tuition and Fees $5,414

Room and Board $6,350

Cost determined by Lifestyle:

Books and Supplies $1,700

Personal Expenses $1,700

Transportation $1,200

Loan Fees $60

Total Estimated Cost of Attendance: $16,424

Types of Financial Aid

Types of aid for which one might be eligible include:

- The Federal Pell Grant
- The Federal Supplemental Educational Opportunity Grant (FSEOG)
- The Federal ACG Grant
- The Federal SMART Grant
- The Federal Work Study Program (FWSP)
- The Federal Direct Loan Program

Depending on financial need, the maximum that a student may borrow from the combined Subsidized and Unsubsidized Direct Loan Program is:

Class	Dependent	

Maximum Time Frame Requirement

Financial aid recipients must complete their program within 150% of the published length of the program. To figure the maximum time frame:

- First check the catalog to determine the number of credit hours required for graduation in a particular major.
- Second, multiply the required number of credit hours by 150%.
-

to the university that are determined to be "unearned financial aid" that resulted from the calculated refund.

Residency Classification for Fee Payment Purposes

A person's legal residence is his or her permanent dwelling place. It is the place where he or she is generally understood to reside with the intent of remaining there indefinitely and returning there when absent. There must be a concurrence of actual residence and of interest to acquire a legal residence.

Because a proportion of financial support for the operation of public institutions of higher education in Georgia comes from the citizens through the payment of taxes, the determination of whether a student is classified as a resident or a nonresident of the state is a significant matter. The fees paid by resident students cover only a portion of the total cost of their education in the University System. Therefore, Georgia taxpayers are contributing part of the necessary funds to provide quality education for the citizens of the state.

Students are responsible for registering under the proper residency classification. Any student classified as a nonresident who believes that he or she is entitled to be reclassified as a legal resident may petition to the Registrar's Office for a change of status.

The Board of Regents establishes all rules regarding residency classification. For additional information visit this site:

http://www.usg.edu/regents/policymanual/400.phtml

62 Years Old or Older

Citizens of the State of Georgiawho are 62 years of age or older may attend Southern Polytechnic State University without payment of matriculation and fees (except for supplies and laboratory or shop fees)

The student affairs areas at Southern Polytechnic State University include:

- Student Life
- Student Center
- Student Health Services
- Recreation Sports and Intercollegiate Athletics

International students are requ ired to have private health insurance protecti on. Southern Polytechnic State University is not responsible for any medical expenses incurred by international students beyond those that are covered by the Student Health Fee.

Immunization records are mainta ined in the Student Health

competes in four different intercollegiate sports: Men's basketball, women's basketball, men's soccer, and baseball.

The Recreational Sports program maintains a comprehensive program of activities that appeal to the leisure time interests and needs of the campus community.

Activities available through the intramural sports program include competitive team sports leagues such as:

- Flag football
- Volleyball
- Basketball
- Softball

There are also individual competitive tournaments such as:

- Billiards
- Golf
- Racquetball
- Badminton

In addition to the intramural sports program, the department offers:

- A club sport program
- A wellness and fitness program
- Special events

Recreational Facilities

The Recreation and Wellness Center, offers many recreational opportunities to the student. A state of the art weight room that includes free weights, machine weights, plate loaded machines, and cardiovascular equipment highlights the facility. The facility also boasts a large multipurpose gym that accommodates 2 basketball courts, 2 volleyball courts, 4 badminton courts, and a perimeter jogging/walking area. The Recreation and Wellness Center also has 2 racquetball courts, locker rooms/showers, and a pool complete with an outdoor sunbathing area. The pool can be used for recreation, lap, and competitive swimming. The Department of Recreational Sports and Campus Health Services are housed in the Recreation and Wellness Center.

The Southern Polytechnic Outdoor Recreation Complex provides 3 softball fields. The intramural sports program makes use of these fields throughout the year with flag football, soccer, and softball leagues. Also included in the complex is a half-mile jogging trail.

Athletic Facilities

SPSU competes in the NAIA (National Association of Intercollegiate Athletics) Division I and is a member of the Southern States Athletic Conference. The University has four intercollegiate sports teams:

- Men's Basketball
- Woman's Basketball
- Baseball
- Men's Soccer

The Athletic Department offices are located in the Athletic Gymnasium.

The ATTIC

The ATTIC (Advising, Tutoring, Testing, International Center) represents the collaboration of student services at SPSU. Located in J 253, the ATTIC houses advising for Joint Enrollment and General Studies students, Tutoring, Testing, International Student Services, Disability Services, and Multi-Cultural Affairs. For more information, call (678) 915-7361.

Joint Enrollment Advising

The Joint Enrollment Advisor guides Joint Enrollment students in selecting courses they need for their high school graduation and for their college careers. The Joint Enrollment Advisor also works with high school counselors. Before each semester, the Joint Enrollment Advisor assists students by discussing their course options and registering them for classes.

General Advising

Students who have not yet declared a major or are undecided about what course of study to follow need to see an Academic Advisor before registering for classes. The Academic Advisor assists students in selecting the most appropriate courses to take while students are deciding upon a major to pursue.

Tutoring

The ATTIC provides opportunities for individualized assistance to Southern Polytechnic students. Tutors help students with core courses in English, chemistry, biology, mathematics, physics, and ESOL (English to Speakers of Other Languages). Tutoring is conducted in J210 from 9:00-2:00 Monday-Friday and 5:00-8:30 Monday-Thursday. * Please Note: The schedule may vary from semester to semester.

Testing

The ATTIC administers the following tests:

Math Assessment Test (MAT)

SPSU students take the math test to determine the level of math placement. The test consists of college algebra and pre-calculus. MAT scores will determine the appropriate starting point in SPSU's math sequence. Students may obtain MAT scores from their academic advisor or a program representative during an advising session, from the Testing/Disabilities Advisor, or from the Internet.

Placement is based on the following scale:

If your score is	On this test	Start in this Mathematics Course
23 or lower	MAT 1+2	MATH 1111 College Algebra
24 or higher	MAT 1+2	MATH 1113 Pre-calculus
26 or higher AND 8 or higher	MAT 1+2 MAT 3	MATH 2253 Calculus Or MATH 2240 Elements of Calculus
28 or higher AND	MAT 1+2	MATH 1113 Pre-calculus OR MATH 2253 Calculus Ied machin

designed to provide a body ofknowledge in selected areas. Currently available certificates include:

- A+/Net+ Certificate
- AutoCAD User Certification
- CISCO Certified Network Associate (CCNA)
- E-Business Solutions in Java Certificate
- Linux+ Certificate Program
- Oracle 10g Database Certificate
- Professional Project Management Certificate Program
- Six Sigma Certification Training
- Roadmap to Certified Professional Facilitator (CPF)
- Lean Enterprise Certification
- (CQIA) Certified Quality Improvement Associate
- (CMQ/OE) Certified Manager of Quality/Organizational Excellence

Call 678/915-7240 for additional information or check the CEC web site at http://www.spsu.edu/cec.

Applied Research Center (SPARC)

The mission of the Southern Polytechnic Applied Research Center (SPARC) is to support Southern Polytechnic faculty in research, development and the application of technology within their areas of expertise. This support includes the identification of opportunities, development of proposals and the administration of grants and contracts upon award. The Applied Research Center is committed to providing growth opportunities for faculty and students and establishing Southern Polytechnic State University as a leading center of applied technology. For more information go to: http://www.spsu.edu/sparc

Office of Sponsored Programs (OSP)

The Office of Sponsored Programshas overall responsibility for the administration of grants, contracts and sub-awards, as well as compliance with state and federal regulations. Pre-award services include identifying funding opportunities and working with faculty to prepare proposals for submission . Post-award activities include tracking expenses, supplying reports to faculty and interfacing with the business office. For more information call
y the aa-4.3(k)c -r51.6 nviersth th1(we (sitr)-e ao)]TJ 0 -1.2887 TD -.03 0 Tc 0 Tw: http://www.spsu.edu/Sponsore pgon
y anJ-356ec.

Introduction and Student Responsibility

Students are expected to have readthis section of the catalog and to be generally familiar with academic rules. Students are expected to consult this section of the catalog and follow the procedures that are outlined here in when the appropriate time in their academic tenure approaches.

For example, a student who is within a year of graduating should review the graduation section and comply with the time table for petitioning to graduate. Frequently, the phrase "nobody told me" is used as justification for an appeal to a specific rule. Such justification is not acceptable.

In a pedagogical setting, students are expected to develop the ability to read and follow instructions as part of their educational experience. Academic advisors are available to help students interpret what they've read and to encourage appropriate actions. However, it is the student's responsibility to ask questions when in doubt, and to seek out information from official sources rather than to allow rumor to dictate actions.

Definitions

Full-time Student … Full-time status is defined in the table below. Rememberthat other agencies (such as federal financial aid) may have different definitions of full-time. The definitions below are used when enrollment verifications are produced by SPSU.

Administrative Procedures … Administrative procedures are thesteps and actions taken in order to follow established rules and regulations.

Term GPA … The term GPA is the pure GPA earned during

Attendance

There are no formal institutio nal regulations regarding class attendance. Each classroom or laboratory instructor sets his or her own attendance policy. However, instructors are required to report the names of students who do not attend to the registrar's office. Within the first calendar w eek of classes, or the first laboratory meeting, of the term the instructor will notify the students in writing of the attendance policy for that class. It is the prerogative of the instructor to determine and impose grade penalties for absences. Students are responsible for all course material covered and any academic consequence of their absences. In some cases, federal and state laws require that attendance be recorded and reported.

Auditing Classes

The following rules apply to Audit courses:

€

How a Student is Classified - A student is classified at the end of each term on the basis of the number of credit hours earned. The credit hours include all cour se work for which the student has earned college level credit at Southern Polytechnic State University, plus any transfer credit accepted by Southern Polytechnic State University.

Hours Earned	Classification
0-29	Freshman
30-59	Sophomore
60-89	Junior
90 and above	Senior

Full-time Students

Undergraduate students enrolled fo r 12 or more credit hours are considered full-time students.

Note that the federal government and some other agencies have different definitions of student st atus. For example, without regard to the above table, all undergraduate students must be enrolled in at least 6 hours to qualify for most types of financial aid (HOPE and Pell excepted).

Credit by Examination

Awarded at the Discretion of the Department Chair

Enrollment Verification and Student Status

Students desiring that their enrollment status be reported to an outside agency such as another university, or an insurance company, should request an enrollment verification from the national student loan clearing house. Student status is reported to the NSLCH as follows:

Note that the federal government and some other agencies have different definitions of student status. For example, without regard to the above table, all undergraduate students must be enrolled in at least 6 hours to qualify for most types of financial aid (HOPE excepted).

- Part-Time — Less than 6 hours
- Half-Time — 6, 7, or 8 hours
- 3/4 Time — 9, 10, or 11 hours
- Full-Time — 12 hours or more

Exceptions to Academic Regulations

Exceptions to the Academic Regulations of Southern Polytechnic State University may be made by the faculty or by the Registrar whenever a consideration of the student's complete record indicates that the application of a specific regulation will result in an injustice.

See sections on appeals for additional information.

Exclusion of Previous Major Courses from the Institutional GPA

Students may request deletion of previous major courses for graduation scholastic average and hours purposes by completing a Petition to the Faculty. Students should discuss this action with their program advisor first to determine its benefit potential. All courses that were unique to the excluded program will be excluded under this rule.

For example, if a mathematics course is part of the degree requirements for a management degree, and the student requests exclusion, the mathematics course would be excluded along with all management and related courses.

In order to qualify for previous major course exclusion, the student must have officially declared the previous major at some point.

Grade Appeals

Grade appeals fall into a special category. Grades are assigned by professors based on an evaluation of a student's academic performance. A student who wishes to appeal a grade must present clear evidence that a grade was assigned by some criteria other than an evaluation of academic performance. Appeals that proceed beyond the professor who issued the grade, must be in

€

Transfer credit should not be confused with course substitutions. A course might not be equivalent to any course offered at SPSU, but still have enough content to be considered as a substitute for a course within a degree program. In this case, transfer credit would be awarded for free elective hours and a course substitution petition would be initiated and processed through the curriculum committee.

To be considered for transfer credit, courses must normally :

€

Transcript Request

All transcripts will include the entire academic record; no partial or incomplete record will be issued as a transcript. Though transcripts are normally issued promptly, requests should be made several business days before the document is required, particularly at the beginning or end of a semester. A transcript will not be issued when a student's record shows financial indebtedness to the institution. Transcripts may be ordered on line at getmytranscript.com.

Transient Authorization

Southern Polytechnic State University students planning to attend another institution for one semester and then return to Southern Polytechnic State University should complete a transient letter authorization form, available in the Registrar's Office.

Withdrawal From Classes

Students desiring to withdraw from one or more classes before the midpoint of the term may do so by:

- Completing a Request to Withdraw at the Registrar's Office
- Or withdrawing through the Web-based registration system
- Or by sending a signed fax or letter to the registrar's office

After doing so, the student will be assigned a grade of "W" for those course(s). While a grade of "W" does not count in the student's cumulative grade point average, it does count in attempted hours for financial aid purposes and could affect a student's eligibility for aid if there are repeated withdrawals.

Refunds associated with withdrawals are made only in the case

- € Include an informed use of information technology.
- € Employ pedagogy designed to increase intellectual curiosity and to initiate a continuing interest in the subject matter.
- € Feature courses that are challenging and rigorous and pr ovide learning experiences that distinguish a field.
- € Introduce the methods used by te

Core Courses

Listed below are Southern Polytechnic State University core-curriculum courses and the credit hours for those courses.

Area A

Essential Skills

Three Courses are Required

All students must complete Composition I and II and either Math 1111 or Math 1113 depending on their major.

Take both English classes and one mathematics class, depending on your major.

Course	Title	Hours
ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
MATH 1111	College Algebra	3
	or	
MATH 1113	Pre-calculus	4
	or	
MATH 2253	Calculus I	4
	Area Total is 9 or 10 Hours depending on major	

NOTE: See your academic advisor for information about which specific math course you should take.

Area B

Institutional Option

Two Courses Are Required

All students must complete Speech 2400 and Science, Technology, and Society 2400.

Take both of these

Course	Title	Hours
COMM 2400	Public Speaking	2
STS 2400	Science, Technology, and Society	2
	Area Total is 4 Hours	

Area C

Humanities/Fine Arts

Two Courses Are Required

All students must complete *One Course From Each of the Following Two Groups* for a total of two courses.

Literature of the World

Take one of these eleven courses.

Course	Title	Hours
ENGL 2111	World Literature I	3
ENGL 2112	World Literature II	3
ENGL 2120	British Literature	3
ENGL 2121	British Literature I	3
ENGL 2122	British Literature II	3
ENGL 2130	American Literature	3
ENGL 2131	American Literature I	3
ENGL 2132	American Literature II	3
ENGL 2141	Western Literature I	3
ENGL 2142	Western Literature II	3
ENGL 2300	African-American Literature and Culture	3

Art and Culture of the World

Take one of these seven courses.

Course	Title	Hours
ARTS 2001	Art Appreciation	3
ARTS 2002	Drama Appreciation	3
ARTS 2003	Music Appreciation	3
ARTS 2004	History of Contemporary American	3

	Music	
FREN 1002	Elementary French II	3
GRMN 1002	Elementary German II	3
SPAN 1002	Elementary Spanish II	3
FREN 2001	Intermediate French I	3
SPAN 2001	Intermediate Spanish I	3
FREN 2002	Intermediate French II	3
SPAN 2002	Intermediate Spanish II	3
		Area Total is 6 Hours

Area D

Science, Mathematics, and Technology
Three Courses are Required

All students must complete two courses from the scienc es group and one course from the mathematics group.

Sciences Group

Take any two courses from this list of nine courses for a total of 8 hours

Course	Title	Hours
ASTR 1000K	Introduction to the Universe	4

PSYC 1101	Introduction to General Psychology	3
SOCI 1101	Introduction to Sociology	3

Cultures and Societies Group

Take one of these five.

Course	Title	Hours
ANTH 1102	Introduction to Anthropology	3
ES 1100	Ethnic Studies	3
GEOG 1101	Introduction to Human Geography	3
POLS 2401	Global Issues	3
RELG 1200	World Religion	3

Area Total is 12 Hours

Area F

Courses Related to the Major Program of Study

See your advisor or your academic department for the required courses in this area.

NOTE: The additional hours in Areas A and D carry over to Area F or general degree requirements.

Area Total is 18 Hours.

Total Hours for USG CORE 60

eCore

eCore – short for electronic core-curriculum – allows University System of Georgia (USG) students the opportunity to complete their first two years of their collegiate careers in an online environment. eCore courses are taught entirely online, except for the occasional proctored exam. eCore offers courses in English, mathematics, science, history, and the social sciences that are designed, developed, taught and supported by faculty and staff from the USG. Please note that eCore has its own schedule, which varies slightly from the SPSU academic calendar. You can find out more information about eCore, such as courses offered, course descriptions, cost, textbook information, etc. at http://spsu.edu/ecore and http://ecore.usg.edu. Click here to see the eCore Equivalency Chart: http://spsu.edu/ecore/equivalency_chart.htm.

Courses taught in eCore are listed below:

CHEM 1211K - Principles of Chemistry I

CHEM 1212K - Principles of Chemistry II

COMM 1100 - Human Communications

ENGL 1101 - English Composition I

ENGL 1102 - English Composition II

ENGL 2111 - World Literature I

ENGL 2132 - American Literature II

ENVS 2202 - Environmental Science

ETEC 1101 - Electronic Technology in the Educational Environment

GEOL 1011K - Introductory Geosciences I

HIST 1111 - World History I

HIST 2111 - U.S. History I

MATH 1101 - Intro to Mathematical Modeling

MATH 1111 - College Algebra

MATH 1113 - Pre-calculus

MATH 1401 - Intro to Statistics

MATH 1501 - Calculus I

PHIL 2010 - Intro to Philosophy

PHYS 1211K - Principles of Physics I

POLS 1101 - American Government

PSYC 1101 - Introduction to General Psychology

SOCI 1101 - Introduction to Sociology

SPAN 2001 - Intermediate Spanish

SPAN 2002 - Intermediate Spanish II

SPSU Majors and Areas of Study

Area of Interest	See Section in Catalog	Major Offered
Accounting	Business Administration	B.S., Accounting M.S. Accounting (see graduate catalog)
Apparel	Apparel Textile Technology	Bachelor of Apparel and Textiles
Applied Science	Applied Science	Bachelor of Applied Science (six different concentrations)
Architecture	Architecture	B. Architecture
Art	Arts	B.S., Technical Communication„Digital Media and Graphics
Astronomy	Physics	courses only
Biochemistry	Biology	B.S., Biology„ Biochemistry and Molecular Biology
Bioinformatics	Biology	B.S., Biology„Bioinformatics
Biology	Biology	B.S., Biology
Business	Business Administration	B.S., Business Administration B.A.S., Business Management M.B.A., Business Administration (see graduate catalog)
Chemistry	Chemistry	B.S., Chemistry. B.S., Biology - Biochemistry
Civil Engineering	Civil Engin	

Electrical Engineering	Electrical Engineering Technology	B.S., Electrical Engineering Technology B.S., Computer Engineering Technology B.S., Telecommunications Engineering Technology M.S., Engineering Technology: Electrical (See Graduate Catalog)
Engineering	Engineering	multiple degrees … see catalog section
Engineering Technology	Engineering Technology	multiple degrees - see catalog section
English	English	B.A., English and Professional Communication
Fashion Design	Fashion Design and Product Development	Bachelor of Apparel and Textiles
Finance	Business Administration	B.S., Accounting M.S., Accounting (See Graduate Catalog) M.B.A., (See Graduate Catalog)
French	Modern Languages	courses only
Game Design	Computer Science	B.S., Computer Game Design and Development
General Studies	General Studies	A.S. in General Studies
History	History	B.S. in International Studies„History
Industrial Engineering	Industrial Engineering Technology	B.S. in Industrial Engineering Tech. M.S. in Quality Assurance (See Graduate Catalog)
Information Design	See Graduate Catalog	M.S. in Information Design and Communication (See Graduate Catalog)
Information Management	Information Technology	B.A.S., Information Management
Information Technology	Information Technology	B.S in Information Technology M.S., Information Technology (See Graduate Catalog)
International Studies	International Studies	B.S. in International Studies
Instructional Design	See Graduate Catalog	M.S. inInformation and Instructional Design (See Graduate Catalog)
Languages	Modern Languages	B.S. inInternational Studies--Spanish
Logistics	Supply Chain Logistics	B.A.S
Management	Business Administration	B.S., Business Administration B.A., Business Administration M.B.A. in Business Administration (see graduate catalog)
Manufacturing Operations	Manufacturing Operations	B.A.S., Manufacturing Operations
Marketing	Business Administration	B.S., Business Administration B.A., Business Administration M.B.A., in Business Administration (see graduate catalog)
Mathematics	Mathematics	B.A. in Mathematics B.S. in Mathematics
Mechanical Engineering	Mechanical Engineering	B.S., Mechanical Engineering
Mechanical Engineering	Mechanical Engineering Technology	B.S. in Mechanical Engineering Technology
Mechatronics Engineering	Mechatronics Engineering	B.S. in Mechatronics Engineering
Operations Management	See GraduateCatalog	M.B.A. in Business Administration (see graduate catalog)
Physics	Physics	B.A. in Physics B.S. in Physics
Political Science	Political Science	B.S. in Political Science

Pre-Law	Political Science	B.S., Political Science B.S. in International Studies„Technology and the Law
Pre-Medical	Biology	B.S. in Biology„Pre Professional B.S., Chemistry
Psychology	Social Sciences	B.S. in Psychology
Quality Assurance	See Graduate Catalog	M.S. in Quality Assurance
Residential Construction Management	Construction Management	B.A.S., Residential Construction Management
Robotics	Engineering	B.S., Mechatronics
Science, Technology and Society	Social Science	B.S. in International Studies
Social Sciences	Social Sciences	B.S. in International Studies
Software Engineering	Software Engineering	B.S. in Software Engineering M.S., Software Engineering
Spanish	Modern Languages	B.S. inInternational Studies„Spanish
Surveying + Mapping	Civil Engineering Technology	B.S. in Surveying and Mapping
Systems Engineering	Systems Engineering	B.S. in Systems Engineering M.S. in Systems Engineering (See Graduate Catalog)
Supply Chain	Supply Chain Logistics	B.A.S., Supply Chain Logisitics
TCSG Transfer Program	TCSG Transfer Program	B.A.S.
Telecommunications	Electrical Engineering Technology	B.S. in Telecomm. Engineering Technology
Technical Communication	Technical and Professional Communications	B.S. in Technical Communication M.S. in Information Design and Communication
Writing	English and TCOM	M.S., Instructional Design adn Communication

Accounting

The Bachelor of Science in Accounting BSA is designed to give students a broad understanding of the major components of the accounting industry and the foundation requirements for taking the certified public accountant (CPA) exam as specified by the

Architecture

Summer Design Workshop

All students must complete the three-week Summer Architecture Design Workshop [DFN 1000]. Students must successfully complete the workshop to start in Design Foundation [DFN 1001]

- [Faculty Portfolio Evaluation] + [Cumulative DFN Course] • 2.0

Directed Electives can be taken towards a Minor Concentration outside of the Architecture Program or

Bachelors in Architecture [5 Year Professional Degree] Requirements

Georgia Core		
ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
COMM 2400	Public Speaking	2
STS 2400	Science, Technology, and Society	2
Area C Group 1	Take One Course from the Literature Group	3
Area C Group 2	Take One Course from the Art and Culture Group	3
MATH 1113	Pre-calculus	4
MATH 2253	Calculus I	4
Area D	Lab Sciences (Two courses) … PHYS 1111K … Required	8
Area E Group 1	American Context, one course	3
Area E Group 2	World History, one course	3
Area E Group 3	Behavioral Science, one course	3
Area E Group 4	Cultures and Societies, one course	3
Design Foundation		
DFN 1000	Orientation to Architecture (Summer Design Workshop)	2
DFN 1001	Design Foundation I	4
DFN 1002	Design Foundation II	4
DFN 1241	Design Communication I	2
DFN 2003	Design Foundation III	4
DFN 2004	Design Foundation IV	4
DFN 1111	Architecture Culture I	3
DFN 2112	Architecture Culture II	3
DFN 2211	Architecture Structures I: Introduction to Structures	3
DFN 2311	Environmental Tech I: System Selection & Materials	3
DFN 2242	Design Communication II	2
Architecture		
ARCH 3011	Architecture Studio I	4
ARCH 3012	Architecture Studio II	4
ARCH 3113	Architecture Culture III	3
ARCH 3116	Urban Planning and Design Theory	3
ARCH 3211	Architecture Structures I	4
ARCH 3212	Architecture Structures II	3
ARCH 3313	Environmental Technology II: Human Comfort and: HVAC Systems	3
ARCH 3314	Environmental Technology IV: Lighting and Vertical Circulation	3
ARCH 4013	Architecture Studio III	4
ARCH 4014	Architecture Studio IV	4
ARCH 4114	Architectural Cultures IV	3
ARCH 4224	Environmental Technology III: Codes and Technical Documentation	3
ARCH 4411	Design Cost Control	2
ARCH 5313	Professional Practice and Ethics	3
ARCH 5593	Thesis Prep	2
ARCH 5998F	Focus Studio	5
ARCH 5999R	Thesis[R3o12 aProfeDesign Found	
Electives		15

IMPORTANT: B. Arch Curriculum at SPSU continually corroborates with changes in the Design Profession. We strive to maintain high academic and professional standards in an effort to effectively prepare our students for competitive local and global markets. Any and all changes in the Curriculum become immediately in effect upon Architecture Faculty approval and supersede all previous versions of B. Arch Program Curriculum Matrix and
curriculum changes and meet any and all changes and requirements set in the most current version of the B. Arch Curriculum in an effort to successfully earn their professional degree in Architecture.

Minor In Architecture

Architecture Minor		
DFN 1001	Design Foundation I	4
DFN 1002	Design Foundation II	4
DFN 2003	Design Foundation III	4
DFN 2004	Design Foundation IV	4
DFN 1241	Design Communication I	2
DFN 2242	Design Communication II	2
DFN 2311	Env. Tech I: System Selection & Materials and Finishes	3
ARCH 2040	History & Culture of Architecture	3
ARCH 2050	Architectural Technology	3
	Total	29

	OR	3
ENGL 2030	Research in Professional and Critical Writing	

Area F Electives (6 credits; choose two)

ENGL 2xxx	Any 2000-level literature survey	3-6
COMM 2060	International Communication[1]	3
COMM 2150	Ethics and Communication	3
Any additional course in Math, Science, or Computer Science (with programming) elective[1]		3
Any foreign language, 2001 or higher		3

Basic Required Courses in the Major (15 hours)

ENGL 3030	English Grammar for Professional Writing	3
TCOM 4030	Foundations of Graphics	3
COMM 4100	Small Group Communication	3
ENGL 4160	Rhetoric: History, Theory, and Practice	3
TCOM 4800	Project Portfolio[2]	3

English and Professional Communication Electives	15
Take any 3000-level departmental course, or approved SIS, STS, or other electives[2]	
Free Electives	15
Concentration Courses (Professional Writing and Communication or Media, Communication and Culture) *or* Minor Courses (International Studies or Spanish)	15
Degree Program Total	120 credits

Concentrations:

Professional Writing and Communication		15 hours
COMM 3035	Organizational Communication	
ENGL 3621	Portfolio	

Biology

Offering the Bachelor of Science in Biology

Visit biology.spsu.edu for more information.

The Bachelor of Science (BS) degree provides students a program of study in modern biology with optional tracks in biochemistry and molecular biology, pre-professional studies, general biology, and bioinformatics.

The fast-moving disciplines of biology and physics are generating exciting careers, from medical scientist to genetic engineer and patent prosecution attorney. At Southern Polytechnic, you will learn in small classes and work in laboratories equipped with the newest scientific instrumentation. Faculty teach both labs and classes, including core courses offered both day and night. Bring a curious mind to our programs, and we'll help you develop a broad technical base for unlimited professional opportunities.

Balancing traditional studies with the growing emphasis on biotechnology, the Biology program gives students the knowledge and experience they need for advanced degrees or immediate employment. The general track offers the most diverse course work, and three others focus on particular interests: molecular/biochemistry, pre-professional, and bioinformatics. Students can also pursue independent research in our labs, which feature high-speed centrifuges, thermal cyclers, environmental chambers, and other modern research tools.

Today the pace of technological change doubles every 18 months, and key developments are occurring in molecular science. Collaborating on experiments will prepare you for team-based work, whether your dream job is safeguarding public health, analysis of DNA samples, or creating gene therapies for "incurable" diseases. Many of our students plan on medical school, but our program prepares you for many careers that blend science with business, law, pharmacy, and other professions.

Biology students in all tracks are strongly encouraged to avail themselves of SPSU's cooperative education or internship linkages with industry as an integral part of their educational experience.

Faculty:

Michael B. Beach, Ph.D., Associate Professor

Jennifer Louten, Ph.D., Assistant Professor

Peter Sakaris, Ph.D., Assistant Professor

Rajnish Singh, Ph.D., Assistant Professor

Mark Sugalski, Ph.D., Associate Professor

Veronica Allen, Laboratory Manager

Biology career options

Agribusiness expert

Conservation manager

Dentist

Dietitian

Drug design and developer

Environmental lawyer

High school teacher or university professor

Laboratory technician

Pharmacist

Physician

Physical or occupational therapist

Area C Group 2	Take One Course from the Art and Culture Group	3
Area E Group 1	American Context	3
Area E Group 2	World History	3
Area E Group 3	Behavioral Science	3
Area E Group 4	Cultures and Societies	3
CHEM 1211K	Principles of Chemistry I	4
CHEM 1212K	Principles of Chemistry II	4
CHEM 2511K	Organic Chemistry I	4
CHEM 2512K	Organic Chemistry II	4
PHYS 1111K	Introductory Physics I	4
PHYS 1112K	Introductory Physics II	4
BIOL 2107K	Biological Principles I	4
BIOL 2108K	Biological Principles II	4
BIOL 3000K	Genetics	4
BIOC 3111K	Biochemistry I	4
Track Requirement: Take one of the tracks described below.		38 hours
Degree Program Total		120

NOTE: PHYS 2211K and 2212K may be taken instead of PHYS 1111K and 1112K

Biochemistry & Molecular Biology Track Requirements

BIOL 3200K	Biotechnology	4
BIOL 3310K	Molecular Biology	4
BIOC 3112K	Biochemistry II	4
Free Electives		10 … 14
BIOL ELEC Above 2108K (Excluding Track Requirements)	At least 4 additional Biology Courses	12-16

Bioinformatics Tr ack Requirements

BIOL 3310K	Molecular Biology	4
BIOL 2100K	Bioinformatics Tools & Databases	4
BIOL 4510K	Bioinformatics II	4
CS 1301	Computer Science I	4
CS 1302	Computer Science II	4
CS 3153	Database Systems	3
Free Electives		3 … 6
BIOL ELEC BIOL above 2108K	At least 3 additional upper-level courses in	9 … 12

General Biology Track Requirements

BIOL 3300K	Ecology	4
BIOL ELEC	At Least 6 Biology Courses Above 2108K (Excluding Track requirements), with at least one course from each of the Cellular Form and Function group and the Organismal Form and Function group	20-24
Free Electives		10-14

OrgaC1( )w.i ts5(d) BIOLMicrobgy CourJ -9.0ET 1 g 6 T9.5797 6 43.86.00.32 re f/F3 0 0 8.52 39 26 T9.5( ) Tm -.000 Tc12 Tc [(E

BIOL 4440K	Botany	4
BIOL 4480	Evolution	3
Education Track Area F		6
Education Track		33 hours
Degree Program Total		121

NOTE: PHYS 2211K and 2212K may be taken instead of PHYS 1111K and 1112K

Biotechnology

Offering

Bachelor of Science in Biotechnology (Pending BOR approval)

Southern Polytechnic State University's proposed Bachelor of Science degree in biotechnology will provide students with a program of study in modern biotechnology principles and techiques. It was developed in response to needs articulated by state, county, and local agencies and industries for a high-tech biology work force.

BS in Biotechnology Degree Requirements

ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
TCOM 2010	Technical Writing	3
MATH 1113	Pre-calculus	4
MATH 2253	Calculus I	4
MATH 2260	Probability and Statistics	3
SPCH 2400	Public Speaking	2
STS 2400	Science, Technology, and Society	2
Area C Group 1	Take One Course from the Literature Group	3
Area C Group 2	Take One Course from the Art and Culture Group	3
Area E Group 1	American Context	3
Area E Group 2	World History	3
Area E Group 3	Behavioral Science	3
Area E Group 4	Cultures and Societies	3
PHYS 1211K	Introductory Physics I	4
PHYS 1212K	Introductory Physics II	4
CHEM 1211K	Principles of Chemistry I	4
CHEM 1212K	Principles of Chemistry II	4
CHEM 2511K	Organic Chemistry I	4
CHEM 2512K	Organic Chemistry II	4
BIOL 2107K	Biological Principles I	4
BIOL 2108K	Biological Principles II	4
BIOL 3000K	Genetics	4
BIOL 3100K	Microbiology	4
BIOL 4600K	Biotechnology	4
BIOL 3310K	Molecular Biology	4
BIOL 3400K	Cell Physiology	4
BIOL 4350K	Cell and Tissue Culture	4
BIOC 3111K	Biochemistry I	4
	SELECT 3 ELECTIVES FROM THE FOLLOWING LIST	9-11
BIOL 2500K	Bioinformatics Tools and Databases	4
BIOL 2800	Drug Development and Regulation	3
BIOL 4410K	Immunology	3
BIOL 4420K	Advanced Immunology	4
BIOL 4300	Virology	3
BIOL 4550	Cancer Biology	3
BIOC 4200	Medicinal Chemistry	3
BIOC 3112K	Biochemistry II	4
	Free Electives	7-9
	Total Degree Hours	120

NOTE: PHYS 2211K and 2212K may be substituted for PHYS 1211K and PHYS 1212K

*THIS DEGREE IS PENDING BOR APPROVAL

Business Administration

Offering:

- The Bachelor of Applied Science
- The Bachelor of Science in Accounting
- The Bachelor of Science in Business Administration
- The Masters of Business Administration *(See the graduate catalog)*

The baccalaureate programs in Business Administration prepare students for successful careers in management and marketing. Graduates of the program advance into supervisory and management positions in service and industrial enterprises.

The Bachelor of Applied Science degree is designed to cap designated associate degree programs. Admission to this program requires completion of an associate of applied science or associate of applied technology degree, in Management/Supervising or Marketing from an accredited school in the Technical College System of Georgia. The program covers the common professional component in Business Administration with additional courses to fulfill the requirements of Areas A through E of the core. This coursework will prepare a candidate for a supervisory role in business or industry.

The Bachelor of Science in Accounting

The Bachelor of Science in Business Administration program provides students with a strong foundation in the management of business and service enterprises. The program has a technology focus that prepares students for the changing business arena. The program has concentrations: Accounting, Management, Management Information Systems, and Marketing.

Note: Students enrolled in Business Administration degree programs are expected to maintain a "C" average (2.0 GPA) in their major.

The Faculty:

Donald Ariail, *Associate Professor, Accounting*
Zeynep Kelani, *Lecturer, Economics*
Amine Khayati , *Assistant Professor, Finance*
Joyce McGriff, *Assistant Professor, Marketing*
Mikhail Melnik, *Associate Professor, Economics*
Max M. North ,*Professor, Management Information System*
Muhammad A. Obeidat, *Professor, Operations & Technology Management*
Gregory Quinet, *Assistant Professor, Management*
Ronny Richardson, *Professor and Department Chair, Operations Management*
Shannon Shumate, *Lecturer, Accounting*
Robert Thacker, *Assistant Professor, Management*
Bor-Yi Tsay, *Assistant Professor, Accounting*
Sandra Vasa-Sideris, *Professor, Management*

Business Administration „ Bachelor of Applied Science Requirements

ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
MATH 1111	College Algebra	3
MATH 1113	Pre-Calculus	4
MATH 2240	Survey of Calculus	3
COMM 2400	Public Speaking	2
STS 2400	Science, Technology and Society	2
Area C1	Course in Literature	3
Area C2	Course in Art and Culture	3
Area D	Two courses inLaboratory Science	8
Area E1	American Perspective	3
Area E2	World History	3
Area E3	Course in Be	

Area 43
iion toStr

GNT231
GNT231
GNT231

G4T2314

IET 4405	Operations Research	3
MGNT 1000	Orientation	1
MGNT 2201	Business Computer Applications	3
MGNT 3105	Management and Organizational Behavior	3
MGNT 3125	Business Finance	3
MGNT 3135	Principles of Marketing	3
MGNT 3145	Legal Environment of Business	3
MGNT 3205	Management Information Systems	3
MGNT 4115	Human Resources Management	3
MGNT 4125	Technology and Public Issues	3
MGNT 4135	Project Management	3
MGNT 4145	International Management	3
MGNT 4151	Operations Management	3
MGNT 4595	Business Strategy	3
OPTIONS	Select one of the options below	
	1. Business concentration (four related courses) + 5 hours free electives	
	2. Any four Business electives + 5 hours free electives	
	3. Four directed electives (four related courses) + 5 hours free electives	
	4. Minor in another field (15-18 Hours) + enough free electives to total 17 hours	17
Degree Program Total		121 hours

Business Administration Options

Concentration, Business Electives, Directed Electives, or a Minor in Another Discipline

Students in the Bachelor of Science in Business Administration program may complete the remainin g 17 hours of credit by taking electives in a concentration (management, marketing, management of information system s), directed electives, or by completing a minor in another fi eld. At least three courses must be at the 3000-level or above.

Option 1: Concentration

Students may complete 12 hours (four courses) in Accounting, Management, Marketing, or MIS by7o4.r. MJ -1-4.4(o)1(a)Student(a)5(n/F2 37 7cti38i)-1.4(ves)]TJ 0 -1.4085rs) + enoug4.s81.ss1inist /61276.2(n)-1.718

Chemistry

Offering the

Bachelor of Science in Chemistry

Bachelor of Science in Chemistry with Teacher Education

Track leading to grades 6-12 certification

The Chemistry Program at Southern Polytechnic State University is part of the Department of Biology, Chemistry and Physics in the School of Arts and Sciences. The Bachelor of Science degree in Chemistry was approved by the Board of Regents in August, 2007. A minor in Chemistry is also offered. The Chemistry major offers three concentrations-General Chemistry and Materials Science, and a Teacher Education Track leading to certification.

		TOTAL 16

Spring Semester

CHEM 2512	Organic Chemistry II	4
CHEM 3100	Analytical Chemistry	5
PHYS 2212	Physics II	4
Free Elective		3
		TOTAL 16

Year 3

Fall Semester

BIOC 3111	Biochemistry I	4
CHEM	CHEM elective	4
area C2	Art & Culture	3
TCOM 2010	Technical Writing	3
		TOTAL 14

Spring Semester

CHEM 3300	Instrumental Analysis	4
CHEM	CHEM or BIOC elective	4
ENGL	Literature	3
Free Electives		4
		TOTAL 15

Year 4

Fall Semester

Civil Engineering

Offering the Bachelor of Science degree in Civil Engineering

Civil engineering is the oldest of the engineering disciplines and involves the planning, design, and construction of facilities essential to modern life.

Graduates can look forward to employment by construction companies; city and county engineering departments; state and federal transportation organi zations (such as the Georgia Department of Transportation); and civil engineering consulting and design firms. Graduates have the qualifications to enter careers in areas such as, but not limited to, transportation engineering, structural engineer ing, environmental engineering, geotechnical engineering, water resource engineering, and construction engineer ing. Typical job titles for graduates may include construction engineer, pr oject engineer, planner, project supervisor, consulting engi neer, and design engineer.

Civil Engineering requires rigorous training in basic engineering principles along with the developm ent of skills in the areas of planning and management of construction projects and the associated systems and resources. Graduates in the area of Civil Engineering will be required to master technical elements and to demonstrate particular competence in the areas of communication, fiscal management, and project control. The broad-based background is tailor ed to develop professionals who will be able to move between the technical and managerial aspects of civil engineering projects and to serve in key leadership positions within the en gineering profession.

Faculty:

Sung-Hee Kim, *Ph.D., P.E., Assistant Professor andProgram Director*
Samuel Beadles, *Professor*
Ilseok Oh, *Ph.D., Assistant Professor*
Wasim Barham, *Ph.D., Assistant Professor*
Metin Oguzmert, *Ph.D., Assistant Professor*
Mohammed. Karim, *Ph.D., Assistant Professor*

Civil Engineering - Bachelor of Science Requirements

CHEM 1211K	Principles of Chemistry I	4
CHEM 1212K	Principles of Chemistry II	4
ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
MATH 2253	Calculus I	4
MATH 2254	Calculus II	4
MATH 2306	D 0 8.58n0022 Tw [(Mo)6(r)5.2(t).7(,)]TJ 8.52(ddnalc8 0 0 1oquCalcrnl.f(7.3( )-3ion)7.s 8.52 100.5 278.7 Tm .( )-18.52 11Tw 54.9(1	

Civil Engineering Technology

Offering:

- The Bachelor of Science in Civil Engineering Technology
- The Bachelor of Science in Surveying and Mapping
- The Bachelor of Science in Environmental Engineering Technology (pending BOR approval)
- The Bachelor of Science in Structural Engineering Technology (pending BOR approval)
- Certificate in Geographical Information Systems (GIS)
- Certificate in Land Surveying

Accreditation

The B.S. Civil Engineering Technology program is accredited by the Technology Accreditation Commission of ABET, http://www.abet.org.

The B.S. Surveying and Mapping program is accredited by the Applied Science Accreditation Commission of ABET, http://www.abet.org.

The Faculty:
Lourdes Abellera, Assistant Professor
Daniel L. Branham, *Lecturer*
John M. Lee, Instructor
Mehrdad Mesbahi, *Associate Professor*
Fatih Oncul, *Assistant Professor*
Carlos A. Ortiz, *Professor*
Nancy J.Turner, *Lecturer*
Matthew M. Wilson, *Professor*
Timothy W. Zeigler, *Professor and Department Chair*

The Civil Engineering Technology Program

Structural electives prepare graduates for design, plan preparation, construction, and inspection of modern buildings and bridges and other structures. In their course work, students analyze and design structural members of steel, reinforced concrete and other engineering materials.

Surveying electives utilize state-of-the-art surveying equipment and are available in:

- Boundary
- Topographic
- Geodetic
- Route, and
- Construction surveying

Transportation electives prepare graduates to perform design and plan maintenance of all types of transportation facilities including streets, highways, mass transit systems, railroads, airfields, ports, harbors and pipelines.

Geotechnical electives prepare graduates to perform subsurface investigations, and field and laboratory tests; and design and analysis for civil engineering works such as foundations, dams, and tunnels.

Starting annual salaries have always been competitive. Co-op positions such as project management, field engineering, and computer-aided design can prepare you for work with consulting firms, state and local transportation departments, and companies that specialize in geotechnical engineering, structural engineering, environmental engineering, construction, and surveying.

Professional Registration

Professional Engineer: In Georgia and approximately 35 other states in the U.S., the BS-CET degree along with the appropriate number of years of experience, and the passage of two 8-hour examinations (FE and PE), qualifies a graduate to become a licensed Professional Engineer (PE). The FE exam can be taken while a senior enrolled in the CET curriculum.

Registered Land Surveyor: CET majors whose curriculum contains at least 6 elective hours of surveying course work meet the educational requirements to become licensed as a Registered Land Surveyor (RLS) in Georgia. In addition, they must obtain four years of acceptable experience and pass the FLS and PLS examinations.

B.S. Structural Engineering Technology (Pending BOR approval)

ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
COMM 2400	Public Speaking	2
STS 2400	Science, Technology, and Society	2
Area C Group 1	Take One Course from the Literature Group	3
Area C Group 2	Take One Course from the Art and Culture Group	3
Area D	CHEM 1211K and PHYS 2211K	8
Area E Group 1	American Context	3
Area E Group 2	World History	3
Area E Group 3	Behavioral Science	3
Area E Group 4	Cultures and Societies	3
MATH 1113	Pre-calculus (extra hour is applied to core related to major)	4
MATH 2253	Calculus I (extra hour is applied to core related to major)	4
MATH 2254	Calculus II	4

CET 3410	Soil Properties & Site Exploration	4
CET 4310	Stormwater Management & Erosion Control	3
CET 4320	Unit Operations in Environmental Engineering	4
CET 4330	Solid Waste Management	3
CET 4340	Air Pollution Control	3
CET 4110	Ethics of Engineering	1
CET 4120	Senior Project	3
SURV 2110	Introduction to Mapping	4
CM 4710	Construction Safety	4
Major Electives:	Take minimum of 6 hours from major electives listed below:	
MGNT 3105	Management & Organizational Behavior	3
MET 3400	Survey of Thermodynamics	3
SET 3240	Hydraulic Structures	3
ENV 4000K	Wetlands and Mitigation	4
BIOL 3300K	Ecology	4
CHEM 3150K	Environmental Chemistry	4
	DEGREE PROGRAM TOTAL HOURS	129

EvET students are required to earn a grade of "C" or better in all courses required in the major and all courses used as electives.

Land Surveying Certificate

The Land Surveying Certificate program is designed to prepare surveyors with the basic education necessary to take the Fundamentals of Land Surveying Exam and exceeds the State of Georgia academic registration requirements to become a Registered Land Surveyor. There are six courses required in the certificate program.

Required Courses (22 - hours)

Mapping are taught the principles and techniques of field measurements and adjustments, boundary, topographic, geodetic, route and construction surveys.

Students apply classroom knowledge in laboratory exercises with modern surveying equipment, including electronic total stations, robotic instrumentation, Global Positioning System (GPS) satellite receivers, and optical alignment devices. Mapping topics include Geographic Information Systems (GIS), photogrammetry and remote sensing.

In laboratories, students develop maps from field measurements, design and layout construction projects, plan subdivision developments and establish horizontal and vertical control using satellite geodesy. Computer analysis is used extensively in reducing data, planning field layouts, plotting boundaries, drawing (CAD) plats and map production.

Students also study topics from the Civil Engineering Technology program including elementary structures, fluid mechanics, hydrology and the design and construction of highways. Courses in mathematics, business principles and core requirements provide the student added depth.

With focused, laboratory-based classes, students develop the critical thinking needed to work in this field. Using a variety of tools „ GPS receivers, electronic distance meters, laser total stations, and data collection equipment to name a few „ students become adept at creating maps from field measurements, designing and laying out construction projects, and planning subdivision developments. Field exercises, which take place right on campus, help prepare you to work in the private sector, government and utilities, or engineering practices.

Starting annual salaries have always been competitive. Approximately 75% of our graduates begin their careers in subdivision and boundary surveying, and eventually two-thirds of them own their own businesses.

Professional Registration

Registered Land Surveyor: Surveying and Mapping majors exceed the educational requirements to become licensed as a Registered Land Surveyor (RLS) in Georgia. In addition, they must obtain

Four-years of acceptable experience and pass the FLS and PLS examinations.

Surveying and Mapping „ Bachelor of Science Requirements

ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
TCOM 2010	Technical Writing	3
COMM 2400	Public Speaking	2
STS 2400	Science, Technology, and Society	2
Area C Group 1	Take One Course From the Literature Group	3
Area C Group 2	Take One Course From the Art and Culture Group	3
MATH 1113	Pre-calculus (extra hour is applied to area F)	4
MATH 2253	Calculus I (extra hour is applied to major courses)	4
MATH 2254	Calculus II	4
MATH 2260	Probability and Statistics I	3
Math Elective		3

Computer Game Design and Development

Offering:

- The Bachelor of Science in Computer Game Design and Development
- The Minor in Computer Game Design and Development

Why study Computer Game Design and Development at SPSU?

The Bachelors of Science in Computer Game Design and Development equips students and graduates with the skills and knowledge to apply computing and software engineering techniques to the design and production of digital media for entertainment, research, and education. As a specialization within the field of computing, game design and development builds on and applies expertise in computing hardware and software to create engaging and immersive multimedia systems.

About the program

The program exposes students to the breadth of the field in the areas of digital media, human-computer interaction, the history and theory of gaming, game design, 2D and 3D graphics, simulation, modeling, software engineering, artificial intelligence, data structures, and algorithms. Current and emerging domains including online games (and massively multiplayer games or MMOG), casual games, mobile games, and serious/educational games are explored. Students are also required to select an upper-level concentration within the program to ensure depth in their program of study. While these concentrations will change as the field evolves, current offerings include media-production, distributed-mobile, education-serious, planning-management, and simulation-informatics.

One of the more innovative aspects of the program is the inclusion of a significant studio experience for students in their senior year. This two-course sequence provides an opportunity for students to be mentored by faculty and their peers in the first semester and in

Create a strong community of students and alumni

- € Offer an annual computer game design competition sponsored by SPSU and industrial partners
- € Develop an online digital portfolio that showcases the work of students, alumni, and faculty
- € Host and sponsor events in which students, alumni, and industrial partners connect and build relationships

Serve the community and industry

- € Partner with local industrial and non-profit partners through student team projects and consulting
- € Educate students to provide intellectual capital and leadership to advance the fields of game design and development and related industries

Computer Game Design and Development - Bachelor of Science Requirements

Students must earn a C or better in all the major courses (CSE, CS, SWE, and CGDD).

ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
MATH 2253	Calculus I	4
MATH 2254	Calculus II	4
MATH 2345	Discrete Math	3
MATH 2260	Probability and Statistics I	3
COMM 2400	Public Speaking	2
STS 2400	Science, Technology, and Society	2
Area C Group 1	Take One Course From the Literature Group	3
Area C Group 2	Take One Course From the Art and Culture Group	3
Area D	See your advisor before you select science courses	8
Area E Group 1	American Context	3
Area E Group 2	World History	3
Area E Group 3	Behavioral Science	3
Area E Group 4	Cultures and Societies	3
CSE 1301	Programming & Problem Solving I	4
CSE 1302	Programming & Problem Solving II	4
CSE 2642	Professional Practices and Ethics	2
CS3224	Computer Organization and Architecture	4
CS 3424	Data Structures	4
CS4253	Artificial Intelligence	3
CS4363	Computer Graphics and Multimedia	3
SWE2313	Introduction to Software Engineering	3
SWE3643	Software Testing and Quality Assurance	3
SWE4324	User-Centered Design	4
CGDD2002	Fundamentals of Game Design	2
CGDD3103	Application Extensions and Scripting	3
CGDD4003	Digital Media and Interaction	3
CGDD4203	Mobile and Casual Game Development	3
CGDD4303	Educational and Serious Game Design	3
CGDD4803	Studio	3
CGDD4814	Capstone	4
Upper-level Concentration (see below for options or as approved)		9
Free Electives		6
Degree Program Total		120

Students are strongly recommended to take at least one Physics course for their Area D because some later courses in this program (in particular the CGDD4113 and CGDD4603) may rely upon Physics. Students who are interested in the Simulation-Informatics concentration (see below) may find Biology or Chemistry beneficial instead of Physics.

BS CGDD Upper-level Concentration

While the required courses in the degree ensure students are exposed to the breadth of the field of computer game design and development, it is also imperative that students are given flexibility to customize their experience and apply the knowledge gained in their required courses. To this end, the degree requires students select a concentration in which they may gain a depth of knowledge within their chosen area.

The following are suggested concentrations, but students may select a customized plan of study and set of courses under with their advisor•s approval.

Media-Production	MATH2255 … Calculus 3 CGDD4113 … 3D Modeling and Animation CGDD4603 … Production Pipeline and Rendering
Distributed-Mobile	SWE3683 … Embedded Systems Analysis & Design CS4253 … Distributed Computing CS4263 … Computer Networks
Educational-Serious	6 hours of approved TCOM courses CGDD4313 … Designing Online Learning Content and Environments
Planning-Management (pick 3 of 4)	MGNT3105 … Management and Organizational Behavior MGNT4185 … Technology Management SWE3623 … Software Systems Requirements SWE4663 … Software Project Management
Simulation-Informatics	CS3153 … Database Systems CS4253 … Distributed Computing CGDD4703 … Data Modeling and Simulation

BS CGDD Program Objectives

Meet the educational needs of students and prepare them for careers within the discipline

Expand the visibility of SPSU and the University System of Georgia (USG) in the field of game design and development

Create a strong community of students and alumni

Serve the community and industry

BS CGDD Learning Outcomes

Upon graduation, students will be able to:

- Decompose and solve complex problems through artifacts of computing such as hardware, so

There is also a five-year BSCS-MSSWE option for qualifying students.

This program is likely to be of great interest to those who pursue the BSCS program and are interested in entering the job market with a high degree of preparedness. On top of a strong CS foundation, graduates from this combined program will be trained in software project management, an in-depth understanding of requirements, design, testing, support, metrics, etc. and the processes of software development and management (if they choose MSSWE), or with advanced course work in the dynamic field of computer science (if they choose MSCS). Students can start taking MS core graduate classes right away, even before graduating with the BSCS. Specifically, while still working on the BSCS, students can take two graduate courses applicable to the target MS program as electives in their BSCS degree, and the courses also count towards the MS program. Students will be able to complete the MS program by taking only 10 more graduate courses in an additional year.

Computer Science „ Bachelor of Science Requirements

BSCS Program Educational Objectives (PEOs)

The Bachelor of Science in Computer Science prepares our graduates to reach the following goals 3 to 5 years beyond graduation:

- Computer Science graduates will be successful professionals in the field with solid fundamental knowledge of computer science, making valuable technical contributions to the design, development, and production of computing systems and related areas.
- Graduates utilize and exhibit strong communication and interpersonal skills, as well as professional and ethical principles when functioning as members and leaders of multi-disciplinary teams.
- Graduates are sufficiently prepared for their first and subsequent positions, as they are independent learners, including being accepted into or completing advanced degree programs.

BSCS Student Outcomes (SOs)

Each graduate of the program should be able to:

- Convey the understanding of, and ability to solve, problems through artifacts of computing

top of a strong CS foundation, graduates from this combined program will be trained in soft ware project management, an in-depth understanding of requir ements, design, testing, support, metrics, etc. and the processes of software development and management. Students can start taking MSSWE core graduate classes right away, even before graduating with the BSCS. Specifically, while still working on the BSCS, students can take two graduate courses applicable to the MSSWE program as electives in their BSCS degree, and the courses also count towards the MSSWE program. Students will be able to complete the MSSWE program by taking only10 more graduate courses in an additional year.

Specific features of the combined 5-year BSCS+MS program include:

1. A waiver of all MSSWE orMSCS prerequisites with careful advisement and planning.
2. The ability to take and count two approved graduate courses … toward target MS program, taken as upper level electives in BSCS.
3. Taking the remaining ten gr aduate courses toward the MSSWE program during a 12-month period, including a summer. A third graduate course can be taken as an undergraduate that counts so

Computer Science Minor

To be eligible for a minor in Computer Science, the student must complete the following courses with a grade of "C" or better. Students must have at least 9 upper level CS hours.

NOTE: CS 3424 requires MATH 2345 Discrete Math as a pre-requisite.

Minor in CS Program Objectives

- Provide students with computing knowledge that can be applied in their major area of study.
- To provide students with fundamental programming skills.

Minor in CS Learning Outcomes

- Demonstrate programming skills in 2 different programming languages.
- Demonstrate knowledge of at least one additional area of computing.

Minor in Computer Science

CSE 1301	Programming & Problem Solving I	4
CSE 1302	Programming & Problem Solving II	4
CS 3424	Data Structures	4
Two additional upper-level CS courses		6+

Computer Science Certificate Programs

Certificate in Programming

The Professional Certificate in Programming prepares students with post-secondary education or several years of work experience to enter the Computer Programming field as a career change. The focus is on obtaining programming skills and database and web-based applications development skills. All classes must be passed with a "C" or better.

Programming Certificate Program Objectives

- Provide students with ability to transition into the computing profession.
- To provide students with fundamental programming skills.
- To provide students exposure to implementing computer applications.

Programming Certificate Learning Outcomes

- Demonstrate proficient programming skills.
- Demonstrate knowledge of databases and applications using databases.
- Demonstrate knowledge of application web programming.

Certificate in Programming Requirements

CSE 1301	Programming & Problem Solving I	4
CSE 1302	Programming & Problem Solving II	4
CS 3153	Database Systems	3
IT 3203	Introduction to Web Development	3

And one of the following:

SWE 2313	Introduction to Software Engineering	3
CS 3424*	Data Structures	4
IT 4203	Advanced Web Development	3
Total:		17 - 18 hours

**NOTE: CS 3424 has a pre-requisite of MATH 2345 Discrete Mathematics.*

Computer Science Graduate

CS 5123	Advanced Programming and Data Structures
CS 5153	Database Systems
CS 5183	Object-Oriented Programming
CS 5223	Computer Architecture
CS 5243	Operating Systems
CS 5423	Mathematical Structures for Computer Science
CS 6023	Research Methods and Presentations
CS 6103	Discrete -Time Signals and Systems
CS 6123	Theory and Implementation of Programming Languages
CS 6143	Enterprise Application2p

The Construction Engineering degree requires a grade of "C" or better in all CE, SURV, ENGR and CM courses applied to degree requirements.

Construction Management

Offering:

The Bachelor of Science in Construction Management
The Masters of Science in Construction Management
Professional Certificate in Project Management
Professional Certificate in Land Development
Professional Certificate in Specialty Construction
Professional Certificate in Facilities Management
Professional Certificate in Highway Project Management
On- Line Professional Certificate in Specialty Construction
Minor in Construction Management

M4 +T=Success

To succeed, construction professionals must manage money, materials, manpower, machinery, and time as effectively as possible. At Southern Polytechnic, students master these skills in a degree program that makes the most of their schedules and budgets.

The BS Construction Management degree program was first accredited by the American Council of Construction Education (ACCE) in February 1992. Accreditation was renewed in February 1997, February 2003, and February 2009. We are accredited to February 2016. As Georgia's senior accredited Construction Management degree program, we cover a broad range of topics, offer morning, afternoon and evening courses, and use flexible formats. Hands-on learning and our solid reputation make our graduates market-ready for one of the nation's largest industries and one of the region's highest growth professions. In the Southeast, the drive for growth has led construction firms to branch out into new market segments by focusing on the education, health care, water, waste, and transportation markets. To compete in this booming industry, aspiring construction professionals increasingly turn to Southern Polytechnic's Bachelor and Masters of Construction Management to develop the business skills needed to complete projects on time and within budget.

What is Construction Management?

Key construction management skills include scheduling, estimating and project management. These skills are utilized during the planning, design and construction of projects from inception to completion and work to control cost, time and quality, based on given drawings and specifications.

€ Facilities Management - focuses on the repair, maintenance, refurbishment and upgrade of existing facilities

Upon graduation most students pursue careers with construction firms.

Typical entry-level positions include:

Project engineer
Safety engineer
Assistant superintendent
Assistant project manager
Scheduling engineer
Assistant cost engineer
Quality control engineer
Assistant estimator

Opportunities are not limited to these areas, however, as many graduates start their careers with equipment or material suppliers, development firms, specialty contractors, lenders, or owners.

The demand for constructors in Georgia, and particularly in the Atlanta region, is so great that

CM 4900	Capstone Project	3

Other Major Requirements:

MGNT 3105	Management and Organizational Behavior	3
ECON 1101	Introduction to Economic (if needed)	3
PHYS 1111K	Introductory Physics I (if needed)	4

Concentration … Choose One Concentration From Below 21

General Concentration

CM 3210	Applied Structures I	4
CM 3260	Applied Structures II	3
CM 3420	Construction Estimating and Bid Preparation	4
CM 3620	Construction Finance and Feasibility	4
CM 4560	Construction Project Management	3
CM 4800	Construction Management Technique	3

Elective Courses: (3 semester required hours)

CM 3420	Construction Estimating and Bid Preparation	4
CM 4710	Construction Safety	4
CM 3260	Applied Structures II	3

Electrical and Computer Engineering Technology

Offering:

- The Bachelor of Science in Electrical Engineering Technology
- The Bachelor of Science in Computer Engineering Technology
- The Bachelor of Science in Telecommunications Engineering Technology

Accreditation

The Bachelor of Science degree programs in Electrical Engineering Technology, Computer Engineering Technology, and Telecommunications Engineering Technology are accredited by the Technology Accreditation Committee (TAC) of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202 (www.ABET.org).

MATH 2254	Calculus II	4
MATH 2306	Ordinary Differential Equations	3
MATH 2335	Numerical Methods I	3
PHYS 2211	Principles of Physics I	4
PHYS 2212	Principles of Physics II	4
COMM 2400	Public Speaking	2
STS 2400	Science, Technology, and Society	2
TCOM 2010	Technical Writing	3
Area C Group 1	Take One Course From the Literature Group	3
Area C Group 2	Take One Course From the Art and Culture Group	3
Area E Group 1	American Context	3
Area E Group 2	World History	3
Area E Group 3	Behavioral Science	3
Area E Group 4	Cultures and Societies	3
ECET 1000	Orientation	2
ECET 1011	Fundamentals	3
ECET 1100	Circuits I	4
ECET 1200	Digital I	4
ECET 2110	Circuits II	4
ECET 2300	Electronics I	4
ECET 2210	Digital II	4
ECET 2310	Electronics II	4
ECET 3220	Digital III	4
ECET 3400	Data Communications	4
ECET 3600	Test Engineering	4
ECET 3410	High Frequency Systems	4
ECET 3701	Embedded PC's	4
ECET 3810	Applications of C++, JAVA and HTML	3
ECET 4610	Control Systems	4
EDG 1210	Survey of Engineering Graphics	2
CpET Electives		15
Degree Program Total		130

NOTE: CpET majors are required to earn a "C" or better in their ECET courses, except one "D" in a 3000 or 4000 level non-prerequisite course may be used for graduation purposes. A grade of "C" or better is required in the project-based capstone course.

Telecommunications Engineering Technology

(Bachelor of Science Degree Offered)

The ever-increasing popularity of the Internet combined with significant advances in communications software and hardware

Area C Group 1	Take One Course From the Literature Group	3
Area C Group 2	Take One Course From the Art and Culture Group	3
Area E Group 1	American Context	3
Area E Group 2	World History	3
Area E Group 3	Behavioral Science	3
Area E Group 4	Cultures and Societies	3
ECET 1000	Orientation	2
ECET 1011	Fundamentals	3
ECET 1100	Circuits I	4
ECET 1200	Digital I	4
ECET 2110	Circuits II	4
ECET 2300	Electronics I	4
ECET 2210	Digital II	4
ECET 2310	Electronics II	4
ECET 3400	Data Communications	4
ECET 3410	High Frequency Systems	4
ECET 3810	Applications of C++, JAVA and HTML	3
ECET 4820	Communications Networks and the Internet	4

Electrical Engineering

Offering the Bachelor of Science degree in Electrical Engineering

The Electrical Engineering program is part of the Division of Engineering at Southern Polytechnic State University. Electrical engineering is arguably the largest discipline of engineering. It focuses on the application of the principles of electricity and its use with electrical devices and systems. In this energy conscious world, a thorough understanding of energy and its uses is

Engineering

Offering:

- Bachelor of Science Degrees
- Master of Science Degrees

Southern Polytechnic State University offers a variety of engineering programs, including Civil Engineering, Construction Engineering, Electrical Engineering, Mechanical Engineering,

English

Offering:

The Bachelor of Arts in English and Professional Communication

Our Bachelor of Arts in English and Professional Communication degree is not your typical B.A. in English. Our program emphasizes the role and place of text and image within a world increasingly dependent upon clear communication. Our project-driven courses challe nge students to implement real-world applications in nearly every class. Specialized course-work and individual attention allow graduates to begin work immediately, satisfying the demand for professionals who can communicate technical, international, scientific, and computer-related information to both technical and non-technical users.

The required communication cour ses equip students with the most advanced communication skills in writing, editing, graphics, information design and collaboration. In addition, students study classical rhetoric, deve lop high-level computer skills, and produce a portfolio that demonstrates th eir communication proficiency to potential employers. Our literature courses help students understand the diversity of genr es, cultures, and authors that contribute to literary production . With offerings in journalism, creative writing, science writing, and environmental writing, our Professional Writing and Communi cation concentration prepares students for careers in media writing, freelance writing, marketing, public relations, and publishing Our new concentration in Media, Communication, and Culture combines hands-on production courses with a study of media and culture to prepare students for careers in mark eting, mass communication, and entertainment, where media savvy can really pay off.

The Faculty:

Kami Anderson, *Assistant Professor*
Carol Barnum, *Professor*
Terry Carter, *Associate Professor*
Jeff Greene, *Assistant Professor*
Kim Haimes-Korn, *Professor*
Keith B. Hopper, *Associate Professor*
John Lindsay, *Instructor*
Monique Logan, *Instructor*
Matthew McCool, *Assistant Professor*
Mark Nunes, *Associate Professor and Department Chair*
Betty Oliver, *Professor*
Iraj Omidvar, *Assistant Professor*
Jeffrey Orr, *Instructor*

ENGL 2030	Research in Professional and Critical Writing	

Area F Electives (6 credits; choose two)

ARTS 2020	History and Principles of Design	3
ENGL 2xxx	Any 2000-level literature survey	3-6
Comm 2170	Intro to Media Studies	3
COMM 2060	International Communication[1]	3
COMM 2150	Ethics and Communication	3
Other coursework appropriate to major, as approved by the department (3 credits max)		3
Any foreign language, 2001 or higher		3

Basic Required Courses in the Major (15 hours)

ENGL 3030	English Grammar for Professional Writing	3
TCOM 3430	Foundations of Graphics	3
COMM 4100	Small Group Communication	3
ENGL 3100	Rhetoric: History, Theory, and Practice	3
TCOM 4800	Project Portfolio[2]	3

English and Professional Communication Electives 15

Take any 3000-level or higher ARTS, COMM, ENGL, or TCOM Course, or

other courses (not to exceed 6 credits) as approved by the department.

Additional Coursework from Amon gst the Following (12 credits)

COMM 3035	Organizational Communication	3
COMM 3040	Health Communication	3
COMM 3050	Journalism	3
ENGL 3010	Science Writing	3
ENGL 3015	Environmental Writing	3
ENGL 3020	Proposal Writing	3
ENGL 3025	Creative Writing Workshop	3
ENGL 3040	Article and Essay Workshop	3
ENGL 4010	Publishing for New Media	3
TCOM 4000	Professional Editing	3

Students majoring in Business Administration are required to take COMM 2000 as part of their existing program of study. TCOM 2010 will serve as a blanket substitution for COMM 2000 for Business Administration students interested in Professional Writing minor.

Environmental Science

Southern Polytechnic State University's proposed Bachelor of Science degree in Environmental Science will provide students a program of study in Environmental Science with optional tracks in Environmental Chemistry and Environmental Biology. Students completing this program will be pr epared for positions in federal and state agencies, industry, or graduate and advanced professional programs in the en vironmental sciences. Graduates will be education in assessment and regulation of environmental pollution, sustainable management and conservation of wildlife and natural resources, and conducting environmental research. SPSU's BS degree program in Environmental Science will produce graduates that can address growing environmental needs and challenges within metro Atlanta and throughout the state of Georgia.

BS Requirements Environmental Science

ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
TCOM 2010	Technical Writing	3
MATH 1113	Pre-calculus	4
MATH 2253	Calculus I	4
MATH 2260	Probability and Statistics	3
SPCH 2400	Public Speaking	2
STS 2400	Science, Technology, and Society	2
Area C Group 1	Take One Course from the Literature Group	3
Area C Group 2	Take One Course from the Art and Culture Group	3
Area E Group 1	American Context	3
Area E Group 2	World History	3
Area E Group 3	Behavioral Science	3
Area E Group 4	Cultures and Societies	3
ENV 2100K	Introduction to Environmental Science	4
BIOL 3300K	Ecology	4
CHEM 2511K	Organic Chemistry I	4
CHEM 2512K	Organic Chemistry II	4
PHYS 1111K	Introductory Physics I	4
PHYS 1112K	Introductory Physics II	4
BIOL 2107K	Biological Principles I	4
BIOL 2108K	Biological Principles II	4
ENV 2200K	Geology	4
POLS 3401	Enviornmental Law and Policy	3
STS 4300	Enviornmental Ethics	3
ENV 3000	Environmental Science Seminar	1
Track Requirement: Take one of the tracks described below.		35 hours
Degree Program Total		120

BIOL 3600	Freshwater Biology	3
BIOL 3700K	Ichthyology	4
ENV 3350	Oceanography	4
STS 4200	History of Environmentalism	3
BIOL 4470	Plant Physiology	3
BIOL 4420K	Animal PHysiology	4
BIOL 3500	Biostatistics	3
ENV 4500	Environmental Science Internship	3
	Free Electives	0-1

This Degree is pending Board of Regents approval.

General Studies

Offering:

The Associate of Science Transfer Degree

General Studies Transfer Program

The Associate of Science General Studies Transfer Program is designed for students who wish to complete the core at SPSU and then transfer to another institution.

Associate of Science General Studies Transfer Degree

COMM 2400	Public Speaking	2
ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
MATH 1111	College Algebra	3
MATH 1113	Pre-Calculus	4
STS 2400	Science, Technology, and Society	2
Area C Group 1	Take One Co	

History

Offering:

Bachelor of Science in International Studies

Concentration in History

The Bachelor of Science in International Studies

Concentration in History of Science and Technology

The Faculty:

HIST 3601	History of the Pacific Rim
HIST 390x, 490x	Special Topics with topic-specific departmental approval
POLS 2903, 4903	Special Topics with topic-specific departmental approval
POLS 3301	Modern Political Theory
POLS 3601	Contemporary World Politics
POLS 4101	Political Economy of Post-Communist Transformation
POLS 4201	International Relations of the Americas
PSYC 2903, 4903	Special Topics with topic-specific departmental approval
PSYC 4000	International y -.00A hologTJ 0 -2.0704 TD -.0012 Tc3-.0014 Tw [(witRELG 12-4183. TDio)d Politioig of t 0 -2T*01 Tc -.0015 Tw [(I Tw ( )Tj-10dies 8.52268 -1.4084 TD5-.0012 Tc -.0013 Tw [(POLSSISx)-9183514dcmultiple coursesJ 9.1268 -1.2887 TD -.0002 Tc6

Degree Program Total	120

Industrial Engineering Technology

Bachelor of Science in Industrial Engineering Technology

Who manages the flow of people at theme parks or airports? Decides what kind of training employees need before they work with new equipment? Explains to accountants why the cost of a facility upgrade has changed? Determines where to add people or machinery for maximum impact? If you like to be at the center of the action, designing creative solutions that make business and industry work safer, faster, and leaner, the career for you is industrial engineering technology.

- € An ability to apply creativity in the design of industrial systems and processes.
- € An ability to function effectively on multidisciplinary teams.
- € An ability to identify, formulat e and solve technical problems related to industrial engineering.
- € An ability to communicate effectively.
- € An ability to engage in and recognize the need for lifelong learning.
- € An ability to understand, prof essional, ethical and social responsibilities.
- € Respect for diversity and issues of social and global nature.
- € A commitment to quality, timeliness and continuous improvement.
- € An ability to integrate indust rial systems using engineering methods.

The B.S. in Industrial Engineering Technology program is accredited by the Technology Accreditation Commission (TAC) of ABET. Further information regarding the accreditation board may be found at abet.org.

The Faculty:
Robert W. Atkins Professor
Thomas R. Ball Department Chair
David C. Caudill Professor and Associate VPAA
E. Lester Dollar, III Associate Professor
Ruston M. Hunt Professor and Dean of Extended University
Kenneth W. Jackson Associate Professor
Colleen Phillips Assistant Professor
Christina R. Scherrer Associate Professor
Gregory Wiles Assistant Professor

BS in Industrial Engineering Technology Requirements

Area A			
ENGL 1101	Composition I		3
ENGL 1102	Composition II		3
MATH 1113	Pre-calculus		4
Area B			
COMM 2400	Public Speaking		2
STS 2400	Science, Technology & Society		2
Area C			
Group 1	Literature of the World		3
Group 2	Art and Culture of the World		3
Area D			
Sciences	Lab Science *	Note 1	8
Math	Calculus I		4
Area E			
Group 1	American Context		3
Group 2	World History		3
Group 3	Behavioral Science		3
Group 4	Cultures and Societies		3
Area F			
CHEM 1211K	Principles of Chemistry I *	Note 2	4
TCOM 2010	Technical Writing		3
IT 1113	Programming Principles		3
EDG 1210	Survey of Engineering Graphics		2
IET 2305	Principles of Industrial Systems		4
Major Courses			
ACCT 2101	Accounting I		3
IET 1000	Orientation		2
IET 2227	Introduction to Statistics		3
IET 2449	Logistics Planning & Control		3
IET 3322	Work Measurement and Ergonomics		4

Required Courses

IET 2227	Introduction to Statistics	3
IET 2449	Logistics Planning & Control	3
IET 3320	Advanced Logistics	3
IET 3511	Sustainability Engineering	3
IET 4405	Operations Research	3
MGNT 4115	Human Resource Management	3
MGNT 4151	Production and Operations Management	3
Total		21

Concentration in Quality Principles

The primary objective of the Concentration in Quality Principles is to provide training and education to students interested in quality system principles, methodology, elements and standards.

Industrial Engineering Technology Department Certificate in Logistics

The primary objective of the Certificate in Logistics is to provide training and education to members of the Supply Chain industry that need to improve skills and knowledge in the latest technology available in their field. Students can complete the requirements in 4-6 semesters. The courses may also be applied toward completing a B. S. degree in Industrial Engineering Technology. The program will be offered on campus, through distance learning, and over the Internet.

Admission Requirements:

Applicants must have earned a

Information Technology

Offering:

- Bachelor of Science in Information Technology

Management Track

MGNT 4185	Technical Management	3
MGNT 4151	Production and Operations Management	3
SWE 4664	Software Project Management	
	OR	3
MGNT 4135	Project Management	
MGNT 3105	Management & Org. Behavior	3

Systems & Administration Track

IT 4203	Adv Web Development	3

Concentration/Electives - 18 hours

€ WBIT 4601 Customer Relationship Management
€ WBIT 4602 IT Strategy, Design, and Development
€ WBIT 4610 IT Policy and Law
Free Electives (not within the WebBSIT) - 9 hours

Information Technology Minor

To be eligible for a minor in Information Technology, the student must complete 18 credit hours of the following courses with a grade of "C" or better:

Information Technology Minor Requirements

CSE 1301	Programming and Problem Solving I	4
IT 1324	Advanced Programming Principles OR CSE 1302 - Programming & Problem Solving 2	4
IT 3123	Hardware/Software Concepts OR CS 3224 - Computer Organization & Architecture	3 or 4
IT 3203	Introduction to Web Development OR CS 3153 - Database Systems	3

And one of the Following:

IT 4123	Electronic Commerce	3
IT 4323	Data Communications & Networks	3
IT 4823	Information Security Administration	3

International Studies

Offering:

Bachelor of Science in International Studies

The Faculty:

Richard Bennett, *Associate Professor and Director of International Programs*
Albert Churella, *Associate Professor*
J. LaJuana Cochrane, *Associate Professor and Psychology Coordinator*
Jamye Hickman, *Assistant Professor*
Marianne Holdzkom, *Assistant Professor*
Julie Newell, *Professor and Chair of Department*
Thomas J. Nisley, *Assistant Professor*
Bernice Nuhfer-Halten, *Professor and Language Coordinator*
Thomas E. Rotnem, *Professor, International Studies Coordinator, and Political Science Coordinator*
William Skutans, *Lecturer*
Roger Soiset, *Lecturer*
Carl Snook, *Assistant Professor*
Mark D. Vickrey, *Senior Lecturer*

By offering an International Studies degree with concentrations in areas of technology or applied liberal arts, SPSU seeks to produce graduates who not only understand the political and economic processes of globalization, but also possess technological skills

POLS 2903, 4903	Special Topics with topic-specific departmental approval	x
POLS 3301	Modern Political Theory	
POLS 3601	Contemporary World Politics	
POLS 4101	Political Economy of Post-Communist Transformation	
POLS 4201	International Relations of the Americas	
PSYC 2903, 4903	Special Topics with topic-specific departmental approval	x
PSYC 4000	International Psychology	
RELG 1200	World Religions	
SIS 390x	Special Topics in International Studies	
SIS 400x	Regional Studies (multiple courses on different regions may be taken)	
SIS 4600	Global Technology Internship	
SPAN 300x, 400x	Spanish (or other language at similar level)	
STS 4400	Topical Studies in Science and Technology	
Concentration		14-19

International Studies majors are required to complete a concentration.

Free Electives	variable
Degree Program Total	120

International Studies Concentration Options

Students majoring in International Studies must complete one of the following areas of Concentration:

Biology	15-16
Civil Engineering Technology	17
Computing	19
Construction	14
Electrical Engineering Technology	16
History	15

HIST 3301	Diplomatic and Milita ry History Since 1815
HIST 3401	Social and Cultural History During the 20th Century
HIST 3501	Colonization and Rebellion in the Trans-Atlantic World
HIST 3601	History of the Pacific Rim
HIST 3801	Contemporary World History Since 1945
HIST 3903, 4903	Special Topics, with topic-specific departmental approval
MGNT 4145	International Management
POLS 2401	Global Issues
POLS 2801	Comparative Politics
POLS 2903, 3903	Special Topics, with topic-specific departmental approval
POLS 3101	International Political Economy
POLS 3301	Modern Political Theory
POLS 3601	Contemporary World Politics
POLS 4101	Political Economy of Post-Communist Transformation
POLS 4201	International Relation s of the Americas
PSYC 2903, 4903	Special Topics, with topic-specific departmental approval
PSYC 3101	International Social Psychology
PSYC 4000	International Psychology
RELG 1200	World Religion
SIS 3600	Comparative Culture
SIS 3903	Special Topics in International Studies
SIS 400x	Regional Studies (must be different from course used to satisfy 1.)
SIS 4100	Cross-National Technology Policy Analysis
SPAN 300x, 4000x	Any upper division Spanish course; two courses maximum
STS 4000	International Issues in Science and Technology
STS 4400	Topical Studies in Science and Technology
STS 4800	Global Technology Seminar

3. Demonstrate proficiency

Mathematics

Offering:

- Bachelor of Science in Mathematics
- Bachelor of Arts in Mathematics with Teacher Education

Track leading to certification

A Bachelor of Science in Mathematics encompasses the breadth of

	Mathematics	
MATH 3312	Linear Algebra	4
MATH 3320	Introductory Real Analysis I	4
MATH 3321	Introductory Real Analysis II	4
MATH 4407	Vector Analysis	3
MATH 4440	Abstract Algebra	4
MATH 4451	Capstone Mathematics Project	3
Mathematics Electives		9 hours

Any mathematics course numbered 2300 or above, excluding those for which dual credit is not allowed.

Guided Electives

Mechanical Engineering

Offering the Bachelor of Science degree in Mechanical Engineering

Mechanical engineering is one of the largest disciplines of engineering because it is one of the broadest. It focuses on the application of the principles of mechanics and materials to design machines and devices. In this energy conscious world, a thorough understanding of energy and its uses is essential to the success of a mechanical engineer.

Mechanical engineers help to design energy efficient devices such as wind-turbines as well as artificial knee joints that help society.

Graduates have the qualifications to enter graduate school, become a licensed professional engineer in any state after sufficient work experience, or directly enter careers in areas such as, but not limited to, manufacturing, aerospace industry, power generation and distribution, automotive design, machine design, alternative energy, robotics, and automation. Typical job titles for graduates may include design engineer, project engineer, process engineer, test engineer, development engineer, program manager, consulting engineer, and field engineer.

Mechanical Engineering requires rigorous training in basic science and engineering principles along with the development of skills in the areas of computer-aided design, instrumentation, and planning and management of design projects. Graduates in the area of Mechanical Engineering will be required to master technical elements and to demonstrate particular competence in the areas of communication, fiscal management, and project control. The broad-based background is tailored to develop professionals who will be able to move between the technical and managerial aspects of mechanical engineering projects and to serve in key leadership positions within the engineering profession. As with all engineering degrees, a mechanical engineer becomes very good atsolving difficult problems which makes it a good degree for non-engineering careers as well.

The Bachelor of Science in Mechanical Engineering was approved by the Board of Regents in August 2009.

The Faculty:

Richard Ruhala, *Ph.D., Associate Professor and Program Director*
Laura A. Ruhala, *Ph.D., Associate Professor*
Mohammed S. Mayeed,*Ph.D., Assistant Professor*
Erhan Ilksoy, *P.E., Lecturer*

Mechanical Engineering- Bachelor of Science Requirements

CHEM 1211K	Principles of Chemistry I	4
ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
ENGL 21XX	Core C1-Literature	3
MATH 2253	Calculus I	4
MATH 2254	Calculus II	4
MATH 2255	Calculus III	4
MATH 2260	Probability & Statistics	3
MATH 2306	Differential Equations	3
MATH 2335	Numerical Methods *	3

PHYS7.2( )CIMA19 Tw [(MA0i72(MATH 2253)7.2(0 12 34.T12 34.T)-6.7(atist

Mechanical Engineering Technology

Offering:

Bachelor of Science in Mechanical Engineering Technology

Technology is rapidly changing machinery, systems, and the industries that produce them. If you want your career to grow just as rapidly—and offer you interesting problems to solve every day—this program gives you plenty of hands-on experience. The Mechanical Engineering Technology degree leads to diverse, well-paid specialties, from manufacturing operations and management to systems design, sales, and plant engineering. Working step by step with your professors and fellow students, you'll learn to apply engineering concepts in many industrial settings. In the process, you'll gain marketable skills and a proven degree.

Building on core courses in calculus and physics, our curriculum develops your hands-on ability to solve engineering problems. A strong background in algebra and trigonometry can enable you to opt out of pre-calculus and move more quickly toward courses where you design machines, tools, and manufacturing systems. These classes teach you to go beyond the analysis of existing solutions, by creating designs that maximize efficiency and save costs.

In the lab, in your first year, welding and metal cutting helps you understand how materials and machinery behave—and how to specify or design materials economically. Combined with your core courses, these fundamen

Mechanical Engineering Technology

Offering:

Bachelor of Science in Mechanical Engineering Technology

- an ability to conduct, analyze and interpret experiments and

Engineering Design Graphics:

This area of specialization is concerned with integrating the vast capabilities of three- dimensional computer aided design software (3D CAD) into the engineering and design process. Graduates work for engineering and architectural firms; manufacturing industries; research, construction and development companies.

The MET bachelor degree with and Engineering Design Graphics concentration is obtained by the appropriate selection of elective courses. These courses emphasize a variety of topics in modern engineering graphics and design and are shown below. To obtain a concentration in Engineering Design Graphics, students must take MET 4112-Computer Aided Engineering (currently offered), and three of the remaining four courses from the list below. A student may take fewer than four of the coureses and elect the General Concentration if desired.

Specialty courses in this area include:

EDG 3212	Advanced Engineering Graphics
EDG 4111	Advanced Surface Modeling
EDG 4222	CAD Customization and Standards
EDG 4224	Engineering Graphics for Manufacturing

NOTE: In approximately 40 states in the U.S., including Georgia, bachelor degree Engineering Technology graduates with the appropriate work experience are eligible to take examinations for registration as Professional Engineers.

**Since Physics I and II are requirements for the degree, it is strongly recommended that they be taken to satisfy the Lab Science component of Area D of the Core Curriculum. It is also recommended that you discuss Lab Science options with your assigned Faculty Advisor and/or the Mechanical Engineering Technology Department Chair.*

Mechanical Engineering Technology „ Bachelor of Science Requirements

CHEM 1211K	Principles of Chemistry I	4
ECON 2107	Intro to Economics and Engineering Economics	3
ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
ENGL 2010	Technical Writing	3
MATH 1113	Pre-calculus (the extra hour is applied to area F)	4
MATH 2254	Calculus II	4
MATH 2306	Ordinary Differential Equations	3
MATH 2253	Calculus I (the extra hour is applied to Major Req.)	4
PHYS 2211K	Principles of Physics I	4
PHYS 2212K	Principles of Physics II	4
COMM 2400	Public Speaking	2
STS 2400	Science, Technology, and Society	2
Area C Group 1	Take One Course From the Literature Group	3
Area C Group 2	Take One Course From the Art and Culture Group	3
Area E Group 1	American Context	3
Area E Group 2	World History	3
Area E Group 4	Cultures and Societies	3
CS 2123	C Programming	3
ECET 3000	Electrical Principles	4
EDG 1211	Engineering Graphics I	3
EDG 1212	Engineering Graphics II	4
ENGR 2214	Statics	3
ENGR 3122	Dynamics	3
ENGR 3131	Strength of Materials	3
ENGR 3132	Strength of Materials Lab	1
ENGR 3343	Fluid Mechanics	3
ENGR 3344	Fluid Mechanics Lab … MET	1
MET 1000	MET Orientation	1
MET 1311	Manufacturing Processes	3
MET 1321	Machining and Welding	2
MET 2322	Manufacturing Processes Lab II	3
MET 3132	Engineering Materials	4
MET 3401	Thermodynamics I	3
MET 4141	Machine Design I	4
MET 4421	Instruments and Controls	4
Select one of the following three courses		3
MET 3123	Dynamics of Machines	
MET 3331	Tool Design	
MET 3402	Thermodynamics II	3
MET XXXX	Major Electives	12
Free Elective		3
Degree Program Total		128

NOTES:

Note 1. MET majors are required to earn an overall 2.0 average in all courses designated as MET and ENGR

Note 2. PHYS 1111K and PHYS 1112K may be substituted for PHYS 2211K and PHYS 2212K.

Note 3. The Free Elective may not be MATH 1111.

Modern Languages

Offering:

Bachelor of Science in International Studies--

Concentration in Spanish

The Faculty:

Richard Bennett, *Associate Professor and Director of International Programs*
Albert Churella, *Associate Professor*
J. LaJuana Cochrane, *Associate Professor and Psychology Coordinator*
Jamye Hickman, *Assistant Professor*
Marianne Holdzkom, *Assistant Professor*
Julie Newell, *Professor and Chair of Department*
Thomas J. Nisley, *Assistant Professor*
Bernice Nuhfer-Halten, *Professor and Language Coordinator*
Thomas E. Rotnem, *Professor, International Studies Coordinator, and Political Science Coordinator*
William Skutans, *Lecturer*
Roger Soiset, *Lecturer*
Carl Snook, *Assistant Professor*
Mark D. Vickrey, *Senior Lecturer*

The Modern Language program is part of the Department of Social and International Studies, in the School of Arts and Sciences at Southern Polytechnic State University. By offering an International Studies degree with a concentration in Spanish, SPSU seeks to produce graduates who not only understand the historical, political an d economic processes of globalization, but who also possess the technological skills and knowledge that will allow them to deal with the new demands of a more global society.

The International Studies„Spanish degree will prepare graduates for employment in:

- International business
- Pre-law
- Intelligence
- Government
- Graduate study
- Public policy
- The non-profit sector

Students pursuing this degree must complete:

The Core Curriculum	60
Required Upper Division Core in international studies	24
The Spanish concentration	15
Directed International Electives	9
Free Electives	12

Any courses taken to satisfy degree program requirements in International Studies Required Upper Division Core, the student's Concentration, and the student's Directed International Electives must be passed with a grade of "C" or better.

International Studies Bachelor of Science „Spanish Requirements

COMM 2400	Public Speaking	2
ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
MATH 1111	College Algebra	3
MATH 1113	Pre-Calculus	4
STS 2400	Science, Technology and Society	2
Area C1	Course in Literature	3
Area C2	Course in Art and Culture	3
Area D	Two Courses inLaboratory Science	8
Area E1	Course in American Perspective	3
Area E2	Course in World History	3
Area E3	Course in Behavioral Sciences	3
Area E4	Course in Cultures and Societies	3
ECON 1101	Introduction to Economics	3
HIST 3801	Contemporary World History Since 1945	3
POLS 2401	Global Issues	3
POLS 2801	Comparative Politics	3
POLS 3101	International Political Economy	3
PSYC 3101	International Social Psychology	3
SIS 1000	International Studies Orientation	1
SIS 2100	Introduction to Quantitative Research	

SIS 400x	Regional Studies (multiple courses on different regions may be taken)	
SIS 4600	Global Technology Internship	
SPAN 300x, 400x	Spanish (or other language at similar level)	
STS 4400	Topical Studies in Science and Technology	
Spanish Electives		15
Any three 3000 level Spanish courses		
AND Any two 4000 level Spanish courses		
Free Electives		12
Degree Program Total		120

Spanish Minor

To be eligible for a minor in Spanish, the student must complete the following:

SPAN 2001	Intermediate Spanish I
SPAN 2002	Intermediate Spanish II

9 hours of Spanish at the 3000 level

Professional Spanish Undergraduate Certificate

To be eligible for the Certificate in Professional Spanish, the student must complete the following:

All the courses needed for the Spanish Minor

2 of the following:

SPAN 4001	Professional Spanish
SPAN 4002	Techniques of Translation
SPAN 4903	Special Topics for Professional Spanish

Must also take SPAN 4003 Service Learning Project

And after all course work is completed: OPI (Oral Proficiency Interview)

Media Arts

Offering:

The Bachelor of Arts in New Media Arts

The Bachelor of Arts in New Media Arts provides students with an opportunity to develop the technical and artistic skills needed to

Physics

Offering:

- Bachelor of Science in Physics - General Concentration
- Bachelor of Science in Physics - Electrical Engineering Concentration
- Bachelor of Science in Physics - Mechanical Engineering Concentration
- Bachelor of Arts in Physics
- Bachelor of Science in Physics with a Teacher Education Track leading to 6-12 grades certification

Visit physics.spsu.edu for more information.

A Bachelor of Science degree in Physics at Southern Polytechnic State University is a good choice for students desiring positions in industry that are on the cutting edge of engineering and science. These positions offer great opportunity at the entry level and a strong career path with excellent earning potential. A Physics major at SPSU can also add a Teacher Education Track leading to certification. See Teacher Education.

The flexibility afforded by a SPSU physics degree is most attractive. With the proper choice of a minor field of study, our physics majors are prepared to obtain employment in such diverse areas as science and/or engineering positions in industry, technical sales, or scientific programming.

Because most physics majors go on to graduate study, we offer a capstone review course. Those planning to work immediately after graduation may opt to do independent projects that position them competitively for the marketplace.

Physics researchers are using lasers to detect biological and chemical agents, analyzing cell-based communications to learn how heart disease occurs, and testing pigments to authenticate works of art. This science is a keystone of technological progress; it also underlies all of engineering, and it is a useful second major for those pursuing degrees in

BS Degree in Physics with a concentration in Teacher Education

ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
TCOM 2010	Technical Writing	3
SPCH 2400	Public Speaking	2
STS 2400	Science, Technology, and Society	2
Area C Group 1	Take One Course from the Literature Group	3
Area C Group 2	Take One Course from the Art and Culture Group	3
Area D	Any Two	

Political Science

Offering:

Bachelor of Science in Political Science

The Faculty:

Richard Bennett, *Associate Professor and Director of International Programs*
Albert Churella, *Associate Professor*
J. LaJuana Cochrane, *Associate Professor and Psychology Coordinator*
Jamye Hickman, *Assistant Professor*
Marianne Holdzkom, *Assistant Professor*
Julie Newell, *Professor and Chair of Department*
Thomas J. Nisley, *Assistant Professor*
Bernice Nuhfer-Halten, *Professor and Language Coordinator*
Thomas E. Rotnem, *Professor, International Studies Coordinator, and Political Science Coordinator*
William Skutans, *Lecturer*
Roger Soiset, *Lecturer*
Carl Snook, *Assistant Professor*
Mark D. Vickrey, *Senior Lecturer*

The Political Science program is part of the Department of Social and International St52 97.02 453.5 Tw [(Thomas J. N0.8(eD3 .09t Tc -.00e)hooSt)6.lo69.1(pa)Arts(ell)ternaSe Cooc6.3(69i St)6.rams(ell)tet Albeeail

PSYC 4000	International Psychology	
PSYC 4600	Conflict Resolution	
Free Electives		20
	TOTAL HOURS IN TRACK:	32
Degree Program Total		120

Psychology Minor

To be eligible for a minor in Psychology, the student must complete the following (including at least 9 upper-division hours) with a grade of C or better:

1. Complete all of the following:

PSYC 1101	Introduction to General Psychology*
PSYC 2100	Basic Quantitative Research Methods for Psychology Majors
PSYC 3101	International Social Psychology

* If PSYC 1101 is used to fulfill core, select and additional course from the list below.

2. Select two courses from the following:

PSYC 2011	Cognitive Psychology
PSYC 2270	Engineering Psychology
PSYC 2401	Psychology of Diversity
PSYC 3010	Educational Psychology
PSYC 3015	Theories of Personality
PSYC 3020	Physiological Psychology
PSYC 3031	Experimental Psychology**
PSYC 3230	Abnormal Psychology
PSYC 3301	Psychological Testing**
PSYC 3305	Developmental Psychology
PSYC 4000	International Psychology
PSYC 4050	History and Systems of Psychology
PSYC 4130	Psychology of Aging
PSYC 4220	Psychoactive Drugs, Behavior, and Society
PSYC 4600	Conflict Resolution
MGNT 3105	Management and Organizational Behavior

**prerequisite IET 2227 Industrial Statistics

International Studies Bachelor of Science „Concentration in Psychology Requirements

COMM 2400	Public Speaking	2
ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
MATH 1111	College Algebra	3
MATH 1113	Pre-Calculus	4
STS 2400	Science, Technology and Society	2
Area C1	Course in Literature	3
Area C2	Course in Art and Culture	3
Area D	Two Courses in Laboratory Science	8
Area E1	Course in American Perspective	3
Area E2	Course in World History	3
Area E3	Course in Behavioral Sciences	3
Area E4	Course in Cultures and Societies	3
ECON 1101	Introduction to Economics	3
HIST 3801	Contemporary World History post 1945	3
POLS 2401	Global Issues	3
POLS 2801	Comparative Politics	3
POLS 3101	International Political Economy	3
PSYC 3101	International Social Psychology	3
SIS 1000	International Studies Orientation	1
POLS 2100	Basic Quantitative Research Methods for Political Science and International Studies Majors	3
SIS 400x	Two Courses in Regional Studies	6
SIS 4100	Cross National Technology Policy Analysis	3
SPAN 2001	Intermediate Spanish I*	3
SPAN 2002	Intermediate Spanish II*	3
STS 4000	International Issues in Science and Technology	3
STS 4800	Capstone Seminar	3

PSYC 2700	Engineering Psychology	
PSYC 2401	Psychology of Diversity	
PSYC 3020	Physiological Psychology	
PSYC 3031	Experimental Psychology**	
PSYC 3301	Psychological Testing**	
PSYC 4050	History and Systems of Psychology	
MGNT 3105	Management and Organizational Behavior	

**prerequisite IET 2227 Industrial Statistics

Psychology Concentration Group B: Select two of the following*:		(6)
PSYC 3010	Educational Psychology	
PSYC 3015	Theories of Personality	
PSYC 3230	Abnormal Psychology	
PSYC 3305	Developmental Psychology	
PSYC 4000	International Psychology	
PSYC 4130	Psychology of Aging	
PSYC 4220	Psychoactive Drugs, Behavior and Society	
PSYC 4600	Conflict Resolution	

*At least three of the courses selected for the concentration must be numbered 3000 or higher.

Free Electives	12
Degree Program Total	120

Software Engineering

Offering:

Bachelor of Science in Software Engineering

Why study Software Engineering at SPSU?

Software engineering represents the fastest growing segment of software professionals -- men and women who solve problems and issues in the development and engineering of mission-critical software systems to meet the requirements of business and industry in a *reliable*, *secure*, *timely*, and *cost-effective* manner. At Southern Polytechnic, our Software Engineering students learn real-time strategies and proced ures that will give them a competitive edge in the market. Coursework includes software design techniques, software quality, software project management, and electives such as component-based software, embedded systems design, game design, etc. This is the only Software Engineering program at the undergraduate level in Georgia and one of the few in the nation.

The Faculty:

Each faculty member in Software Engineering has his or her own specialty, e.g., object-oriented design, large scale systems, user-centered design, etc. Some of our faculty members have extensive industry experience managing systems and software development. They pass their expertise in the professional field along to their students, who go on to succeed professionally as well.

Barbara V. Bernal, *Professor*
Venu G. Dasigi,*Professor and Chair of Computer Science and Software Engineering*
Sheryl L. Duggins, *Professor*
Patricia Roth Pierce, *Senior Lecturer*
Hassan Pournaghshband, *Professor*
Abi Salimi, *Associate Professor*
Frank Tsui, *Associate Professor*

Are there learning opportunities outside the classroom?

Our students can participate in the Aerial Robotics Club on campus, which placed second in the 2001 international competition sponsored by the Association for Unmanned Vehicle Systems for an automatic pilot guiding program that was written for SPSU's aerial robotics machines. Students have internship and co-op opportunities, as well.

What can I do with a Software Engineering degree?

With a Software Engineering degree, you are equipped to enter a variety of positions, from re al-world, large-scale software development and testing to software project management. You gain a foundation in computer science and learn many useful skills and tools that are immediately applicable, and are well on your way to lifelong learning in the rapidly changing technological workplace.

Will I find employment?

According to a recent report from the Bureau of Labor Statistics, the top two of ten jobs with the fastest growth and highest median salaries are related to systems and applications software engineering. Our close proximity to Atlanta opens up a world of internship, co-op, and full-time work opportunities to our students, as Atlanta is home to many major corporations that welcome SPSU students.

The Program:

SWE Program Educational Objectives:

The Bachelor of Science in Software Engineering prepares our graduates to reach the following goals 3 to 5 years beyond graduation:

- Software Engineering graduates will be successful professionals in the field with solid fundamental knowledge of software engineering, who can effectively analyze, design, and develop high-quality software systems.
- Graduates utilize and exhibit strong communication and interpersonal skills, as well as professional and ethical principles when functioning as members and leaders of multi-disciplinary teams.
- Graduates will apply their foundations in software engineering to adapt to rapidl y changing environments using the appropriate theory, pr inciples, and processes.
- Graduates are sufficiently pr epared for their first and subsequent positions, as they are independent learners, including being accepted into or completing advanced degree programs.

The degree program includes Core requirements, Computer Science Foundations, the Software Engineering Core, Software Engineering Advanced Topics, Application Domains, Directed Electives and Other Required Courses. There is also a specialty track that allows students to choose a specialty area for more concentrated study. The Directed Electives provide depth beyond the Core to support the student's professional preparation.

Systems Engineering

Offering the Bachelor of Science degree in Systems Engineering

Systems Engineering is an interdisciplinary and structured approach to designing and deploying successful systems. The Systems Engineering degree blends engineering, systems thinking, and management topics. Systems Engineering addresses the business and technical needs of all stakeholders throughout the entire design process, from concept to production to operation to disposal. In this major, engineering techniques and a systems approach are combined to produce graduates who are highly valued for their problem solving and managerial skills.

Graduates of this program will understand the multidisciplinary fundamentals of engineering and possess strong team skills to solve complex problems that cross disciplinary boundaries. They will understand current technology, but also be creative thinkers and have the flexibility to change with technology. They will be able to create sustainable systems, to adapt to the new global context and be empowered for lifelong learning.

Graduates can look forward to employment in the defense, aerospace, transportation, energy and telecommunications industries, as well as many other fields that look for the knowledge and skills necessary to engineer large and complex systems. The Systems Engineering program offers two focus options for technical electives for all engineering students. Aeronautics and Nuclear Power Generation.

The focus of aeronautics option will be to provide a comprehensive education to prepare graduates for productive careers with special emphasis on the needs of aviation, aerospace engineering, and related fields. The option will qualify students for entry level engineering jobs in aeronautics / aviation / aerospace al as manyee-13.8ill

Teacher Education

Offering:

- Bachelor of Science in Biology with teacher education track leading to grades 6-12 certification
- Bachelor of Science in Chemistry with teacher education track leading to grades 6-12 certification
- Bachelor of Science in Physics with teacher education track leading to grades 6-12 certification
- Bachelor of Arts in Mathematics with teacher education track leading to grades 6-12 certification

The bachelor's degrees in mathematics or science with the Teacher Education track provides students with a strong foundation in the discipline, giving them maximum flexibility with their degrees. Adding the Teacher Education track can give students immediate job possibilities.

Bachelor of Science in Biology - Education Track

ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
TCOM 2010	Technical Writing	3
MATH 1113	Pre-calculus	4
MATH 2253	Calculus I	4
MATH 2260	Probability and Statistics	3
SPCH 2400	Public Speaking	2
STS 2400	Science, Technology, and Society	2
Area C Group 1	Take One Course from the Literature Group	3
Area C Group 2	Take One Course from the Art and Culture Group	3
Area E Group 1	American Context	3
Area E Group 2	World History	3
Area E Group 3	Behavioral Science	3
Area E Group 4	Cultures and Societies	3
CHEM 1211K	Principles of Chemistry I	4
CHEM 1212K	Principles of Chemistry II	4
CHEM 2510	Survey of Organic Chemistry	3
BIOC 2111	Survey of Biochemistry	3
PHYS 1111K	Introductory Physics I	4
BIOL 3000K	Genetics	4
BIOL 3300K	Ecology	4
BIOL 3400K	Cell Physiology	4
BIOL 4200K	Zoology	4
BIOL 4400K	Human Physiology I	4
BIOL 4460K	Human Anatomy	4
BIOL 4440K	Botany	4
BIOL 4480	Evolution	3
Education Track Area F		6
Education Track		33 hours
Degree Program Total		121

NOTE: PHYS 2211K and 2212K may be taken instead of PHYS 1111K and 1112K

Bachelor of Science in Chemistry - Education Track

ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
TCOM 2010	Technical Communication	3
SPCH 2400	Public Speaking	2
STS 2400	Science, Technology, and Society	2
Area C Group 1	Take One Course from the Literature Group	3
Area C Group 2	Take One Course from the Art and Culture Group	3
Area D	Any Two Lab Sciences (Physics recommended)	8
Area E Group 1	American Context	3
Area E Group 2	World History	3
Area E Group 3	Behavioral Science	3
Area E Group 4	Cultures and Societies	3
BIOC 3111	Biochemistry	4
CHEM 1211	General Chemistry I	4
CHEM 1212	General Chemistry II	4
CHEM 2511	Organic Chemistry I	4
CHEM 2512	Organic Chemistry II	4
CHEM 3100	Analytical Chemistry	5
CHEM 3300	Instrumental Analysis	4
CHEM 4111	Physical Chemistry I	4
CHEM 4112	Physical Chemistry II	3
CHEM 4112L	Physical Chemistry II Laboratory	1
CHEM 4411	Inorganic Chemistry	3
MATH 1113	Pre-Calculus	4
MATH 2253	Calculus I	4
MATH 2254	Calculus II	4
PHYS 2211	Physics I	4
PHYS 2212	Physics II	4
Education Track:		33

Degree Program Total	127 hours

BS Degree in Physics with a concentration in Teacher Education

ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
TCOM 2010	Technical Writing	3
SPCH 2400	Public Speaking	2
STS 2400	Science, Technology, and Society	2
Area C Group 1	Take One Course from the Literature Group	3
Area C Group 2	Take One Course from the Art and Culture Group	3
Area D	Any Two Lab Sciences	8
Area E Group 1	American Context	3
Area E Group 2	World History	3
Area E Group 3	Behavioral Science	3
Area E Group 4	Cultures and Societies	3
MATH 1113	Pre-calculus (extra hour is applied to area F)	4
MATH 2253	Calculus I (extra hour is applied to area F)	4
MATH 2254	Calculus II	4
MATH 2306	Ordinary Differential Equations	3

Technical College System of Georgia Transfer Program

TCSG Transfer Program

Southern Polytechnic State University has implemented a system-wide articulation with th e Technical College System of Georgia (TCSG). This articulation will provide the opportunity for SPSU to offer a range of B.S. and B.A.S. level technological programs on a statewide basis, with the TCSG institutions as our partners. The initial set of progra ms were made available in Fall, 2009 and include pathways from approximately thirty TCSG Associates degrees into Information Technology (B.A.S.) and Manufacturing Operations (B.A.S.). Future offerings are being considered in Business Administration (B.A.S.), Electrical Engineering Technology (B.S.), Industrial Engineering Technology (B.S.), and Mechanical/Electromechanical Engineering Technology (B.S.). Also under consideration is Surveying and Mapping (B.S.).

In this articulation, the TCSG institution will offer roughly the first two years of the programs including some of the USG core, and SPSU will offer the second two years of the programs. The TCSG portion will be offered mainly "liv e" on their campuses, with some online offerings. The SPSU portion will be offered in a format where most of the content is offered online with laboratories being offered low-residency. In a low-residency laboratory, students will take groups of laboratory experiments on two or three Saturdays during a semester, either on the SPSU or at a designated TCSG campus. The curricula of the TCSG institutions will be aligned with the SPSU curriculum to allow the maximum degree possible of direct transferability.

Articulation agreements have been signed by all of the SACS-COC

Technical Communication

Offering:

Bachelor of Science in Technical Communication

Southern Polytechnic's degree in technical communication ranks among the best in the nation. Our faculty in Technical Communication includes two winners of the coveted Jay R. Gould award for outstanding teaching from the Society for Technical Communication. Because we are housed in a small engineering tech school, we can offer a much wider range of courses than similar programs at more tradit ional schools, and we have the up-to-date hardware and software to support them. You will get a solid grounding in rhetoric as we ll as hands-on experience with new media tools and technologies.

With our TCOM degree, you will learn much more than just how to use words effectively„you will have opportunities to learn document design, graphics, mult imedia, web design, and video production as well as science and environmental writing, proposal writing, and medical communication.

Students in other majors can mi nor in technical communication through a range of campus-based and online course offerings. For students interested in distance learning options, Southern Polytechnic also offers a 15-credit undergraduate certificate in technical communication delivered entirely online.

Many TCOM courses are taught using a combination of on-site and online sessions that students with jobs especially appreciate. We make sure we offer enough late-a fternoon and evening courses so that working students can make steady progress toward their degree.

The Faculty:

Kami Anderson, *Assistant Professor*
Carol Barnum, *Professor*
Terry Carter, *Associate Professor*
Jeff Greene, *Assistant Professor*
Kim Haimes-Korn, *Professor*
Keith B. Hopper, *Associate Professor*
John Lindsay, *Instructor*
Monique Logan, *Instructor*
Matthew McCool, *Assistant Professor*
Mark Nunes, *Associate Professor and Department Chair*
Betty Oliver, *Professor*
Iraj Omidvar, *Assistant Professor*
Jeffrey Orr, *Instructor*
Laura Palmer, *Assistant Professor*
Ann Parker, *Lecturer*
Nancy L. Reichert, *Associate Professor*
Cheryl Shinall, *Instructor*
Herbert J. Smith, *Professor*
Charlotte Stephenson, *Instructor*
Mark K. Stevens, *Associate Professor*
Melissa Weaver, *Lecturer*
Jim Werner, *Assistant Professor*

The Program:

The Bachelor's program in Technical Communication is designed to prepare students for a vari ety of communication careers.

Possible positions include:

Technical writer
Documentation specialist
Technical editor
Information designer
Multimedia specialist
Proposal writer
Graphics specialist
Instructional designer or training specialist
Website designer and content developer

The program also can serve as apre-professional background for students who plan to attend graduate school.

Students pursuing the degree must complete:

The Core Curriculum
Required upper-division courses in technical communication
A concentration in one area of technical communication
Additional elective courses in the major
Free electives

Students must make a grade of at least a C in all TCOM major courses.

Included below are the complete requirements for the programs.

Technical Communication „ Bachelor of C88.2( )]TJ0005 Tnts f

f t e

COMM 2060 International Communication[1]

Students whose major already requires TCOM 2010 should take TCOM 2020 or TCOM 2030 (blanket substitution will apply).

C or better is required in ALL courses.

Online Certificate in Technical Communication

To be eligible for a certificate in Technical Communication a student must complete 15 hours of online technical communication courses, including TCOM 2010, TCOM 2030, and TCOM 4035.

Anthropology Core Courses

ANTH 1102 Introduction to Anthropology
3-0-3

matter, stoichiometry, periodic relations, and nomenclature. Laboratory exercises supplement the lecture material. Also offered as an eCore (online) class (4-0-4).

CHEM 1212K Principles of Chemistry II
Prerequisite: CHEM 1211K
3-3-4
Second course in a two-semester sequence covering the fundamental principles and applications of chemistry designed for science majors. Laboratory exercises supplement the lecture material. Also offered as an eCore (online) class (4-0-4).

English Core Courses

ENGL 1101 English Composition I
3-0-3
A composition course focusing on skills required for effective writing in a variety of contexts, with emphasis on exposition, analysis, and argumentation, and also including introductory use

A survey of literature of the Western world from about 1600 to the present. The course includes drama, poetry, prose fiction, and nonfiction. It emphasizes literature as an art and as a reflection of the history of ideas.

ENGL 2300 African-American Literature and Culture
Prerequisite: ENGL 1102
Note: This class can be used in place of ES 1100 Ethnic Studies to satisfy the requirement in Area E, Group 4 of the core curriculum
3-0-3
An introduction to African-American literature in the context of a variety of cultural and historical perspectives. The course includes a variety of activities that draw upon literature, film, music, and live cultural experiences.

Ethnic Studies Core Courses

ES 1100 Ethnic Studies
3-0-3
An interdisciplinary course that introduces students to the culture and civilization (history, economy, art, architecture, etc.), literature, and religion of various ethnic groups. Instructor's choice will determine which ethnic group is the focus of the class (e.g. from Asian, African-American, Hispanic, or other areas).

French Core Courses

FREN 1001 Elementary French I
3-0-3
Introduction to listening, speaking, reading, and writing in French and to the culture of French speaking regions. Not open to native speakers of French. Does not meet C-2 Core requirement.

FREN 1002 Elementary French II
3-0-3
Continued listening, speaking, reading, and writing in French with further study of the culture of French speaking regions. For those students who have completed FREN1001 or have had one year of French in high school. Not open to native speakers of French.

Geography Core Courses

GEOG 1101 Introduction

MATH 1113 Pre-calculus
Prerequisite: A grade of "C" or higher in MATH 1111 or Placement by the Mathematics Assessment Test
4-0-4
Rational and transcendental functions and graphs. Triangle and analytic trigonometry includin g identities, equations, and applications. Law of Sines, Law of Cosines, applications of trigonometry to vectors and complex numbers. Systems of equations using matrices. A grade of C or better is required for course credit. Also offered as an eCore (online) class (3-0-3).

MATH 2240 Survey of Calculus
Prerequisite: A grade of "C" or better in MATH 1113 or Placement by the Mathematics Assessment Test
3-0-3
Derivatives and integrals of polynomial, rational, logarithmic and exponential functions. Variable rate of change, amount of accumulated change, and graphing. Applications to problems in business, management, and economics are emphasized, with some attention to problems in the social sciences. No student may receive credit for both MATH 2240 and MATH 2253.

MATH 2253 Calculus I
Prerequisite: A grade of "C" or higher in MATH 1113 or Placement by the Mathematics Assessment Test
4-0-4
A first course in Calculus. Limi ts, derivatives and integrals of algebraic and trigonometric functions, tangent lines, instantaneous rate of change, maxima, minima and graphing, related rates, linear motion. Also included: definite integrals, area between curves, moments, work, and volumes of rotation. No student may receive credit for both MATH 2240 and MATH 2253. This course is also taught as an eCore (online) course as MATH 1501.

MATH 2254 Calculus II
Prerequisite: MATH 2253
4-0-4
A continuation of MATH 2253. Topics include differentiation and integration of transcendental fu nctions, integration techniques, indeterminate forms, infinite se quences and series, Taylor and Maclaurin series, parametric equations, L'Hopital's Rule, improper integrals, an d polar coordinates.

Physics Core Courses

PHYS 1111K Introductory Physics I
Prerequisite: MATH 1113
3-3-4
An introductory course which will include material from mechanics (kinematics, dynamics, work and energy, momentum and collisions, and rotational motion and statics), and may also include thermodynamics and waves. Elementary algebra and trigonometry will be used. La boratory exercises supplement classroom work.

PHYS 1112K Introductory Physics II
Prerequisite: PHYS 1111K or PHYS 2211K
3-2-4
An introductory course which will include electrosta tics, electric current and circuits, and el ectromagnetism, and may also include optics, and modern physics. Elementary algebra and trigonometry will be used. La boratory exercises supplement classroom work.

PHYS 2211K Principles of Physics I
Prerequisite: MATH 2253
3-3-4
An introductory course which will include material from mechanics (kinematics, dynamics, work and energy, momentum and collisions, and rotational motion and statics), and may also include thermodynamics and waves. Elementary calculus will be used. Laboratory exercises supplement classroom work. This course may be substituted for PH

Continued listening, speaking, reading, and writing, in Spanish with further study of the culture of Spanish speaking regions. Not open to native speakers of Spanish.

Religion Core Courses

RELG 1200 World Religion
3-0-3
Survey of world religions including Hinduism, Buddhism, Islam, Judaism, and Christianity. Attention will be paid to historical development, basic tenets, and impact on culture.

Science, Technology, Society Core Courses

STS 2400 Science, Technology, and Society
Prerequisites: ENGL 1101

2-0-2
An interdisciplinary course exploring the development and integration, both historical and contemporary, of science, technology, and society. The course seeks to help students better understand the world in which they live, the broader implications of their major course of study, and the complex social, ethical, and moral choices presented by modern science and technology. eCore (online) course ENVS 2202: Environmental Science is accepted for STS 2400.

Sociology Core Courses

SOCI 1101 Introduction to Sociology
3-0-3
This course provides an introduction to Sociology, including the basic concepts, different theoretical approaches, and the methods of analysis used by sociologists. Topics covered may include social structures, group dynamics, socialization and self, social stratification, culture and diversity, social change, global dynamics, and the interaction of society with political and economic forces in society. Also offered as an eCore (online) class.

D C D

In Alphabetical Order

Course Descriptions

Accounting Courses

ACCT 2101 Accounting I
3-0-3
This course is a study of the underlying theory and application of financial accounting concepts. It presents the theory and methodology of interpretation of economic transaction; and the recording, and reporting of monetary data arising from economic transactions and daily events. Although the initial emphasis is on the use of accounting information in decision-making ("user perspective"), equal attention will be devoted to the preparation of

Emphasis on the conduct of fraud examiniations, including a discussion of specific procedures used in forensic accounting examiniations and the reasoning behind the use of these procedures. Coverage extends to detection, investigation, and prevention of specific types of fraud committed against organizations and individuals.

ACCT 4568
3-0-3
A study of the identification and modeling of business processes, identification of business and information risk exposures and the development of appropriate control strategies, and analysis and design of accounting information systems for business processes.

Anthropology Course

ANTH 1102 Introduction to Anthropology
3-0-3
Introduction to basic cultural anthropological concepts emphasizing the differences and similarities in contemporary human behavior in Western and non-Western societies. Course includes lectures and case studies.

Apparel and Textile Technology Courses

ATT 1300 International Sourcing
3-0-3
Survey of international sourcing strategies including the decision making process, transportation, domestic production, Asia/Europe/Americas operations, foreign investment, foreign purchase, turn time, competitive advantage, communications, full package production capabilities, cultural priorities, political influence, international regulations and alliances, costs, quality, and technology. The principles of marketing and distribution to a global market are also discussed.

ATT 1400 Principles of Merchandising
3-0-3
Merchandising functions are discussed that include developing strategies to have the right merchandise, at the right price, at the right time, in the right amount and at the right locations to meet target customer needs. This course will explore apparel and consumer product strategies and methods used in planning inventory. Issues in wholesaling, retailing, advertising, and promotion will be included.

ATT 2301 Apparel Computer-Aided Technical Design I
Prerequisites: EDG 1210
2-4-4
The use of industry standard computer systems to determine the product information for apparel and consumer textile products including source materials, processing and assembly options, pattern development, sizing theory, garment fit and product development. Students will develop a complete set of flat patterns and alternate designs utilizing manual and computer software methods through applied project work. Principles of material utilization, pattern engineering, quality, and final design will be emphasized.

ATT 2505 Fabric Formation and Design
3-0-3
This course provides the student with the understanding of how fabrics are constructed and the fundamentals of fabric design through application software used in industry today.

ATT 2600 Apparel Analysis and Product Development
Prerequisites: ATT 1400
2-2-3
Steps involved in apparel product development from concept through delivery will be covered from the perspective of the manufacturer and the retailer. Product creation, design, marketing, merchandising, sourcing and distribution are discussed along with a study of stitch formation and seam application.

ATT 3100 Fashion Merchandising
Prerequisites: ATT 1400
3-0-3
Application of merchandising principles as they relate to buying, problem-solving, retail math and visual presentation using standard industry practices and software. Students will learn how style, color and presentation are major ingredients to successful merchandising producing customer excitement and demand.

ATT 3602 Apparel Computer-Aided Technical Design II
Prerequisites: ATT 2301 and ATT 2505
2-4-4
Manual and computerized pattern grading theory are demonstrated and practiced by students utilizing industry standard digitizing, grading, and marker making systems. Principles and methods used in the preparation, planning, and cutting of fabrics and materials in apparel/textile products are presented including preparatory processes related to fabric cutting. Also presented are basic principles and computer methods of calculating, designing, and making pattern markers for apparel/textile products including yardage, cost estimation, and garment and fabric specifications through applied project work. Laboratory work includes developing cost and quality factors and the operation of equipment for inspecting, marking, shading, fabric defects, spreading, cutting and ply numbering. A systematic appraisal of the factors governing economical fabric use, including: in-depth study of the relationship of pattern make-up to fabric consumption; the impact of width variation to total consumption; and the relationship of all fabric defects to total utilization is presented.

ATT 3800 Fashion Forecasting, Data Analysis & Consumer Trends
3-0-3
Explore the techniques used in industry today including computer software programs to assist with consumer-driven fashion forecasting. Students will examine how to identify, track, and analyze trends in apparel and consumer products consumption. Both long-range and short-range forecasting strategies will be used for market analysis. Consumer trend research activities involve collection of information from multiple sources on a continual basis for the consumer style selection, color selection, and the fabric and trim market.

ATT 4444 Quality Assurance for Textiles and Apparel
Prerequisites: ATT 2505
3-2-4
This course is designed to introduce the student to the quality aspects fabric and apparel. Quality assurance areas are examined such as materials testing, sampling, sewability and preparing product specifications.

ATT 4670 Apparel/Textile Business Practices
Prerequisites: ATT 1300, and ATT 2600, and ATT 3602
3-0-3

mechanisms: Building Orientation, sustainable mechanisms relative to envelope materials shaping building form,. Energy conservation and energy code compliance is examined. Selection and configuration of major mechanical systems is examined in the contexts of building typology, sustainability, spatial configuration, and life cycle cost.

ARCH 3314 Environmental Technology III: Natural & Artificial Lighting, Electrical Systems & Vertical Circulation:
Prerequisite: ARCH 3313
2-3-3
This course offers lecture and practicum. It further builds on the technology sequence. This course further elaborates the connection between the Building Orientation and the role of natural and artificial lighting with an emphasis on the sustainable mechanisms shaping building form,. Energy conservation and energy code compliance is examined. Selection and configuration and distribution of artificial lighting and natural lighting and vertical circulation [escalators, elevators and other mechanical devices of vertical circulation].fostering sustainable mechanisms in diverse contexts of spatial configurations, building typologies while exploring means to defray life cycle costs.

ARCH 39X1-39X4* Special Topics
Prerequisite: Admission to the professional program
1 to 4 hours
This course provides an opportunity for a group of students to undertake in-depth study under the direction of a member of the full-time faculty or visiting faculty. Areas of study may include extension and enhancement of material offered in required architecture courses or exploration in an area of professional interest not covered by, but directly related to, material covered in third year architecture courses.

ARCH 4013 Architecture Studio III
Prerequisite: ARCH 3116 & ARCH 3012
0-12-4
This course focuses on the design of multi-use projects with emphasis on the integration of construction technology and the application of knowledge acquired in the concurrent history theory course sequence. It emphasizes urban revitalization and mixed use design and development as an underlying studio thematic. The studio uses a three tier strategy.

ARCH 4014 Architecture Studio IV
Prerequisite: ARCH 4013
0-12-4
This course continues with the students undertaking a studio problem in architectural design of multi-use project with emphasis on the integration of technology and the application of knowledge acquired in the concurrent Architectural Theory course.

ARCH 4114 Architecture Cultures IV: 1945-Current
Prerequisite: ARCH 3113, Co-requisite: ARCH 4013
3-0-3
A continuation of the Architecture Culture sequence, this course examines through lectures and projects, the development of issues and questions that began to undo the dogma of the Modern movement, exploring topical issues raised by architects, historians and critics alike that help to formulate alternative strains of Modernism, Post-Modernism leading to the Current underpinnings of Production of Architecture.

ARCH 4224 Environmental Technology IV: Codes and Technical Documentation
Prerequisite: ARCH 3314
2-3-3
This course offers lecture and practicum. It introduces Standard Building Code, N.F.P.A. 101 and A.D.A and / or International Building Code. Emphasis is placed on theory of building safety, code document organization and the application of codes to actual buildings. The learning of codes is further extended by applying the code knowledge to producing an actual set of technical [contract] documentation of an assigned architectural project.

ARCH 4411 Design Cost Control
Prerequisite: ARCH 4224
2-0-2
This course introduces methods commonly used concepts of building economics to create budgets for the construction cost of commercial building projects from conceptual discussions with the Owner and the early stage of development of the drawings and specifications. These methods are typically used by architects and general contractors for feasibility and value engineering and building economic studies. The focus of this course is to enable architectural students to effectively create realistic estimates of probable economic cost for their clients and thereby work as a team member with the Owner and General Contractor to establish and maintain a project budget throughout the process of project design and construction.

ARCH 49X1-49X4* Directed Study
Prerequisite: Admission to the professional program
1 to 4 hours
This course provides an opportunity for a group of students to undertake in-depth study under the direction of a member of the full-time faculty or visiting faculty. Areas of study may include extension and enhancement of material offered in required architecture courses or exploration in an area of professional interest not covered by, but directly related to, material covered in fourth year architecture courses.

ARCH 5313 Professional Practice and Ethics
Prerequisite: ARCH 4014
3-0-3
Study of professional ethics, laws governing the practice of architecture, and contractual relationships are undertaken in this course.

ARCH 5593 Thesis Prep/Research
Co - Requisite: ARCH 4014
2-0-2
The course prepares students to develop topics for their Thesis Proposal. Students must develop a clear design premise supported with research and a clear methodology to develop a robust thesis proposal for their thesis Project.

ARCH 5998F Focus Studio
Prerequisite: ARCH 4014, ARCH 5593
0-12-4
The annual Focus Studio at SPSU is an intrinsic part of the professional core of the Architecture Program and is designed to foster a strong relationship between the program, our students, and the profession as a whole. All qualified fifth year students have the option to select a studio critic who will broaden their area

of interest in a subject-based studio. Focus Studio aims to produce a much higher student perfor mance and a broader range of experiences than is possible in a traditional studio structure. The goal is that both the invited studio critic and students learn and grow through mutual interest and

ARTS 3100 History of New Media Arts

Prerequisite: ARTS 3000

3-0-3

The course is a study of the history of new media arts as it pertains to art and design. students will learn about how early developments in photography, cinema and computer aided arts lead to the advanced media arts practices that make up fine and applied arts today. Students will learn about and use traditional art mediums and understand how they work in tandem with new media creativity.

ARTS 4100 Media Arts Studio

Prerequisite: TCOM 3430 AND: ARTS 3100 or ENGL 4170

3-0-3

The course concentrates on using new media as a means of creating artwork. The course is designed to allow students to use new media as a means of creating alternative ways of communicating. Students will study contemporary artists and their unique approaches to communication using new media in a fine art capacity. They will plan and execute individual art projects using various new media tools.

ARTS 4600 Directed Study

Prerequisites: Twenty-one hours of courses in the major

3-0-3

Directed Study in media arts provides students with an opportunity to pursue advanced study in a specialized area of media arts beyond what is covered by the program's curriculum. Directed study may also be used by an undergraduate major who needs to complete an undergraduate requir ement in the major that is not offered before the student's graduation date.

ARTS 4800 Senior Portfolio

Prerequisite: Senior standing, completion of 24 hours of upper level courses in major.

3-0-3

Course examines portfolios as new media artists and practitioners. The course includ es portfolio and writing theory along with a collaborative work shop environment. Students develop a professional portfolio of sample works based on course projects, internship experiences, and/or work history. In addition, students write a reflective pa per examining their growth and maturity as media artists and new media practitioners. Interviewing techniques, resume writing, and the jog search process are included in the course. Cross-listed ENGL 4800 and TCOM 4800.

Topics include organ system anatomy and physiology, a survey of the diversity of life, animal behavior, and ecology. The laboratory exercises supplement the class work.

BIOL 2800 Drug Development and Regulation
Prerequisites: CHEM 1211K and CHEM 1212K, a "C" or better in BIOL 2107K and BIOL 2108K

3-0-3

Examination of the development process of new prescription pharmaceuticals, over-the-counter drugs, and biologics. Topics include non-clinical characterization of new drug entities, regulatory requirements and the role of the FDA, and the design and structure of clinical trials.

BIOL 3000K Genetics
Prerequisite: BIOL 2107K
3-3-4
Structure, function, regulation, and transmission of hereditary information in viruses, prokaryotes, and eukaryotes. Laboratory includes exercises in both classical and molecular genetics.

BIOL 3100K Microbiology
Prerequisite: BIOL 3000K
3-3-4
The morphology, physiology, genetics and biochemistry of microorganisms with emphasis on bacteria and viruses.

histological and gross anatomical examinations. Particular emphasis will be placed on the relationship between form and func3tion in the human body. Laboratory activities will involve working with human skeletons, models, diagrams, and dissection of animal cadavers/preserved specimens.

BIOL 4470 Plant Physiology
Prerequisite: BIOL 3000K, BIOC 3111K
3-0-3
Introduction to plant physiology, including biochemical, genetic and developmental aspects of the plant life cycle. Topics include: photosynthesis, respiration, metabolism, water relations, plant hormones, embryogenesis and early development, flowering, stress physiology, response to pathogens and plant genetic engineering.

BIOL 4480 Evolution
Prerequisite: BIOL 2108K
3-0-3
Origins of life-mechanisms and processes of organic evolution stressing evidence from population genetics, systematics, paleontology, and comparative physiology; biochemistry; the evolution of humans and human culture.

BIOL 4510K Bioinformatics II
Prerequisite: BIOL 2100K
3-3-4
The course covers use of homology to extract information about structure and function from amin

This course is a comprehensive study of organizational leadership and will introduce concepts of the nature of power, leadership, and roles and responsibilities of management. Leadership theories, frameworks, techniques, organizational structures, methodologies, case studies, and procedures used in leadership will be also covered.

A continuation of the study of organic molecules. Topics include a survey of heterocycles, natural products and synthetic polymers. Laboratory
exercises supplement classroom work.

CHEM 2601 Chemical Literature
Prerequisite: CHEM 1212K
2-0-2)
This course will focus on familiarization with the scholarly literature used in the chemistry discipline. Students will study the techniques for efficient informatio n searching, use of online data bases in locating books, journals, patents, scholarly papers, etc. Students will also focus on the MLA and the APA style for developing a list of references.

CHEM 3100K Analytical Chemistry
Prerequisite: CHEM 1212K
3-6-5
An introduction to classical and instrumental methods of quantitative analysis and their underlying principles. Laboratory exercises supplement classroom work.

CHEM 3150K Environmental Chemistry
Prerequisite: CHEM 1212K with a grade of "C" or better
3-3-4
This course provides the fundamentals of environmental chemistry. Topics covered include sources, reactions, transport, effects, and fates of important chemical species in atmosphere, hydrosphere and lithosphere. Major environmental issues discussed ozone destruction, photochemical smog, acid rain, climate change, heavy metals and waste management. Laboratories involve sampling and sample preparation, qualitative and quantitative analysis and data treatment.

CHEM 3200K Atmospheric Chemistry
Prerequisites: CHEM 1212K, PHYS 1112K
3-0-3
Atmospheric chemistry is a branch of environmental science in which chemistry processes in the atmosphere are studied. It is designed for science major students with junior or senior status. Topics in this course include: atmosphere layers, atmospheric

characterization of atomic and molecular arrangements in crystalline and amorphous solids: metals, ceramics, semiconductors and polymers and their application to engineering systems including functional materials, nanostructured materials, new approaches to solid-state synthesis and fabrication, and bio-related materials.

CHEM 4511 Advanced Organic Chemistry
Prerequisite: CHEM 2512K
3-0-3
Selected organic reactions from synthetic and mechanistic viewpoints.

CHEM 4901-4905 Special Topics
1 to 5 hours
Special topics selected by the department. Offered on a demand basis.

Civil and Construction Engineering Courses

CE 1000 Orientation to Engineering and Surveying Professions
1-0-1
Introduction to the professional practice and options within the disciplines of civil engineering, civil engineering technology, construction engineering and surveying and mapping: career opportunities, professional licensing, and industry expectations in the professional disciplines, as well as department policies on advisement and curriculum requirements to graduation.

CE 3201 Structural Analysis
Prerequisites: ENGR 3131
3-0-3
This course is the introductory course in identification and analysis of basic structural elements. Topics include the determination of beam deflections, methods for the computational analysis of statically indeterminate trusses, moment distribution, and the analysis of frames.

CE 3501 Materials for Civil & Construction Engineering
Prerequisites: ENGR 3131 and ENGR 3132
3-0-3
A study of different materials used for light and heavy construction projects, such as aggregates, woods, metals, concretes, masonry, and bituminous materials. An overview of materials science will be introduced, as well.

CE 3701 Geotechnical Engineering
Prerequisites: ENGR 3131, ENGR 3132 and ENGR 3343
3-0-3
Introduction to fundamental knowledge of soil/foundation engineering for construction projects such as commercial building, highway, bridge, airport, and water/wastewater treatment plant. Course topics will include composition of soils, subsurface investigation, soil classification systems, groundwater flow, permeability, compaction, stress/strain analysis, shear strength, consolidation/settlement, shallow and deep foundations, earth retaining structures, slope stability, and ground modification methods.

CE 3702 Environmental Engineering
Prerequisites: ENGR 3343 and CHEM 1212K
3-0-3
An overview of chemistry concepts and environmental regulations and their implications in construction and civil engineering practices. Consideration of environmental risk and environmental impact studies on engineering projects, as well as identification of major objectives and design of basic water and wastewater treatment systems.

CE 3703 Environmental Engineering II
Prerequisite: CE 3702
3-0-3
Environmental Engineering II covers advanced topics in water and wastewater treatment. This course addresses technical issues associated with sludge treatment and disposal, nutrient removal, effluent disposal, on-site systems, water reclamation and reuse.

CE 3708 Geotechnical Engineering Lab
Prerequisite: ENGR 3131 ENGR 3132 and ENGR 3343
0-3-1
A study of standard laboratory tests (ASTM and/or AASHTO) on soils. The lab will reinforce the principles of Geotechnical Engineering studied in CE 3701, and developing experimental data into effective laboratory reports will be emphasized.

CE 3901-3903 Special Topics
Prerequisites: Junior standing, consent of the Program Coordinator.
1 to 4 hours
Special topics offered by the program on a demand basis.

CE 4177 Transportation Engineering
Prerequisites: ENGR 3305
4-0-4
A study of the fundamentals of vehicular transportation and vehicle operating characteristics. Areas of study include driver abilities and expectancies as they relate to the driving task, geometric design of roadways, pavement design and maintenance, traffic flow theory and its application to level of service analysis, and intelligent transportation system design.

CE 4178 Highway Design and Construction
Prerequisites: CE 4177
3-0-3
This course addresses the challenges facing engineers when designing and constructing highways. Areas of study include the design of horizontal and vertical alignments, roadside design, the use of geographic information systems during the design process, pavement design, constructability, and the digital transfer of information during construction.

CE 4202 Steel and Concrete Design
Prerequisite: CE 3201
3-0-3
Introductory course in the design of steel and concrete structures. Code applications of load development, the design of beams and columns in steel, as well as reinforced concrete are covered.

CE 4703 Engineering Hydrology
Prerequisites: ENGR 3343
3-0-3
The course presents the hydrological processes and their relationship to the design of structures for control and management of water resources, rainfall-runoff relationships, and probability and frequency analysis as they relate to surface and groundwater hydrology.

CE 4704 Engineering Hydraulic Analysis and Design

The course is offered as a technical elective to junior and senior undergraduate students who have already completed CE 3701-geotechnical engineering, and represents a transition between the introductory and fundamental nature of the material covered in ENGR 3131 and the more detailed and applied subject material contained in CE 4105 - Foundation Design. After a brief review of drained and undrained shear strength of soils under traditional triaxial compression testing, the advanced topics to be covered in shear strength will include modified Mohr-Coulomb diagrams, including p-q diagrams, stress paths, triaxial extension and triaxial compression tests, and drained and undrained failure at principle stress difference versus principal stress ratio. In consolidation, the components of settlement and the effect of submergence on ultimate consolidation settlement will be covered. Prerequisites: CE 3701

CE 4706 (3-0-3)
Pavement Engineering

A study of the methods used to determine thickness and composition of the components of both flexible and rigid highway pavements. Class work will also include paving materials, drainage systems, pavement distresses, and maintenance & rehabilitation. Standard techniques and computer software such as that of PCA, ACPA, the Asphalt Institute and AASHTO will be utilized in pavement thickness design. Prerequisite: CE 3201 and CE 3701

CE 4707 (3-0-3)
Design of Wood Structures

The course introduces the design of wood structure and properties of wood. The course will cover the topics such as determination of horizontal and vertical loads, horizontal and vertical load-resisting systems, design of horizontal diaphragms, and bolted and nailed connections. Prerequisite: CE 3201

CE 4709 (3-0-3)
Matrix Structural Analysis

The course offers computer oriented methods for solving determinate and indeterminate structures including matrix analysis of two-and three-dimensional trusses, continuous beams, and frames. The class emphasizes on the displacement method and stiffness matrix development. Matrix analysis method will be applied to problems in structural engineering and mechanics using the Structural Analysis Program 2000. Prerequisite: CE 3201

Civil Engineering Technology Courses

CE 1000 Orientation to Engineering and Surveying Professions
1-0-1
Introduction to the professional practice and options within the disciplines of civil engineering, civil engineering technology, construction engineering and surveying and mapping: career opportunities, professional licensing, and industry expectations in the professional disciplines, as well as department policies on advisement and curriculum requirements to graduation.

CET 1002 Orientation to CET Computer Practices
Prerequisite: MATH 1113
0-2-1
A general introduction to computer methods and tools used in practice. Various software applications including spreadsheets, word processors and network programs will be covered.

CET 2110 Problem Solving Methods in CET

Prerequisite: MATH 2253

2-3-3

Introduction to engineering design processes using mathematics and principles of sciences, as well as engineering analysis as a decision-making tool for evaluating design alternatives. The concepts and tools of critical thinking are applied.

EDG 2160 Civil Graphics and Computer Aided Drafting
0-6-3
An introduction to graphic principles and practices in civil engineering technology. This course includes the development of the basic drafting skills needed to produce civil engineering plans and graphical presentations. The elements of descriptive geometry are addressed. A major component of the course is an introduction to the fundamentals of computer-aided drafting and design (CADD).

CET 2200 Introduction to Structures
Prerequisite: PHYS 1111K (or concurrent enrollment).
4-0-4
An introductioan

CET 3120 Cost Estimating and Scheduling in CET
Prerequisites: CET 3110 or CET 3302 or SURV 3222
4-0-4
Practice and methods of cost estimating, and scheduling in civil engineering projects. Emphasis is placed on reading construction drawings, critical path scheduli ng, and application of the Means Building Construction Cost data book.

CET 3130 Applied Fluid Mechanics and Hydraulics
Prerequisite:
2-3-3
A study of basic physical principles applied to fluids under static and dynamic conditions. This course includes the study of fluid properties, pipe flow analysis, pump analysis and selection, types of open channel flow, and flow measuring devices and their application.

CET 3210 Structural Mechanics
Prerequisites: ENGR 3131, ENGR 3132
2-3-3
This course is a detailed introduction to the classical methods of analysis of both statically determinate and indeterminate structures. Subject matter incl udes Methods of Consistent Deformations, Unit Load Analysis, Beam Reflection Methods, Truss Deflections and The Design and usage of Influence Lines for Continuous Beams. The methods of moment distribution is emphasized for continuous beams and frame analysis. Rigid frame analysis and sidesway is also included.

CET 3220 Applied Structural Steel Design
Prerequisite: CET 3210 or CET 3316
2-3-3
An in-depth study of techniques used in structural design. Determination of structural loads and the analysis and design of structural steel elements used in buildings and related structures. Current design procedures for steel joists, beams, girders, columns, base plates, and connections are applied. American Institute of Steel Construction St eel Design Manual and the Steel Joist Institute's joist manual specifications are used.

CET 3230 Concrete Infrastructure Design
Prerequisites: CET 3110 and CET 3210 or (CET 3302 and CET 3316).
2-3-3
ACI design procedures for reinforced concrete beams, T-beams, columns, slabs, and other components. Includes also design of square footings, box culverts, and analysis of beams subject to torsion.

CET 3310 Water Treatment and Distribution
Prerequisites: CHEM 1211K, and (CET 3130 or CET 3343).
2-3-3
Application of chemistry concepts on water quality and treatment processes. This course also includes the performance of mass balance calculations and study of reactor configurations in the design and operation of water treatment systems; and the design approach for water distributi on systems and their basic components.

CET 3320 Wastewater Collection and Treatment
Prerequisite: (CET 3310 or concurrent CET 3344) and MATH 2306
2-3-3
Application of hydraulics in the design of wastewater collection systems and ancillary structures. This course also includes a description of the metabolic processes and its application in wastewater treatment, design of conventional and individual wastewater treatment processes.

CET 3410 Soil Properties and Site Exploration
Prerequisites: CHEM 1211K, ENGR 3131, ENGR 3132, and (CET 3130 or CET 3343)
3-3-4
This course provides an introduction to geotechnical engineering with a strong practical "hands-on" experience. Students will study index properties, soil classifi cation, site exploration, stress distribution, settlement and cons olidation, permeability, shear strength and soil stability, and lateral earth pressure. Each lecture topic is supported by stan dard lab experiment(s) such as lidation, permeacion

multi-story analysis, global stiffness matrix determination as applied to trusses, beams and frames (2D, 3D). Use of commercially available software for analysis and design such as PC-STRAN, GTSTRUDL or STAAD-III emphasized.

CET 4220 LFRD Steel Design
Prerequisite: CET 3220 or CET 3371.
4-0-4
This is a follow up steel design course with an emphasis on the AISC Load and Resistance Factor Design method. Topics covered are beams (fully plastic, inelastic, elastic), concentric columns, leaner columns, standard connections (bolted and welded), eccentric connections, frame design (braced), modified effective

COMM 3040 Health Communication

Prerequisite: ENGL 1102

3-0-3

This course will focus on the essential role communication plays in health promotion and disease prevention. Strategies used to

This course presents an overview of the history of computer games and the theory of gaming. Topics include game genres, content, patterns, playability, suspension of disbelief and immersion, storytelling, and game balance and fairness. Students are required to analyze historic and current games and must also develop a prototype of an original game.

CGDD 3103 - Application Extension and Scripting

Prerequisite: CGDD2002

3-0-3

This course provides an introduction to the use and extension of applications for content creation and management. Both the theoretical as well as applied aspects of extensible application architectures and plug-ins are covered. Existing and emerging scripting languages will also be discussed extensively, and programming in these scripting languages is covered. Students will explore and utilize current applications and must create extensions to these applications.

CGDD 4003 - Digital Media and Interaction

Prerequisite: CGDD2002 or CS3424

2-3-3

This course explores how digital media is created and utilized within computer games and simulations. Topics include sound, video, text, images, character modeling, animation, game world and level generation (2D and 3D), and current and emerging interaction techniques. Students are required to work in teams to produce a multimedia term project.

CGDD 4113 - 3D Modeling and Animation

Extension and Scripting

CGDD 4803 … Studio

Prerequisite: CGDD4003

1-6-3

This course begins the studio experience and explores the application of game design and development in a structured environment; teams build applicatio ns utilizing best practices in software engineering including asse t, project, configuration, and requirements management. Students in this Studio course will assume an apprentice position within their teams and learn from more senior students taking the Capstone course. This course involves weekly status, design, and development meetings.

CGDD 4814 … Capstone

Prerequisite: CGDD4803

1-9-4

This course continues the studio experience from CGDD4803 and further explores the application of game design and development

CS 3693 Applications Programming
Prerequisite: CS 3424
3-0-3
Students will be exposed to writing larger applications than in the introductory programming sequence (CSE 1301, CSE 1302, and CS 3424). In depth coverage of the programming language of choice is used to design and implement applications. Large scale projects are required.

CS 3901-3904 Special Topics
Prerequisite: Junior standing
1 to 4 hours
Special topics selected by the department. Offered on a demand basis.

CS 4133 Programming PDA's
Prerequisite: CS 3243
4-0-4
This course offers a first-hand programming experience with Personal Digital Assistants. The course addresses issues particular to small, portable devices, such as their GUI, storage and synchronization. It also explores the wireless environment where these devices would interact.

CS 4243 Systems Programming
Prerequisite: CS 3243
3-0-3
This course covers command line, shell, scripting and system tools like AWK and PERL. It also covers Unix file I/O and process control, as well as the use and co

CS 4543 Neural Computation
Prerequisite: MATH 2345 and CS 3424
3-0-3
Application of brain-style computing models. Topics include fundamentals of artificial neural networks, pattern classification,

programming style and software engineering concepts such as information hiding, re-use, use of symbolic debuggers, and separate compilation.

CSE 1302J Programming & Problem Solving II
Prerequisite: CSE 1301C or CSE 1301J
3-2-4
The second course in computer science provides coverage of more advanced topics of object-oriented programming. This includes the use of static variables and classes, multi-dimensional arrays, inheritance and polymorphism, text files and exception handling, recursion, and parameterized types. Elementary data structures (linked lists, stacks, and queues) are introduced to solve application problems. Graphical user interfaces and event driven programming are also introduced. Students must continue to use good programming style including proper documentation.

CSE 2642 Professional Practices and Ethics
Prerequisite: CSE 1302 or IT 1324
2-0-2
This course covers the historical, social and economic consideration of the discipline. It includes studies of professional conduct, risks, and liabilities, and intellectual property relative to the software engineering and computing professions. Software engineering/computing case studies will be used.

CSE 4983 CSE Computing Internship
Prerequisite: Senior standing or at least 20 major hours in a CSE degree program
2-2-3
This course helps students gain practical experience through real-world projects and professional work. Students will demonstrate an ability to apply computing principles and technologies relevant to their major in a specific real-world project jointly supervised by an industry mentor and a faculty advisor. Students will work in a project team in an enterprise environment, demonstrating ethical behavior as a computing professional, an understanding of social, professional and ethical issues related to computing, and an ability to integrate the knowledge acquired in preceding courses. Communication skills and leadership are also evaluated as well as professional computing skills and knowledge.

Construction Course Descriptions

CM 1000 Orientation to Construction and Development
1-2-2
An introduction to construction industry careers; an overview of construction industry sectors and the industry's impact on the economy; and discussion of the basics of the construction process. Also includes a preview of the construction degree curriculum and an overview of Southern Polytechnic policies, procedures, and resources.

CM 2000 Construction Graphics
2-2-3
A study of the fundamentals of graphic language used by construction professionals, with an emphasis on developing skills in expressing concepts in visual form and in reading architectural and engineering construction documents.

CM 2901-2904 Special Topics
Prerequisite: Consent of the department head
1 to 4 hours
Special topics in Construction Management. Offered by the

2

0MailTj 1ugits4.6ET4 1 Tf 1.02 0 E 1.02 34.02 6690.1848]TJ8Tc 0 Tw2(-)Tj /F2 1
1 to udy of the fuo filpoliqi1.4(ug sk(m c, of)Tmethbdimy)]T* -.0007 Tc -.0018
2

conditioning, heating, electrical lighting and building control systems will be covered from a sustainable perspective.

CM 3210 Applied Structures
Prerequisite: CET 2200
4-0-4
A study of structural design analysis and design concepts used in steel and concrete construction. Topics include selection of structural systems and the design of columns, beams, and other structural components.

CM 3260 Temporary Structures
Prerequisite: CM 3210
2-2-3
A study of structural design and analysis concepts of temporary structures used in the construction process. Topics include formwork design, scaffolding, and material handling equipment and staging.

CM 3280 Building Mechanical and Electrical Codes and Loads
Prerequisite: CM 3180
4-0-4
Study of building mechanical and electrical system loads and applicable codes. Emphasis on how they affect the construction project. Topics will include air conditioning, heating, plumbing, fire protection, electrical power, electrical lighting and building control systems. The analysis of current construction drawings will be integrated into each topic.

CM 3290 Facilities Management

4-0-4

Prerequisite: CM 3180

This course will emphasize the techniques and methods used in facility management. Importance of a collaborative team effort from owner, developers, architects, engineers, constructors, technicians and consultants will be integrated into the course. Influences on the environment, society, budget and schedule due to construction, maintenance and energy needs will by analyzed. Topics will include LEED green building operations and maintenance, facility financial forecasting and management, construction management, maintenance management, energy management and real estate considerations. MEP systems such as ventilation, air conditioning, heating, electrical lighting and building control systems will be discussed from a sustainable construction, maintenance, and energy perspective.

CM 3310 Introduction to Development
Prerequisite: CM 2000
3-0-3
The course provides an overviewof the land development process and provides a foundation for the advanced land development courses. The course focuses on the steps in planning and carrying out the land development project and on the legal issues encountered in the land development profession. The course includes lectures, readings from the texts and closed library reserves, class discussion, problems, exercises and student presentations.

CM 3410 Construction Quantity Surveying
Prerequisites: CM 3000, CM 3110, CM 3160
2-2-3
A study of techniques in the process of construction estimating, with an emphasis on development of the quantity survey. The completion of a specification takeoff and a quantity survey of commercial construction are required.

CM 3411 Construction Estimating Software
Prerequisite: CM 3410
1-2-2
Hands-on computer application of commonly used commercial construction estimating software to construction projects. Instruction in use of the software.

industry and bid and payment/bond performance. Cash flow projection for construction projec ts. Also included is building construction economics in te rms of: Value Engineering, Constructability, building deli very systems and real estate processes for the Builder/Developer and Construction Management organizations. Graduate students will do additional work on construction cost accounting.

CM 3710 Site Planning
Prerequisite: CM 3310
3-2-4
An integrated theory and applications course that provides an exposition of theoretical princi ples associated with the site planning process, and then involves the students in hands-on application. The inter-relationship between site planning decisions and their potential consequences will be demonstrated through practical exercises.

CM 3800 Construction Seminar
2-0-2
Business and management topics pertinent to the construction industry. The course consists of a series of seminar presentations by prominent industry representatives.

CM 3810 Advanced Construction Practice
3-0-3
Prerequisite: CM 2000, CM 3000

This course will prepare studen ts to participate in formal interdisciplinary competitions against other Construction Management/Architecture/ Civil Engineering programs at the 4 year university level. At these competitions students are given a real life project from which th ey must be able to prepare a preliminary design (Design/Build competitions only), complete estimate, CPM schedule and staffing plan and present these items both in a formal bound written report, as well as a formal oral presentation. The first nine (9) weeks of the course involves intensive instruction in the areas of writing, oral presentation, estimating, scheduling and preliminar y design skills as part of the pre-competition preparation proce ss. During the final third of the course students will be expected to make corrections to their competition submittal package base d on feedback from the judges at the competition. Following the competition, additional topics involving the use of Building Information Modeling importance of a collaborative team effort from owner, developers, architects, engineers, constructors, technician s and consultants is the overall focus of this course.

CM 3901-3904 Special Topics
Prerequisite: Consent of the department head
1 to 4 hours
Special topics in construction. Offered by the department at its discretion.

CM 3912 Workplace Law
3-0-3
A study of the legal constraints encountered in the workplace. Topics included are drugs and drug testing, sexual harassment, labor management cooperation, discrimination, worker compensation, foreign labor regulation, minority/women's business enterprises and professional regulation.

CM 4480 Design/Build MEP Systems
Prerequisite: CM 3280, CM 3190
4-0-4
A study of the design-build delivery method applied to construction projects. The study starts with details of the process and how it differs from other project delivery methods. Topics will include building MEP systems (air-conditi oning, heating, ventilation, plumbing, electrical power, electrical lighting and building control) and how they are planned and delivered in a design-build project. The analysis of current constructi on drawings will be integrated into the course.

CM 4510 Construction Scheduling
Prerequisite: CM 3410
2-2-3
A study of the management techniques used in controlling the progress of construction projec ts, including development of a commercial project schedule, as we ll as simulation of updating and monitoring progress using critical path methodology. Commonly used commercial softwa re packages are introduced.

CM 4511 Construction Scheduling Software
Prerequisite: CM 4510 or approval of the Department Head
1-2-2
Hands-on computer application of commonly used commercial construction scheduling softwa re to construction projects. Instruction in use of the software.

CM 4560 Construction Project Management
Prerequisite: CM 4760, MGT 3105
3-0-3
A study of traditional, design-bui ld and construction management delivery methods, the management of field operations and administration of the construction contracts. Contract documents, project organization, supervision, working with owners and design professionals, procurement, management of subcontractors.

CM 4760 Construction and Real Property Law
Prerequisite: MGT 3145

and permitting requirements, an d the potential environmental impact of the considered development.

CM 4620 Development Process II

3-0-3

Prerequisite: CM 4570, CM 3620

The course provides an overviewof the development process from project acquisition through construction/development and ultimately the management and sale of the property. For each one of the major types of co

This course offers lecture and practicum. It provides fundamentals of design communication through principles of drawing conventions and related techniques including orthographic projections, axonometrics, and perspective construction systems to represent design ideas and built forms. This involves use of traditional manual media and introduction to basic 2D image manipulation in digital media. The intention of the course is to develop visual literacy through visual thinking and to develop skills to represent objects and simple structures in both two and three-dimensions.

DFN 2003 Design Foundation III
Prerequisite: DFN 1002
0-12-4
This course concentrates on shaping, organizing, and designing architectural space using spatial and compositional strategies derived from precedent and architectural case studies.

DFN 2004 Design Foundation IV
Prerequisite: DFN 2003
0-12-4
The culmination of the Design Foundation incorporates and builds upon all previous course work. It adds the fundamental concept of typology to previous experiences with architectural space, composition, and program. Students investigate layers of functional zoning, geometric organization, three dimensional configuration, openings, physical texture, color, character, and symbolic meaning.

DFN 2112 Architecture Culture II - The Renaissance through 1850
Pre-Req: DFN 1111
3-0-3
A continuation of Architecture Culture to examining the relationship between architecture and other cultural discourses such as philosophy, aesthetics, science, religion, politics and technology. While continuing in the aim of developing an understanding of how architecture manifests the socio-cultural conditions of a given moment in aesthetic form, simultaneously examines the development of an autonomous architecture culture, one that we refer to as theory.

DFN 2211 Introduction to Structures
Prerequisite: PHYS1111K [Trig based]
2-3-3
This course is an introduction to architectural structures with an emphasis on statics and strength of materials concepts. Focus is on force systems, shear and moment diagrams and determination of section properties.

DFN 2242 Design Communication II
Prerequisite: DFN 1241 or Approval of the Instructor
1-3-2
This course offers lecture and practicum. It introduces techniques and conventions of graphic communication as an aid for architectural design process and is seen as a continuation of Design Communication I. Techniques include hand drawing, 3D computer modeling, and computer 3D architectural animation. This course advances levels of visualization and representation of architectural building and related design ideas. The goal is to link digital modeling and animation techniques to various studio works both at process level and final presentation level. Variety of representation techniques include hand drawings, rendered drawings, hand constructed models, electronic 3D models, and computer animations. Highlighting design vocabulary through a series of projects ranging from page layout to building. Both small scale objects and moderate scale structures/buildings can be used as base information to represent concepts of design and techniques of representation

DFN 2311 Environmental Technology I: Systems Selection and Materials
2-3-3
This course offers lecture and practicum. It introduces selection criteria of materials and their properties relative to structural and enclosure systems. Emphasis is placed on wood, steel, masonry, and concrete structural systems. Enclosure Systems are explored in relation to various applications of existing and new materials and finishes that building systems entail within the context of sustainability.

Economics Courses

ECON 1101 Introduction to Economics
Prerequisite: MATH 1111
3-0-3
An analysis of the economics of production in society. Particular emphasis is given to the study of fiscal and monetary policies, and their impact on industry. Topics include marginal productivity analysis, graphic models, national income analysis, and the importance of the labor market in American industry.

ECON 2105 Macro Economics
Prerequisite: MATH 1111
3-0-3
A study of economics that examines the behavior of the aggregate economy as a whole. Particular emphasis is given to the study of economy-wide phenomena such as changes in unemployment, national income, rate of growth, gross domestic product, inflation and price level.

ECON 2106 Micro Economics
Prerequisite: MATH 1111
3-0-3
An analysis of a market behavior of individual consumers and firms in an attempt to understand their decision-making in society. In particular, microeconomics focuses on patterns of supply and demand and the determination of price and output in individual markets in society.

ECON 2107

Prerequisite: MATH 2253
3-0-3
This course provides an introduction to both economic principles and engineering economy.

ECET 3010 Health Care Safety
Prerequisites: ECET 1011
3-0-3
A discussion of the safety considerations and practices employed in health care facilities. This course emphasizes the examination, study, and review of safety codes and procedures within the health care field. Topics include: JCAHO, BRH, CAP, OSHA, NFPA, and AAMI codes; first aid and CPR; electrical, fire, and radiation safety; infectious control; and hazardous communications.

ECET 3020 Biomedical Instrumentation
Prerequisites: ECET 2000
3-3-4
An introduction to biomedical instrumentation principles, design, measurement and analysis techniques. This course provides an overview of typical biomedical instruments used in the field. Topics include the acquisition and analysis of biomedical signals, a study of medical diagnostic instruments and equipment; monitors, intensive care units, coronary care units, operating room equipment, telemetry systems, ECG machines, life support equipment, respiratory instrumentation, brain monitors, medical ultrasound, electro-surgery units, and hemodialysis machines.

ECET 3030 Biomechanics
Prerequisites: ECET 3020
3-3-4
An introduction to mechanical properties of bone, muscle, and soft tissue. Topics include static and dynamic analysis of human bodily movement, the design of orthotic/prosthetic devices and orthopedic implants, rehabilitation engineering, biomechanics simulation, kinetic analysis of biological systems and medical devices.

ECET 3220 Digital III
Prerequisite: ECET 2210
3-3-4
The student will design a single board computer (SBC) incorporating standard components such as RAM, ROM, address decode, and input/output devices such as keyboards and LCD displays. A complete software monitor system will be developed for the SBC utilizing industry standard development tools. One of the major objectives of this class is to provide an environment within which the student can experience a complete industry-like project development cycle. This cycle will include the design, development, construction and test of the project. Advance I/O topics will also be covered including ADC and DAC operation and interfacing.

ECET 3400 Data Communications
Prerequisites: ECET 2310, PHYS 1112K
3-3-4
This course is a survey of data communication topics. The OSI and TCP/IP protocol models are covered, with emphasis placed on protocols associated with the lower layers. The course includes synchronous and asynchronous transmission, line codes, modems, signaling, effects of bandwidth and noise, and digital and analog modulation techniques. Transmission media and error detection and correction are also covered. Other areas studied include analog-to-digital conversion, multiplexing, circuit and packet switching, and network topologies.

ECET 3410 High Frequency Systems
Prerequisites: ECET 2310, PHYS 1112K
3-3-4
A study of electronic transmission systems. The course includes the detailed study of rf transmission lines with a concentration on their fundamental principles, specifications, operation and practical applications. The course also includes the study of the fundamental principles of wireless and fiber-optic communications. Electromagnetic interference and electrostatic discharge, standards and regulations, and an introduction to the concepts of distributed networks is also introduced.

ECET 3500 Survey of Electric Machines
Prerequisite: ECET 2110
3-3-4
This introductory course in the characteristics and applications of basic electric machinery will begin with a review of magnetic circuits and transformers. Single-phase, three-phase, autotransformers, instrument transformers and buck-boost transformers will be covered. Three-phase and single-phase induction motors, synchronous motors and synchronous generator, dc motors and dc generators will also be included. The laboratory exercises will involve operating and testing transformers and machines to determine their operating characteristics. Among these characteristics will be the efficiency and voltage regulation as determined by direct and indirect methods.

ECET 3600 Test Engineering
Prerequisites: ECET 2210, ECET 2310
3-3-4
An introduction to test engineering principles with emphasis on computer-controlled instrumentation and data acquisition using industry standard bus structures such as the IEEE-488 bus and related protocol, D/A, A/D, and parallel I/O interfaces. Application software will be written in Visual Basic for testing a particular unit and interfacing various GPIB instruments. Visual Basic will be used as the overall project management software for the Unit Under Test. Design for testability and related topics will also be covered. Laboratory projects will emphasize automated testing using the principles covered in class.

ECET 3620 Signals and Systems Analysis
Prerequisites : ECET 2310, MATH 2306
3-3-4
Analysis of continuous -time signals occurring in circuits and systems containing linear and nonlinear elements. Analysis methods include graphical techniques, Laplace transform, Fourier analysis, convolution, and difference equations. Fundamental topics regarding AM and FM communication systems, Bode plots for transfer functions of arbitrary complexity, classical filter responses, and practical second-order filter designs are also presented. An introduction to discrete-time systems including sampling theory is also covered. MathCad and PSpice are utilized in conjunction with some of the computational laboratory exercises.

ECET 3640 Introduction to Systems Engineering and Robotics
Prerequisite: ECET 2310
3-3-4
This course will introduce students to the general principles of Systems Engineering through the development of an actual robotic systems. When completed, each student will understand the basic

elements of system engineering design including requirements analysis, functional decomposition, subsystem decomposition, risk analysis, physical and logical interface specification, physical modeling, simulation, and life cycle planning.

ECET 3701 Embedded PC's
Prerequisite: ECET 2210, ECET 3810
3-3-4
Introduction to the programming and interfacing of embedded PC's, with emphasis on systems using single-board, x86-based, computers. Programming will introduce both assembly and C languages. Interfacing will emphasize the use of the serial, parallel and USB ports. Operating systems will emphasize Linux and DOS. The PC BIOS and peripherals such as disk drives and video interfaces will also be studied.

ECET 3810 Applications of C++, JAVA and HTML
Prerequisite: ECET 1010
2-3-3
A study in the applications of several key programming environments. This course covers such topics as: data types, structures, functions, arrays, file I.O., system calls, data portability, security and Internet related topics as they pertain to the appropriate programming language.

ECET 3901-3904 Special Topics
Prerequisite: Junior standing
1 to 4 hours
Special topics selected by the department. Offered on a demand basis.

ECET 4010 Virtual Biomedical Instrumentation
Prerequisites: ECET 3020, ECET 3810
3-3-4
An introduction to the design of biomedical instrumentation using a graphical programming language such as LabVIEW or HP VEE. Topics include the design and programming of virtual systems such as cardiac monitors, healthcare information management systems, and patient monitoring systems.

ECET 4020 Biomedical Imaging
Prerequisites: ECET 3020, PHYS 2212K
3-3-4
An introduction to the principles of the major imaging equipment including x-ray radiology, x-ray computed tomography (CT), ultrasonography and magnetic resonance imaging (MRI). Includes a discussion of other emerging imaging technologies such as nuclear imaging (PET and SPECT).

ECET 4030 Bioinformatics and Telemedicine
Prerequisites: ECET 3600, ECET 3810
3-3-4
An introduction to computer-assisted technology used in the medical and health care industry. Design of communication network infrastructure related to accessing medical databases, visualizing medical techniques, and manipulation of histological medical data. Provides an introduction to wireless/wired LANs/WANs, computer-assisted surgical software, and hardware/software for medical image analysis.

ECET 4040 Biometrics
Prerequisites: MATH 2260, ECET 2310
3-3-4
An introduction to biometric recognition systems that utilize the physiological or behavioral characteristics of an individual for identification. In this course students will study the design of various biometric systems based on fingerprints, voice, face, hand geometry, palmprint, iris, retina, and other modalities. The performance of biometric systems and issues related to the security of these systems will be discussed. Multimodal biometric systems that use two or more of the above human characteristics will also be discussed.

ECET 4050 BMET Capstone (Project)
Prerequisites: Senior Standing
3-3-4
In this capstone course, the students implement the design and development of an approved bioengineering project. The project which will involve the design, fabrication, and formal demonstration of hardware and software functionality is completed during the course of the semester. A formal report and oral presentation are required

ECET 4050 BMET Capstone (Internship)
Prerequisites: Senior standing
3-3-4
This course introduces the student to an on-site learning experience at an operating biomedical equipment section of a health care facility. Supervision of the intern is shared by the working environment supervisor and a faculty advisor. Internist performance is evaluated at weekly seminars. Topics include: problem solving, use of proper interpersonal skills, interpreting work authorizations, identifying logistical support requirements, servicing biomedical instruments, evaluating operating cost, and professional development.

ECET 4320 Active Filters
Prerequisite: ECET 2310
3-3-4
A study of the characteristics, analysis, and practical topologies of active filters. The state-variable and Sallen-Key topologies are emphasized. Various filter responses are studied including Butterworth, Chebyshev, Bessel, and Cauer (elliptic). Delay, sensitivity, frequency scaling, impedance scaling, determination of pole-zero locations, and transformations of transfer functions are covered. Filter synthesis by equating coefficients of applicable transfer functions is included. The design of filters using normalized tables is presented. An introduction to switched-capacitor and digital filters is also included. Laboratory investigations include proto-boarding, designing and analyzing selected practical active filters. P-Spice, Math-Cad, and computer-aided testing are utilized in conjunction with the laboratory exercises.

ECET 4330 Audio Technology
Prerequisites: ECET 2210, ECET 2310
3-3-4
The fundamentals of specifications, standards, devices, circuits and systems used in audio are studied. Acoustics, power amplifiers, preamplifiers, frequency contouring circuits, signal processors, microphones, loudspeakers and sound reinforcement systems are covered. During the first half of the term, approximately six laboratory exercises are utilized to reinforce associated lecture topics. During the second half of the term, an audio design project is completed. Students are required to research, design, analyze, and implement the audio project.

Computer based simulation software (such as PSpice) and a computer-aided-testing system are used to analyze several of the lab exercises and the audio project.

ECET 4420 Communications Circuit Applications
Prerequisites: ECET 2310, PHYS 1112K
3-3-4
A study of radio frequency and optical-wavelength communications circuits and their applications. A variety of basic transmitter and receiver circuits are studied, including amplifiers, tuned oscillators, phase-locked loops, modulators and demodulators. Spectral analysis is introduced and the effects of noise in communications systems are investigated. Laboratory experiences demonstrate circuits and concepts discussed in the classroom.

ECET 4431 Wireless Communications Systems
Prerequisite: ECET 3410
3-3-4
This course investigates point-to-point radio frequency (rf) communications systems. The underlying principles, requirements, and characteristics of electromagnetic propagation and antennas are studied. Existing systems and recent advances in the area of wireless communications will be covered, including terrestrial and satellite applications. Topics covered include FDMA, TDMA, and CDMA based design. The application of wireless design principles to radar will also be discussed. Laboratory experiences and computer simulations supplement the classroom discussions.

ECET 4432 Fiber-optic Communications Systems
Prerequisite: ECET 3410
3-3-4
A detailed study of optical-wavelength communications systems. The underlying principles, requirements, and characteristics of optic sources, detectors, and dielectric wave-guides (fibers) are studied. Heavy emphasis is placed on systems analysis, including power budgets, bandwidth budgets, and signal-to-noise ratios. Recent advances in the area of fiber-optics will be covered, as well as emerging technologies and applications. Laboratory experiences supplement the classroom discussions.

ECET 4450 RF Electronics
Prerequisites: ECET 2310,ECET 3410, PHYS 1112K
3-3-4
A study of practical RF transceiver design and fabrication techniques. Theoretical concepts underlying transmitter and receiver circuits such as oscillators, mixers, filters, amplifiers,

EE 3501 Microprocessors & Embedded Systems
3-3-4
An introduction to microcontrollers and integrated microprocessor systems. Emphasis is placed on the Intel 8051 and Motorola 68HC11 families and derivatives. Hardware/software trade-offs, system economics and functional configurations are examined along with serial and parallel communications, watchdog timers, low power operation, and assembly language programming techniques. The architecture of design of sampled data systems is explored using case studies of representative applications.

EE 3601
Prerequisite: EE 3401
3-3-4
The study of the fundamentals of electro-mechanical energy conversion, magnetic circuits and electromagnetic devices, theory of operation and operating characteristics of transformers, DC machines, AC induction and synchronous machines and stepper motors.

EE 3605 Electromagnetics
Prerequisite: MATH 2255, PHYS 2212K
3-0-3
An advanced treatment of static electric and magnetic fields and their sources, Poisson and Laplace equations and boundary value problems, time-varying electromagnetic fields and Maxwell•s

ENGR 3122 Dynamics
Prerequisites: ENGR 2214, MATH 2254
3-0-3
A study of the mechanics of particles and rigid bodies. Topics covered include: kinematics and kinetics of particles; work and kinetic energy; impulse and momentum; rigid body motions; relative motion; and moving coordinate systems.

ENGR 3125 Machine Dynamics & Vibrations
Prerequisites: CSE 1301, ENGR 3122
3-0-3
The analysis of motion, velocity, acceleration, and forces in mechanisms and machines. Emphasis is placed on the analytical methods suitable for computerized analysis as well as graphical methods for visualization and preliminary design studies.

ENGR 3131 Strength of Materials
Prerequisites: ENGR 2214 and MATH 2254
3-0-3
The study and mathematical modeling of the mechanical behavior of materials under load. Emphasis will be on the elastic conditions of equilibrium, compatibility and material behavior. Includes study of stress and strain in columns, connectors, beams, eccentrically-loaded members, as well as introduction to statically indeterminate members.

ENGR 3132 Strength of Materials Lab
Co-registration or prior completion of ENGR 3131 required.
0-3-1
The study and performance of laboratory testing and analysis techniques used in the determination of the mechanical behavior of materials under load.

ENGR 3305 Data Collection and Analysis in Engineering
Prerequisites: MATH 2254.
3-3-4
This course combines the elements of proper engineering data collection and techniques unique to the field of civil engineering with the numerical analysis techniques needed to properly analyze the data. Using real world examples, students will collect various types of engineering data then analyze the data such that statistically valid conclusions can be achieved. Emphasis will be

ENGL 2120 British Literature
Prerequisite: ENGL 1102
3-0-3
A survey of important works of British literature. Includes a variety of literary forms such as poetry, drama, nonfiction, short stories, and novels. The course presents literature as a reflection of culture and the history of ideas.

ENGL 2121 British Literature I
Prerequisite: ENGL 1102
3-0-3
A survey of important works of British literature from the Old English period through the neoclassical age. The course includes a variety of literary forms such as poetry, drama, nonfiction, short stories, and novels. The course presents literature as a reflection of culture and the history of ideas.

ENGL 2122 British Literature II
Prerequisite: ENGL 1102
3-0-3
A survey of important works of British literature from the Romantic era to the present. The course includes a variety of literary forms such as poetry, drama, nonfiction, short stories, and novels. The course presents literature as a reflection of culture and the history of ideas.

ENGL 2130 American Literature
Prerequisite: ENGL 1102
3-0-3
A survey of important works of American Literature. Includes a variety of literary forms such as poetry, drama, nonfiction, short stories, and novels. The course presents literature as a reflection of culture and the history of ideas.

ENGL 2131 American Literature I
Prerequisite: ENGL 1102
3-0-3
A survey of American literature from the pre-colonial period to the mid nineteenth century. The course includes a variety of literary forms such as poetry, drama, nonfiction, short stories, and novels. The course presents literature as a reflection of culture and the history of ideas.

ENGL 2132 American Literature II
Prerequisite: ENGL 1102
3-0-3
A survey of American literature from the mid nineteenth century to the present. The course includes a variety of literary forms such as poetry, drama, nonfiction, short stories, and novels. The course presents literature as a reflection of culture and the history of ideas. Also offered as an eCore (online) class.

ENGL 2141 Western Literature I
Prerequisite: ENGL 1102
3-0-3
A survey of literature of the Western world from the Sumerians through the Renaissance. The course includes drama, poetry, prose fiction, and nonfiction. It emphasizes literature as an art and as a reflection of the history of ideas.

ENGL 2142 Western Literature II
Prerequisite: ENGL 1102
3-0-3
A survey of literature of the Western world from about 1600 to the present. The course includes drama, poetry, prose fiction, and nonfiction. It emphasizes literature as an art and as a reflection of the history of ideas.

ENGL 2300 African-American Literature and Culture
Prerequisite: ENGL 1102
Note: This class can be used in place of ES 1100 Ethnic Studies to satisfy the requirement in Area E, Group 4 of the core curriculum
3-0-3
An introduction to African-American literature in the context of a variety of cultural and historical perspectives. The course includes a variety of activities that draw upon literature, film, music, and live cultural experiences.

ENGL 3001 Written Communication for International Students
Prerequisite: ENGL 1101 and Departmental approval
3-0-3
Designed for international students enrolled in ETCMA degree programs, this class addresses the specific needs of non-native speakers in technical and professional communication to allow them to develop the written communication skills to become effective communicators. This class enhances academic and professional writing skills through project-based activities. Students will develop effective research skills and examine the multiple modes used in writing reports, proposals, and problem-solution essays. Students will develop a sense of tone as well as audience awareness in written communication.

ENGL 3010 Science Writing
Prerequisite: ENGL 1102
3-0-3
Examination of the types of writing produced in various scientific professions. Depending on the semester, possible topics may include one or more of the following: environmental writing, public policy documents, and other scientific documents. Cross-listed as TCOM 3010.

ENGL 3015 Environmental Writing
Prerequisite: ENGL 1102
3-0-3
Close study of global and more localized environmental issues, including air, water, soil, biotic communities, and impact on and by humans. Students will read works on the relationship between technology, human population, and the environment and will write essays, give an oral report, and complete a research project on environmental topics. Cross-listed as TCOM 3015.

ENGL 3020 Proposal Writing
Prerequisite: TCOM 2010;either TCOM 2020 or 2030 or concurrently
3-0-3
Theory and practice of writing proposals for business, industry, and non-profit organizations, with emphasis on in-house planning and external grant-seeking proposals. Course covers persuasion theory and strategies while leading students step-by-step through the proposal development process. Students develop skills in gathering and evaluating information, analyzing audiences, collaborating with peers and clients, building persuasive arguments, writing clearly and cogently, and designing visually effective documents. Cross-listed as TCOM 3020.

electronic literature, multi-media documents, and digital art. Students will take a lead role in soliciting, selecting, and editing material for SPSU's electronic literary and media arts magazine.

ENGL 4170 Media and Narrative
Prerequisite: Any 2000-level literature course
3-0-3
Students will explore the relationship between the form and content of narration. The course will look at a range of media within a historical perspective including (but not limited to): newspapers, novels, film, radio, television, and various digital media. Students will explore how media theory affects literary studies, and vice versa.

ENGL 4800 Project Portfolio
Prerequisites: TCOM 4030; Senior standing; completion of 24 hours of TCOM courses.
3-0-3
This course examines portfolios as professional tools for technical communicators. The course includes portfolio and writing theory along with a collaborative workshop environment. Students develop a professional portfolio of sample documents based on course project, internship experiences, and/or work history. In addition, students write a reflective paper examining their growth and maturity as technical communicators. Interviewing techniques, resume writing, and the job search process are included in the course. Cross-listed as TCOM 4800.

ENGL 4901-4903 Special Topics
Prerequisite: Consent of the Department Chair
1 to 3 hours
Special topics in literature, professional writing, and professional communication. Offered by the department at its discretion.

Environmental Science Courses

ENV 2100K Introduction to Environmental Science
Prerequisites: None
3-3-4
Examination of contemporary environmental issues related to Earth's natural systems, human population dynamics, natural resources, environmental quality, global changes, and environmental values in society. Scientific principles and data needed for gaining an understanding of environmental challenges on local, regional, and global scales will be emphasized.

ENV 2200K Geology

Prerequisite: MATH 1111

3-3-4

Plate tectonics, composition of continents and mechanisms of mountain building. Heat flow, magnetism, gravity, rock deformation, earthquakes and the earth's interior. Surface processes including weathering, erosion, transport and deposition. Landforms, rivers, groundwater, glaciers, ocean processes, and volcanoes. Minerals and rocks. Application of geology to land-use, groundwater, mineral and fossil 3 [(5nn91rratio)9.8( )]TJ /TT4 1 Tf 1.02 0 0 1.02 34.09168.98 Tm 0 Tc 0 Tw ( )Tj /F2 1 Tf 8.52 0 0 8.52 34.07e

Degree Course Descriptions

Honors Courses

variables and attributes, and process capability. Other topics include scientific sampling fundamentals, acceptance sampling by attributes and variables, and reliability.

IET 3356 Quality Concepts and Systems Design
Prerequisite: IET 2227
3-0-3
Quality system principles, methodology, elements, and standards will be discussed. Emphasis will be given to the management, organization, creation, and evaluation of quality systems necessary to assure organizational and functional compliance with stated quality system requirements (of national and international standards, including the ISO/Q 9000 Series) and extensions thereof. Alternative quality systems are also explored, including more comprehensive Total Quality Systems.

IET 3403 Industrial Experimentation
Prerequisite: IET 2227
3-0-3
This second of a two-course sequence will review of basic statistics, estimation, confidence intervals and hypothesis testing. Techniques for gathering, analyzing, and presenting technical and engineering data are presented. Topics include chi-squared contingency tables and goodness-of-fit tests, one- and two-way ANOVA, regression analysis,and design of experiment. Computer-based solution techniques are used where appropriate.

IET 3407 Six Sigma Concepts
Prerequisite: IET 3339
3-0-3
A study of current trends in quality as it relates to Six Sigma, Black Belt and lean on manufacturing

IET 3410 Principles of Team Dynamics
3-0-3
Students will learn the skills and techniques to succeed as a team member in the workplace. Topics include leadership and communication skills, social influences, decision making, problem solving techniques, and team development.

IET 3424 Engineering Economy
Prerequisite: MATH 1113
3-0-3
As an introduction to the effect of the time value of money this course will use equivalent annual cost, present worth, internal rates of return, and benefit to cost ratios in making economic analysis. Tax consequences, replacement theory and economic life will be examined in the analysis of engineering problems.

IET 3433 Engineering Product and Process Cost Estimating II
Prerequisites: ACCT 2101
3-0-3
This second course in a two-course sequence is devoted to a study of cost measurement related to manufacturing and non-manufacturing sectors through cost measurement and control in job order, process, standard and variable costing systems. Content includes the recording and control of material, labor and overhead costs, absorption and direct costing, budgeting, and cost volume profit and analysis.

IET 3501 Service Systems Engineering
3-0-3
An overview of the major service industries in the United States, including Health Care, Distribution, Banking, and Retail will emphasize the engineers' role in these industries. Case studies will be used to study the rising prominence of the service sector in the American economy and the growing role of the engineer.

IET 3511 Sustainability Engineering
3-0-3
This course focuses on the science, engineering and ethics of ecological, social environmental issues and the impact human population has on the current environment and explores new sources of energy, air and water quality, waste treatment, reclamation, conservation efforts and how engineers can partner to meet the challenges.

IET 4111 Design of Experiments
Prerequisites: IET 3356
3-0-3
A study for Design of Experiments, its application and programs that support it. Software will be used for solutions.

IET 4121 Advanced Topics in Quality Assurance
Prerequisite: IET 3407
3-0-3
Current trends in Quality will be examined.

IET 4326 Wage and Salary
3-0-3
The course is a study of the concepts and practices of compensation administration with emphasis on its motivational aspects. Essential stages of the compensation - reward system are included such as job design, job descriptions, job evaluation, and market comparison techniques for compensation program development.

IET 4354 Principles of Transportation
3-0-3
This course provides a study ofgeneral economic characteristics and government regulation of rail, motor, water, air, and pipeline carriers. The different forms of transportation are analyzed in terms of service rendered, costs, transit time, reliability, capability, accessibility, security, and traceability. Labor relations and currents issues in national transportation policy will also be discussed.

IET 4375 Engineering Sales Law
3-0-3
This course offers a study of general law of property and bailments, sales and product liability, and patents, copyrights, and trademarks.

IET 4405 Principles of Operations Research
Prerequisite: IET 2227
3-0-3
This course will introduce the students to quantitative techniques used in the solution of industrial operations problems. Topics include linear programming, assignment and transportation techniques, queuing theory, decision analysis and computer simulation.

IET 4422 Plant Layout and Materials Handling
Prerequisites: IET 3322, IET 3433, EDG 1210
2-4-4
Principles and practices in layout and material handling for industrial/service facilities planning are studied. A group project requires students to integrate product, process and functional

design of a facility. Cost analysis for facility planning and operation is also utilized in the project.

IET 4427 Methods-Time-Measurement
3-0-3
MTM- I is a predetermined time system which is used to establish labor standards on manual operations (machine operators, assembly operators, clerical operators, etc.). Emphasis is on the definitions and application rules of MTM-1. This course meets the MTM Association's prescribed format for MTM-1 Blue Card Certification. There is a lab fee for this course which covers the cost of the official MTM-1 textbook and registration as an MTM-1 Applicator for an initial three-year period.

IET 4435
3-0-3
This course examines the basic fundamentals of personal selling in the context of selling industrial or technical products. Current readings and up-to-date selling techniques will also be examined.

IET 4447 Industrial Sales Development & Control
3-0-3
This course offers a study of the planning of purchasing and materials activities. Topics covered will include specification and standardization, vendor evaluation, receiving and storage, pricing, reciprocity, negotiation, legal aspects, and computer based purchasing. Just-in-time (JIT) or dering, bar code labeling, and electronic data interchange (EDI) will also be examined.

IET 4451 Systems Simulation
Prerequisite: IET 4405
2-3-3
This is an in-depth study of simulation as applied to manufacturing, inventory and distribution systems. Topics will include basic simulation and system modeling techniques, random sampling procedures, production modeling, inventory modeling and system evaluation. Emphasis will be upon hands-on simulation of various operations using ARENA, a PC-based graphical simulation program.

IET 4460 Warehouse Operations
3-0-3
This course gives an in-depth approach to the proper ways to organize and operate a warehouse. Topics include warehousing, principles, site selection, facility design, facility size, JIT, automation, and advanced warehouse technology.

IET 4475 Senior Project
Prerequisite: IET 4422
1-4-3
This course focuses on the student completing a project that is a comprehensive application of the subject matter in the IET curriculum. A large-scale feasibility study is to be performed to emphasize the interrelated topics of logistical and production processes for a fictitious company. The course requires a formal written report and a defended oral presentation before industrial and academic experts.

IET 4478 Senior Internship
Prerequisites: IET 3403 and IET 4422
1-4-3
The course focuses on the student's completing a project at an existing business under the joint supervision of the Southern PolyTech faculty and practicing professionals. The course requires a formal written report and a defended oral presentation.

IET 4500 Technical Sciences Survey
Prerequisites: PHYS 1112 or PHYS 2212
4-0-4
The course provides a survey ofengineering technical courses. Topics discussed will include mechanics of solids/fluids, material science, electrical principles and thermodynamics.

IET 4555 Auditing and Assurance
3-0-3
A systems approach to control and operation of the industrial logistics network is studied. The use of an integrated information system will be emphasized. Interdependencies of the enterprise units will be investigated including order processing, production scheduling, inventory control, shipping and their related transactions.

IET 4810 Ethics and Safety
1-0-1
Students are provided information pertaining to ethics and safety regulations applicable to the textile industry.

IET 4901-4905 Special Topics
Prerequisite: Department Chair Approval
1 to 5 hours
Special problems selected by the department. Offered on a demand basis.

Information Technology Courses

IT 1113 Programming Principles
Prerequisite: MATH 1113 or concurrent
3-0-3
This course covers the fundamentals of computer programming and the use of a computer for performing calculations and using data files. Concepts of counters, accumulators, decision-making, looping, subroutines, arrays, files and string processing are covered. A programming language such as Visual Basic is used for laboratory assignments.

IT 1324 Advanced Programming Principles
Prerequisite: CSE 1301
3-2-4
This course introduces contemporary programming concepts of object-oriented data structure an e0.005 Tassignments 5 Tw 25 Thouasocialc

acceptance of IT applications that crucially depend on the HCI component will be covered.

IT 4723 IT Policy and Law
Prerequisites: IT 3223 or IT 3224 and IT 3123
3-0-3
This course covers current issues in IT including the law, ethics and social values. Topics include copyright, patents, trademarks, trade secrets, computer ethics, co mputer crime, computer abuse, cultural impact, web issues, information warfare and current legislation.

IT 4823 Information Security Administration
Prerequisites: MATH 2345 and CS3153, and (IT 3123 or CS 3224)
3-0-3
The student develops knowledge of the principles of information assurance at the policy, procedural, and technical levels to prepare the student for a role as a business decision-maker. Real-world examples from the te xt and current events will be used to demonstrate the applicability of the techniques of information assurance.

IT 4833 Wireless Security
Prerequisite: IT 4823 or CS 3243
3-0-3
This course covers methods and techniques to secure wireless networks against threats and atta cks. Topics include: Encrypt wireless traffic for privacy and authenticity, implement WPA and the 802.lli security standards to protect Wi-Fi networks, wireless network intrusion detection and prevention, and security trouble-shooting WLANs.

IT 4843 Ethical Hacking for Effective Defense
Prerequisites: CS 3153, IT 3123 or CS 3224
3-0-3
This course focuses on detection of network and system vulnerabilities by taking an at tacker-like approach to system, network, and data access. Topics include network attacks and defenses, Operating system and application vulnerabilities, social engineering attacks, and malware. Ethical, legal implications of network attacks are also discussed.

IT 4853 Computer Forensics
Prerequisite: IT 4823 or CS 3243
3-0-3
This course studies techniques and tools in computing investigation, digital evidence collection, recovery, and analysis. Topics include: Legal issues rela

WBIT 4602 IT Strategy Seminar

Students will participate in research and discussion on a topic of current interest. A term paper on the topic (or related subtopic) is required. A designated faculty member will select the topic in advance based on his/her expertise and lead the seminar.

WBIT 4610 IT Policy and Law

This course will focus on the legal implications of conducting business in the information technology age. Topics will include current understanding of internet contracts, copyright, trademark and patent law. Further, this course will examine cutting-edge cases relating to security, e-commerce, and emerging ethical issues and trends.

International Studies Courses

SIS 1000 International Studies Orientation
1-0-1
This course examines the methodologies appropriate to the International Studies major, helping to prepare students for upper-division course work in the major. In addition, students will be introduced to the career opportunities in International Studies; familiarized with college and departmental policies, curriculum, and facilities; and introduced to the departmental faculty.

POLS 2100 Basic Quantitative Research Methods for International Studies and Political Science
Prerequisite: MATH 1111 (or MAT of 24+)
3-0-3
This course provides students with an introduction to basic research design for the social and political sciences with a focus on those methodologies appropriate to hypothesis testing and data

Fundamental principles of struct ure and properties of materials utilized in the practice of engin eering. Properties of materials are related to atomic, molecular, crystalline structure. Metals, ceramics, multiphase systems, and polymeric materials. Relationships between structur

Methods of solving ordinary differential equations of first and higher order. Systems of linear differential equations and solutions using the Laplace transform. Fourier series. Mechanical and electrical engineering applications are included.

MATH 2335 Numerical Methods I
Prerequisites: MATH 2254, knowledge of a higher level programming language
3-0-3
Methods of numerical computation. Error analysis, solutions of equations, interpolation, quadrature, and linear systems. The course emphasizes the effective application of numerical approximation techniques in the solution of problems frequently encountered in engineering and science.

MATH 2345 Discrete Mathematics
Prerequisite: MATH 1113
3-0-3
An introduction to the fundamentals of discrete mathematics. Topics include sets, formal logic, methods of proof, counting, relations, functions, graphs and trees, and finite state automata.

MATH 2901-2905 Special Topics
1 to 5
Special topics in mathematics. Either a course taught on a onetime basis or a pre-arranged project conducted by specific written arrangement with an individual instructor.

MATH 3261 Statistical Methods
Prerequisite:MATH 2253
3-0-3
This course is designed to introduce the student to inferential statistics. Topics include: Central Limit Theorem, sampling distributions, statistical tests/confidence intervals for means and proportions, inferences for correlation and regression, multiple regression, Chi Square: tests of independence and goodness of fit test, testing and estimating a single variance or standard deviation (ANOVA). Appropriate technology may at times be used to complement the learning process

MATH 3268 Probability Theory
Prerequisite: MATH 2254
3-0-3
Axioms of probability, counting techniques, discrete and continuous univariate and multivariate random variables, expectation, Markov Inequality, moment generating functions, and applications of probability to statistical decisions.

MATH 3310 Introduction to Advanced Mathematics
Prerequisites: A grade of "C" or higher in MATH 2345
3-0-3
This course is designed to provide a transition to higher level mathematics through a hands-on introduction to creative problem solving, formal mathematical concepts, and proofs. Topics include logic, proofs, induction, formal systems, and set theory.

MATH 3312 Linear Algebra
Prerequisite: MATH 2254
4-0-4
An axiomatic treatment of real vector spaces, including computational and theoretical basics. Topics include bases,

Mechanical Engineering

Mechanical Engineering Technology

The Bachelor of Science degree program in Mechanical Engineering Technology is accredited by the Technology Accreditation Commission; ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012. Telephone: 410-347-7700; email accreditation@abet.org; website: http://abet.org.

MET 1000 Mechanical Engineering Technology Orientation
2-0-2
An introduction to career opportunities in the Mechanical Engineering Technologies; familiarization with college and departmental policies, curriculum, and facilities.

MET 1311 Manufacturing Processes

MET 4421 Instruments and Controls
Prerequisites: ECET 3000 or concurrently; CS 2123, MATH 2306, ENGR 3131
3-3-4
This course covers the principles of engineering experimentation and process control. Students are instructed in current methods of data gathering, data regression, graphical analysis, result compilation, and report writing. Data gathering will include both manual techniques and computer data acquisition systems. An understanding of sensor selection, interfacing, and implementation is provided th rough lecture and laboratory assignments. The fundamentals of uncertainty analysis along with the application of dimensional analysis and similitude are covered. Programmable Logic Controllers (PLC's) are used to introduce students to process control. Laboratory exercises illustrating the use of instrumentation for perfor mance evaluation and control of mechanical systems are conducted.

MET 4431 Plant and Power Applications
Prerequisite: MET 3402 or concurrently
3-0-3
A study of the applications of fluid mechanics, thermodynamics and heat transfer to industrial process plants. Fundamentals of piping design, selection of fans, heat exchangers and other components commonly used in industrial processes are covered.

MET 4801-4805 Special Projects
Prerequisite: Consent of the Department Chair
1 to 5 hours

include thermodynamics and waves. Elementary algebra and trigonometry will be used. La boratory exercises supplement

PHYS 4220 Electromagnetism II
Prerequisite: PHYS 3220
3-0-3
A study of electromagnetic fields in matter, and of electromagnetic waves and their propagation. Emphasis will be given to calculational techniques.

PHYS 4230 Thermal Physics
Prerequisite: PHYS 2213K, a grade of C or better in PHYS 2212K
4-0-4
A study of the principles of thermal equilibrium, physical statistics, irreversible processes, and the approach to equilibrium.

PHYS 4240 Solid State Physics
Prerequisite: PHYS 3710
3-0-3
Application of quantum mechanics to molecules and solids including such topics as molecular bonding, spectra of diatomic molecules, binding forces and bonding theory in solids, and application to solid state devices.

CE Materials for Civil & Construction Engineering
Prerequisite: Math 2254, PHYS 2212K or PHYS 1112K
2-0-2

Application of quantum theory to the behavior of systems that can be described using only two basis states. The primary examples used are photon polarization states and fermion spin states.

PHYS 4410K Advanced Measurements Laboratory
Prerequisite: a grade of C or better in both PHYS 3410K and PHYS 3720L
1-3-2
An introduction to instrument cont

ARCH 3012 Architecture Studio II
Prerequisite: ARCH 3011
0-12-4
This course is a continuation of ARCH 3011 and the integration of technology. Students design a small scale project usually in a dense urban setting. Emphasis in placed on site context and systems and materials research in support of design intent. The first half of the semester is devoted to project design and the latter half is spent examining the construct of the design through large scale models.

DFN 2112 Architecture Culture II - The Renaissance through 1850
Pre-Req: DFN 1111
3-0-3
A continuation of Architecture Culture to examining the relationship between architecture and other cultural discourses such as philosophy, aesthetics, science, religion, politics and technology. While continuing in the aim of developing an understanding of how architecture manifests the socio-cultural conditions of a given moment in aesthetic form, simultaneously examines the development of an autonomous architecture culture, one that we refer to as theory.

ARCH 3113 Architecture Culture III - 1850 through 1945
Pre-Req ARCH 3116
3-0-3

Human development from conception to death, emphasizing biological, cognitive emotional, social and personality development. Theories of development and applications to real-world problems will provid e a context for understanding human change during the life-cycle.

PSYC 390x Special Topics
Prerequisites: Consent of the Department Head
Special Topics in psychology. Offered by the department on a demand basis.

PSYC 4000 International Psychology
Prerequisite: PSYC 1101.
3-0-3

The course will examine mainstream as well as alternative theoretical, methodogical, and applied approaches that are relevant to the study and practice of international psychology. The topics discussed will emphasize psychology's relevance to the understanding and solution of glob al problems, as well as of how psychology itself is affected by events and cultures around the world.

PSYC 4050 History and Systems of Psychology
Prerequisite: PSYC 1101
3-0-3

A review of the history of psychology from ancient to modern times. The rise and fall of psychological systems such as structuralism, functionalism, behaviorism, gestaltism, and psychoanalysis. The characteristics of contemporary psychology.

PSYC 4130 Psychology of Aging
3-0-3

Course focuses on gerontology, with emphasis on learning, personality, attitudes, perception , ability, and adjustment in the aged.

PSYC 4220 Psychoactive Drugs, Behavior, and Society
3-0-3

This course addresses how psychoactive drugs work int he central nervous system to affect behavior. Stimulants, depressants, hallucinogens, analgesics and psychotropic drugs will be discussed primarily in terms of th eir pharmacological action in the brain. Substance abuse and treatment will also be discussed.

PSYC 4600 Conflict Resolution
3-0-3

Styles of negotiation as a tool used to resolve conflicts and disputes. Also studied are alternative dispute resolution (ADR) systems used at the local, regional, national, and international levels.

PSYC 4800 Psychology Capstone Seminar
Prerequisite: Completion of Psychology upper division core and

consider the impact of the ethical dilemmas and to evaluate their social influences.

STS 4400 Topical Studies in Science and Technology
Prerequisite: ENGL 1101and STS 2400
3-0-3
Examines the technical, social and moral issues raised by a particular issue of current concern in international science and technology. Students develop technical understanding, historical perspective and current events literacy relevant to the topic explored in a given term.

STS 4800 Global Technology Seminar
Prerequisite: STS 2400 and completion of international studies upper division core and senior status OR permission of the instructor
3-0-3
This seminar course serves as the capstone course for the student majoring in International Studies. Students will research and complete a self-directed project in which they will integrate the interdisciplinary aspects of their program, while demonstrating their grasp of technology issues within the international context, as well as their mastery over their specific area of specialization.

Other Relevant Course Descriptions:

Core Courses
History (HIST)
International Studies (SIS)
Modern Languages (FREN, SPAN)
Political Science (POLS)

STS 490x Special Topics
1 to 5 hours.
Special Topics in Science, Technology, and Society. Offered by the department on a demand basis.

Sociology

SOCI 1101 Introduction to Sociology
3-0-3
sociology life. This course explores ... introduction to sociology, including the topi3.6(hi)4(c)s3.9(nconv4.2(e)-.7(sed 3.6(hmasy4.2(oncludi3.6(h)]TJ -14.9(07 01.2887 T
.92 01.2958 TD basic concepts, different theoretical ... methods and benefiti)Tj -1

Degree Course Descriptions

SWE 4783 User Interaction Engineering
Prerequisite: SWE 2313 or SWE 4324
3-0-3
This course follows a complete software engineering cycle to produce software objects that support users in effective, efficient, and enjoyable interactions with computers. Class exercises and a project incorporate concepts and methods including ethnographic and user analysis; cognitive ergonomics; usability metrics and criteria; software engineering practices, conventions, standards, and documentation; device-user action mapping; person-system function allocation; quality management systems; conceptual prototyping; embedded systems in support of

Surveying and Mapping Courses

SURV 2110 Introduction to Mapping
Prerequisite: MATH 1113
3-3-4
Introductory class in basic surveying and mapping skills including geographic information systems (GIS). Topics include scales, leveling, horizontal measurements, GPS mapping, topography, map projections, GIS analytical tools, data sources, raster and vector data and software applications. Emphasis will be on small scale mapping.

SURV 2200 Construction Measurements
Prerequisite: MATH 1113.
3-3-4
Use and care of engineers level, transit and tape; leveling, traversing, stadia, contours, horizontal and vertical field layouts for buildings; reading and interpre tation of site survey maps. (No credit for CET or Surveying and Mapping majors.)

SURV 2221 Surveying I
Prerequisites: EDG 2160, MATH 1113.
3-3-4
Angles, distances, elevations; horizontal and vertical location using total station and level; simple horizontal and vertical curves; contouring; introduction to th e Global Positioning System; introductory coordinate computat ions; simple topographic survey project.

SURV 3222 Surveying II
Prerequisite: SURV 2221.
3-3-4
Route geometry computations and field techniques; automated data collection and reduction for topographic surveys; coordinate computations for intersections; route design project.

SURV 3320 Photogrammetry and Remote Sensing
Prerequisite: SURV 3222.
2-3-3
Analysis and interpretation of ph otographic and satellite imagery; vertical and orthography; ground control; project planning; digital softcopy methods.

SURV 3330 Construction Surveying
Prerequisite: SURV 3222.
3-3-4
Layout of designed structures from land bound aries, right of way parcels, applications of coordinate geometry, hydrographic surveying.

SURV 3421 Geographic Information Systems I
Prerequisite: SURV 2221
3-3-4
GIS concepts; spatial data analysis; information systems; digital elevation models; surveying and mapping components of GIS development.

SURV 3901-3904 Special Topics
Prerequisites: Junior standing , consent of the program head
1 to 4 hours
Special topics offered by the department on a demand basis.

SURV 4110 Geographical Information Systems (GIS) Practice
Prerequisite: SURV 4422 or permission of Department Chair.
1-6-3
A capstone course in the applications of GIS technology. Course requires a project developed with an industry partner in applying mapping and analytical skills.

SURV 4410 Surveying Computations and Adjustments
Prerequisites: MATH 2260, SURV 3222.
3-3-4
Advanced surveying computations; matrix algebra; computer methods; statistical analysis of error propagation; variance and co-variance; least squares adjustments.

SURV 4415 Geodetic Surveying Methods
Prerequisite: SURV 3222.
3-3-4
Topics in Geodetic Surveying Methods including traversing, leveling and GPS. Coordinate systems and projects are utilized.

SURV 4420 Remote Sensing
Prerequisite: SURV 3421
3-3-4
Remote sensing systems; ground truthing; mapping applications; satellite imagery integration into GIS.

SURV 4422 Geographic Information Systems II
Prerequisite: SURV 3421.
3-3-4
Continuation of GIS I;D -.00c .27o8.6(nr:)-e Tw [(3-3-4)-8(o)(sate).1(5n(eUa

in this field and the types of opportunities available. Speakers will be brought in for various topics.

SYE 2100 Systems Analysis and Design
Prerequisite: sophomore standing
In this course students will learn techniques for developing, analyzing and portraying design and life cycle systems

Development of skills in pr oofreading, copyediting, and comprehensive editing. This course addresses issues of style, content, organization, and visual design.

TCOM 4035 Fundamentals of Website Design
Prerequisite: TCOM 2010;either TCOM 2020 or 2030 or concurrently
3-0-3
Study of effective information design and delivery for websites. Covers principles and best practices for creating usable websites and teaches students fundamentals of HTML, use of HTML authoring tools, web page writin g and editing, web graphics and multimedia elements, and webs ite architectures and content

submits to the TCOM Undergraduate Program Coordinator a proposal that clearly defines the course of study and the benefits to be obtained. The proposal, which must be submitted at least one semester prior before taking the course, must be approved by the student's advisor and the TCOM faculty committee. Upon approval, the student is assigned a faculty advisor.

TCOM 4700 Internship
Prerequisite: Junior standing, with a 3.0 or better GPA in major
3-0-3
An opportunity for students to apply principles and techniques of technical and professional communication in a specific organization. The student is responsible for finding an internship, but the program will help in the effort. The student must submit a written proposal describing the internship according to program guidelines. Each internship is monitored by the student's advisor.

TCOM 4800 Project Portfolio
Prerequisites: TCOM 4030; Senior standing; completion of 24 hours of TCOM courses.
3-0-3
Course examines portfolios as professional tools for technical communicators. The course includes portfolio and writing theory along with a collaborative workshop environment. Students

Southern Polytechnic State University
Senior Administration

Dr. LISA A. ROSSBACHER - President
- Ph.D., Princeton University
- M. A., Princeton University
- M. A., State University of New York at Binghamton
- B. S., Dickinson College

Dr. RON DEMPSEY - Vice President for Advancement
- Ph.D., Southern Baptist Theological Seminary
- M.A., University of Louisville
- M. Div., Southern Baptist Theological Seminary

Dr. RON R. KOGER - Vice President for Student and Enrollment Services
- Ed.D., University of Kansas
- M.Ed., University of Kansas
- B.S.Ed., Pittsburg State University

Dr. BILL PRIGGE - Vice President for Business and Finance
- Ph.D., University of Nebraska
- M.B.A., University of North Carolina at Greensboro

M. Arch., Tulane University
B. Arch., Tulane University

Rizzuto, Anthony
Associate Professor
M. Arch., University of Illinois
BA of Design, University of Florida
Assoc A.I.A.

Sargent, Kenneth L., Jr.
Professor Emeritus
Master of Construction Management, Southern Polytechnic State University
B.E.T., Southern Polytechnic State University
Reg. Arch.

Shpuza, Ermal.
Assistant Professor
Ph.D., Georgia Institute of Technology
M.Sc., University of London
Dipl., Polytechnic University of Tirana, Albania

Tango, Robert
Assistant Professor
M.A., University of Florida
B.A., University of Florida

Uddin, M. Saleh
Professor
Ph.D., University of Sheffield, United Kingdom
M. Arch., Kent State University
B. Arch., Bangladesh University of Teaching and Technology

Voroneanu, Manole
Assistant Professor
Prof. M.Arch., Miami University
Prof. Dipl.Arch., Technical University of Iasi (Romania)

Welty, Christopher
Assistant Professor
M. Arch., Georgia Institute of Technology
B. S., Georgia Institute of Technology M. Arch., UniversitTulaKc .0007 TZiad(hi)-1, Hlogy0.5(1(ze, Erm9)6.2( )]TJ /F3 1 Tf 8.52 0 2.914 8.52 43275

M.S.C.E., Georgia Institute of Technology

Ph.D., University of Delaware
M.A.., University of Delaware
B.A.., University of Delaware

Shinall, Cheryl
Instructor
M.A.., Kennesaw State University
B.A.., Emory University

Smith, Herbert J.
Professor
Ph.D., Kent State University
M.A., Northeastern University
B.A., Northeastern University

Stephenson, Charlotte
Instructor
M.A., University of Alabama
B.A., Judson College

Stevens, Mark K.
Associate Professor
Ph.D., Florida State University
M.A., Florida State University
B.A., University of South Florida

Weaver, Melissa
Lecturer
M.S., University of Tennessee, Knoxville
B.A., University of Tennessee, Knoxville

Werner, James P.
Assistant Professor
Ed.D., Columbia University Teacher's College
M.F.A., Kent Institute of Art and Design
B.A., San Diego State University

Department of English, Technical Communication and Media Arts Faculty Emeriti

Hays, Robert, Professor Emeritus
Morrow, Susan, Professor Emerita
Pfeiffer, William S., Professor Emeritus
Rainey, Kenneth, Professor Emeritus
Tumlin, John S., Professor Emeritus
Wess, Robert, Professor Emeritus

Department of Mathematics Faculty

Cao, Zhu
Assistant Professor
Ph.D., University of Illinois at Urbana-Champaign
M.S., University of Illinois at Urbana-Champaign
B.S., Shandong University

Deng, Shangrong
Associate Professor
Ph.D., Michigan State University
M.A., Michigan State University
B.S., South China Normal University, Shanghai

Dillon, Meighan I.
Professor
Ph.D., University of Virginia
B.A., Hunter College-CUNY

Edwards, Steven R.
Professor
Ph.D., University of Virginia
M.S., Southern Illinois University
B.A., St. Johns College

Fadyn, Joseph N.
Professor
Ph.D., Lehigh University
M.S., Georgia State University
M.S., Lehigh University
B.A., Lehigh University

Fowler, Joel C.
Associate Professor
Ph.D., California Institute of Technology
M.S., Emory University
B.S., Emory University

Griffiths, William
Assistant Professor
Ph.D., University of Florida
M.S., University of Florida
B.S., University of Florida

Holliday, Sarah
Assistant Professor
Ph.D., Auburn University
M.A.M., Auburn University
B.A., Converse College

McMorran, Andrew G.
Associate Professor and Department Chair
Ph.D., Old Dominion University
M.S., Old Dominion University
B.Sc. (Hons), Heriot-Watt University, Scotland

Pascu, Nicolae
Assistant Professor
Ph.D., Babes-Bolyai University of Cluj-Napoca, Romania
M.S., University of Connecticut
M.S., Transilvania University of Brasov, Romania
B.S., Transilvania University of Brasov, Romania

Ritter, Laura
Assistant Professor
Ph.D., Northwestern University
M.S., University of Texas at Dallas
B.S., University of Texas at Dallas

Vandenbussche, Jennifer
Assistant Professor
Ph.D., University of Illinois at Urbana-Champaign
M.A., University of Illinois at Urbana-Champaign

B.M., State University of New York at Potsdam

Wang, Long L.
Associate Professor
Ph.D., University of Wisconsin
M.S., University of Wisconsin
B.S., Shanxi Teacher's University

Xu, Hua
Lecturer
Ph.D., Georgia Institute of Technology
M.S., Georgia Institute of Technology
B.S., University of Science and Technology of China

Xu, Taixi
Associate Professor
Ph.D., Emory University
M.S., Emory University
M.S., Hebei Teacher's University
B.S., Shijiazhuang Railway Institute

Department of Mathematics Faculty Emeriti

Abusaid, Ahmad, Associate Professor Emeritus
Gordon, John T., Professor Emeritus
Haddle, Gillian P., Professor Emeritus
Hall, Kathleen A., Professor Emerita

Faculty of the School of Computing and Software Engineering

Reichgelt, Han
Professor and Dean, Schoolof Computing and Software Engineering
Ph.D., University of Edinburgh (UK)
M.S., University of Nijmegen (Netherlands)
B.A., University of Nijmegen (Netherlands)

Department of Computer Science and Software Engineering Faculty

Bernal, Barbara V.
Professor
M.Ed., Georgia State University
B.S., Georgia State University

Bobbie, Patrick O.
Professor
Ph.D., University of Southwestern Louisiana
M.S., Marquette University
B.S., University of Science & Technology, Ghana

Chastine, Jeffrey W.
Associate Professor
Ph.D., Georgia State University
M.S., Georgia Institute of Technology
B.M., Valdosta State University

Dasigi, Venu G.
Professor and Department Chair
Ph.D., University of Maryland-College Park
M.S., University of Maryland-College Park
M.E.E., Netherlands Universities Foundation for International Cooperation (NUFFIC)
B.E., Andhra University

Duggins, Sheryl L.
Professor
Ph.D., University of Florida
M.S., University of Missouri-Columbia
B.A., University of Missouri-Kansas City

Eidson, Thomas M.
Instructor
Ph.D., University of Michigan
M.S., University of Michigan
B.A.E., Georgia Institute of Technology

Gesick, Richard A.
Lecturer
M.S., Southern Polytechnic State University
B.S., University of West Florida
B.S., Purdue University

Harbort, Robert A., Jr.
Professor
Ph.D., Emory University
M.S., Georgia Institute of Technology
B.S., Emory University
P.E., Georgia

Hung, Chih-Cheng
Professor
Ph.D., University of Alabama-Huntsville
M.S., University of Alabama-Huntsville
B.S., Soochow University

Jung, Edward
Assistant Professor
Ph.D., University of Minnesota
B.S., University of Minnesota

Karam, Orlando A.
Associate Professor
Ph.D., Tulane University
M.S., Tulane University
B.S., University of Yucatan [Mexico]

Lo, Chia-Tien Dan
Associate Professor
Ph.D., Illinois Institute of Technology
M.S., National Taiwan University
B.A., National Chung-Hsing University

Morrison, Briana B.
Assistant Professor
M.S., Southern Polytechnic State University
B.S., Tulane University

Pierce, Patricia P.
Senior Lecturer
M.S.S.W.E., Southern Polytechnic State University
B.A., Dunbarton College of Holy Cross

Pournaghshband, Hassan
Professor
Ph.D., University of Oklahoma
M.S., Northwestern University
B.S., University of Tehran

Preston, Jon A.
Associate Professor
Ph.D., Georgia State University
M.S., Georgia Institute of Technology
B.S., Georgia Institute of Technology

Qian, Kai
Professor
Ph.D., University of Nebraska-Lincoln
M.S., East China Normal University
B.S., Harbin Engineering College

Salimi, Abi
Associate Professor
Ph.D., University of Central Florida
M.S., University of Iowa
B.S., The Institute of Banking Science (Iran)

Tsui, Frank
Associate Professor
Ph.D., Georgia Institute of Technology
M.S., Indiana State University
B.S., Purdue University

Department of Computer Science and Software Engineering Faculty Emeriti

Murphy, Michael G., Professor Emeritus
Schroeder, Ronald N., Associate Professor Emeritus

B.S., Virginia Poly Tech and State University
P.E., Georgia

Ball, Thomas
Instructor and Chair
M.B.A., Georgia State University
B.A., Oglethorpe University

Caudill, David F.
Professor and Associate VPAA
M.S.I.E., Lehigh University
B.S., North Carolina State University

Dollar, E. Lester, III
Associate Professor
M.S., Georgia Institute of Technology
B.S., Georgia Institute of Technology

Ellis, Carol R.
Instructor
M.S., Southern Polytechnic State University
B.S., Southern Polytechnic State University

Frye, David C.
Lecturer
Ph.D., Georgia Institute of Technology
M.S., Georgia Institute of Technology
M.S., University of Southern California
B.A., Indiana University of Pennsylvania

Hunt, Ruston
Associate Professor
Ph.D., University of Illinois
M.S.I.E., University of Illinois
B.S.I.E., University of Illinois

Jackson, Kenneth J.
Assistant Professor
Ph.D., Georgia Institute of Technology
M.S.I.E., Georgia Institute of Technology
M.S.M.E., Georgia Institute of Technology
B.S.M.E., Auburn University

McShane Vaughn, Mary
Assistant Professor
Ph.D., Georgia Institute of Technology
M.S., Georgia Institute of Technology
BSIE, General Motors Institute

Scherrer, Christina R.
Assistant Professor
Ph.D., Georgia Institute of Technology
M.S., Georgia Institute of Technology
B.S.., Georgia Institute of Technology

Solak, Senay
Assistant Professor
Ph.D., Georgia Institute of Technology
Ph.D., Sabanci University
M.S., Georgia Institute of Technology
B.S.E.E., United States Naval Academy

Thomas, Walter, Jr.
Professor
Ph.D., Georgia State University;
M.B.A., Georgia State University
M.S., Georgia Institute of Technology
B.S., Georgia Institute of Technology
A.T.E.T., Southern Polytechnic State University

Department of Industrial Engineering Technology Faculty Emeriti

Bannerman, James W., Professor Emeritus
Brooks, Glen E., Professor Emeritus
Carden, Patricia, Professor Emerita
Carmichael, Thomas H., Professor Emeritus
Franklin, Patricia S., Professor Emerita
Hamrick, Janes, Professor Emeritus
McClure, Hoyt L., Professor Emeritus
McGuire, Richard W., Professor Emeritus
McKee, James, Associate Professor Emeritus
McPherson, Jack, Professor Emeritus
Stephens, Kenneth S., Professor Emeritus
Wimberly, Charles A., Professor Emeritus

Department of Mechanical Engineering Technology Faculty

Conrey, Gregory M.
Associate Professor
M.Ed., Georgia State University
B.S., Eastern Kentucky University

Fleming, Kenton
Assistant Professor
Ph.D., Mississippi State
M.S., Mississippi State
B.S., Mississippi State

Horton, Donald D.
Associate Professor
M.S.M.E., Michigan Technological University
B.S.M.E., Michigan Technological University
P.E., Georgia

Nasseri, Simin
Assistant Professor
Ph.D., University of

P.E., Georgia

Mechanical Engineering Technology Faculty Emeriti

Lee, Julian R., Professor Emeritus
Logue, Laurence J., Professor Emeritus
Pearce, Britt, Professor Emeritus
Taylor, Leonard H., Head and Professor Emeritus
Williams, Orren W., Professor Emeritus
Young, Ronald C., Professor Emeritus

Faculty Division of Engineering

Allen, Robert Glenn
Professor
M.S., Southern Polytechnic State University
B.M.E.T., Southern Polytechnic State University

Barham, Wasim
Assistant Professor
Ph.D., University at Buffalo, State University of New York
M.S., Jordan University of Science and Technology
B.S., Jordan University of Science and Technology

Beadles, Sam
Professor
M.S., University of California, Los Angeles
B.S., Northern Arizona University
P.E., Georgia

Butler, Renee
Associate Professor
Ph.D., Georgia Institute of Technology
M.S., Georgia Institute of Technology
B.S., Georgia Institute of Technology
P.E., Georgia

Chang, Yusun
Assistant Professor
Ph.D., Georgia Institute of Technology
M.S.E.E., Columbia University
M.S.E.E., Korea Aerospace University
B.S., Korea Aerospace University

Crimm, Lance
Professor
M.S.E.E, Georgia Institute of Technology
B.E.E., Georgia Institute of Technology
P.E., Georgia

Currin, Thomas R.
Associate Dean and Professor
Ph.D., University of Connecticut
M.C.E., North Carolina State University
B.S., Southeastern Massachusetts University
P.E., Georgia, Massachusetts

Diong, Bill M.
Associate Professor
Ph.D., University of Illinois at Urbana-Champaign
M.S., University of Illinois at Urbana-Champaign
B.S., University of Illinois at Urbana-Champaign

Ham, Chan
Assistant Professor
Ph.D., University of Central Florida
M.S.E.E., University of Central Florida
B.E., Dongguk University

Hodges, Deidra R.
Assistant Professor
Ph.D., University of South Florida
M.S.E.E., Columbia University
B.S., Dillard University

Kim, Sung-Hee
Assistant Professor
Ph.D., Texas A&M University
M.S., Georgia Institute of Technology
B.S., Inha University
P.E., Georgia, Louisiana

Khalid, Adeel
Assistant Professor
Ph.D., Georgia Institute of Technology
M.S., Georgia Institute of Technology
B.S., Ghulam Ishaq Khan Institute of Engineering and Technology

Mayeed, Mohammed S.
Assistant Professor
Ph.D., University of Tokyo
M.Sc., Bangladesh University
B.Sc., Bangladesh University

Moghaddam, Kamran S.
Assistant Professor
Ph.D., University of Louisville
M.S., Amirkabir University of Technology
B.S., University of Tehran

Oguzmert, Metin
Assistant Professor
Ph.D., Syracuse University
M.S., Istanbul Technical University
B.S., Istanbul Technical University

Oh, Ilseok
Associate Professor

Ph.D., Iowa State University
M.S., Iowa State University
B.S. Hanyang University

Okhio, Cyril
Associate Professor
Ph.D., University of London
B.Sc., Thames Polytechnic
C. Eng., United Kingdom

Ruhala, Laura A.
Associate Professor
Ph.D., The Pennsylvania State University
B.S., GMI Engineering & Management Institute

Ruhala, Richard J.
Associate Professor
Ph.D., The Pennsylvania State University
B.S., Michigan State University

Wang, Ying
Assistant Professor
Ph.D., University of British Columbia
2r443.6(2r4iF5he PSha( )]TJ6(t P9(ghai Jia( )]TJo)]TJ To6.1(sitye)1.44(i3()]TJ T* -.0008 Tc1[(Facul43.6(B.Sc., Thr4iF4he PSha( )]6J6(t P8(gha
B r i t i
an(t2F1sity)-2hr(vers)]TJ T* -.0008 Tc1-.0013 Tw [(Ass4A.Bc)Prsity of Briti4.3hStan. 2 1 Tf 0 -2.87 -1.7535 T775.0013 Tw [(R31 Tw [( )-14Wimer

6

A

F

G

H

I

J

L

R

S