Undergraduate Academic Catalog 2010-2011

Southern Polytechnic State University in the University System of Georgia

1100 South Marietta Parkway
Marietta, Georgia 30060-2896

Southern Polytechnic State University is a

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

Calendar

Fall 2010

4 August	Mon	New Student Orientation
23 August	Mon	Classes Begin
6 September	Mon	Labor Day Holiday
24-28 November	Wed - Sun	Thanksgiving Holiday for Students
9 December	Thurs	Last Day of Classes
11-15 December	Sat - Wed	Final Exams
18 December	Sat	Commencement

Spring 2011

6 January	Thursday	New Student Orientation
10 January	Mon	First Day of Classes
17 January	Mon	Martin Luther King, Jr. Holiday
7-12 March	Mon - Sat	Spring Break
28 April	Thurs	Last Day of Classes for Spring
30 April - 4 May	Sat - Wed	Final Exams
7 May	Sat	Commencement

Student Rules and Regulations

The rules and regulations for Southern Polytechnic State University students are comprised of the catalog sections on

Electrical Engineering Technology (Bachelor of Science)

English and Professional Communication (Bachelor of Arts)

Industrial Engineering Technology (Bachelor of Science)

Information Technology (Bachelor of Science)

International Studies (Bachelor of Science)

Mathematics (Bachelor of Science)

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)

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)

Land Surveying (Civil Engineering Technology)

Logistics (Industrial Engineering Technology)

Production Design (Industrial Engineering Technology)

Programming (Software Engineering)

Professional Spanish (International Studies)

Project Management: Construction (Construction Management)

Quality Assurance (Industrial Engineering Technology)

Quality Principles (Industrial Engineering Technology)

Specialty Construction (Construction Management)

Software Engineering (S

About This Catalog

The statements set forth in this catalog are for informational purposes only and should not be construed as the basis of a contract between a student and this institution.

While the provisions of this catalog will ordinarily be applied as stated, Southern Polytechnic State University reserves the right to change any provision listed in this catalog, including but not limited to academic requirements for graduation and various fees and charges without actual notice to individual students.

Every effort will be made to keep students advised of such changes. It is especially important to note that it is the responsibility of the student to keep apprised of current graduation requirements for a particular degree program and current academic procedures.

Southern Polytechnic State University is an equal educational and employment opportunity institution and does not discriminate on the basis of race, color, sex, religion, creed, national origin, sexual orientation, age, or disability.

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 student becomes ineligible as determined by the standards of the University of the Board of Regents or if the student has falsified application materials.

Admission Procedures and Deadlines

General Information

All applications for admission to Southern Polytechnic State University must have all required credentials on file in the Admissions Office by the application deadline date for the semester in which the applicant plans to enroll.

Other Admission Requirements

SPSU reserves the right to require any applicant for admission to take appropriate standardized tests in order that the institution may have information bearing on the applicant's ability to pursue successfully the program of study for which the applicant wishes to enroll.

Special Students

Special students and all other students of classifications not covered in these policies shall be expected to meet all admission requirements prescribed by Southern Polytechnic State University.

Appeals

Formal appeals of the University's admission decision may be filed with SPSU's Director of Admissions. Contact the Office of Admissions for additional instructions on the appeal process.

Joint Enrollment/Early Admission/The ACCEL Program

Southern Polytechnic State University recognizes the need to provide academically talented high school students with opportunities for acceleration of their formal academic programs. There are three programs available to talented students:

Joint Enrollment

A joint enrollment student continues his/her enrollment in high school as a junior or senior and enrolls in courses for college credit.

Early Admission

An early admission student enrolls as a full-time college student following completion of the junior year in high school.

The ACCEL Program

- The ACCEL Program is a joint enrollment program that allows high school, typically juniors and seniors, to take approved college courses. Courses earned through the ACCEL Program carry both college credit and high school Carnegie unit credit. ACCEL is a state funded program that provides dual enrollment tuition assistance for qualified public and private high school students. Students must be at least 16 years old, meet a certain set of requirements and submit necessary paperwork to participate. Students interested in this program should contact their High School Counselor to obtain the necessary paperwork.

Admission Requirements

- Admission requirements for joint enrollment or early admission are:
  - Minimum scores of
    500 on the SAT I Critical Reading (21 ACT-English)
    500 on the SAT I Math (21 ACT-Math)
  - Minimum academic high school GPA of 3.0
  - 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 to fulfill 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 required 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 enroll in appropriate college courses. Specifically:

- Students with a score of at least 700 on the SAT I Critical Reading (31 ACT-English) may be permitted to enroll in courses that require advanced verbal ability.
- Students with a score of at least 700 on the SAT I Math (31 ACT-Math) may be permitted to enroll in courses that require advanced mathematics ability.
- Students with a total score of 1370 (math and critical reading) on the SAT I (31 ACT-Composite) may be permitted to enroll in appropriate courses.

Advanced Placement Opportunities

- Southern Polytechnic State University welcomes students who have pursued accelerated academic course work while in high school or through recognized national standardized programs. Such programs include:
- College Level Examination Program (CLEP)
- College Board's Advanced Placement (AP)
- International Baccalaureate (IB)

College Level Examination Program (CLEP)

Introductory Business Law	50	MGNT 3145	3
Introductory Calculus	50	MATH 2253	4
Introductory Micro/ Macro Economics	50	ECON 1101	3
Introductory Sociology	50	Area E Group 3 Core	3
Humanities	50	Area C, Group 2	3
Natural Science	50	BIOL 2107K	3
Pre-calculus	50	MATH 1113	3
Principles of Management	50	MGNT 3105	3
Principles of Marketing	50	MGNT 3135	3
Principles of Macroeconomics	50	ECON 2105	3
Principles of Microeconomics	50	ECON 2106	3
Trigonometry	50	MATH 1113	4

**In order to receive credit for HIST 2111 or 2112, or POLS 1101 and satisfy the constitution requirement for graduation, the student must also complete HIST 2911 with a grade of "C" or better.*

Advanced Placement Program

Students may receive college credit for certain courses based on scores of the Advanced Placement (AP) Exam as follows:

AP Exam	Minimum Score	SPSU Course for Credit	Hours
American Government or Comparative Government & Pol	3	POLS 1101*	3
Art History	3	ARTS 2001	3
AB Calculus Test	3	MATH 11111113, and (2253 or 2240)	10 or 11
BC Calculus Test	3	MATH 11111113, (2253 or 2240), and 2254	14 or 15
Biology (with proof of lab)	3	Biology 2107K and 2108K	8
Computer Science A	3	CS 1301	4
Chemistry (with proof of lab)	3	CHEM 1211K and 1212K	8
Computer Science AB	3	CS 1301 and 1302	8
Economics/Macro	3	ECON 2105	3
Economics/Micro	3	ECON 2106	3
English-Language/ Composition	3	ENGL 1101	3
English-Literature/ Composition	3	ENGL 1101	3
English-Literature/ Composition	5	ENGL 1101 and 1102	6
Environmental Science	3	STS 2400	2
European History	3	History Elective	3
French Language Exam (Depending on Student Status)	4	FREN 1001 and FREN 1002	6
French Language Exam (Depending on Student Status)	4	FREN 1002 and FREN 2001	6
Human Geography	3	GEOG 1101	3
German Language Exam (Depending on Student Status)	4	GRMN 1001 and GRMN 1002	6
German Language Exam (Depending on Student Status)	4	GRMN 1002 and GRMN 2001	6
Physics B (with proof of lab)	3	PHYS 1111K and 1112K	8
Physics C … Mechanics	3	PHYS 2211K	4
Physics C … E&M	3	PHYS 2211K	4
Psychology	3	PSYC 1101	3
Spanish Language	5	SPAN 1002, 2001, and 2002	9
Spanish Language	3	SPAN 1001 and 1002	6
Statistics	3	IET 2227 or MATH 2260	3
United States History	3	HIST 2111*	3
United States History	5	HIST 2111 and 2112*	6
Western Civilization	3	History Elective	3
World History	3	HIST 1111 or HIST 1112	3

**In order to receive credit for HIST 2111, HIST 2112, or POLS 1101 and satisfy the constitution requirement for graduation, the student must also complete HIST 2911 with a grade of "C" or better.*

Transfer Admissions

Transfer Freshman Admissions Standards

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http://www.collegeboard.com SPSU's Institutional Code: 5626	SPSU's Institutional Code: 0865
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

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

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

Financial Information

Registration and Fee Payment

SPSU offers multiple registration periods, each with an assigned fee payment deadline, for currently enrolled students to give them the opportunity to secure a schedule for a coming term.

The registration process is not complete until payment of fees is completed. Students who have signed an official award letter, (which signifies acceptance of the financial aid) and have registered for classes are assumed to be students who will attend classes.

The fee payment deadlines for each registration period are published each term in the academic calendar and on the registrar's web site.

Failure to pay tuition and fees by the published deadline date can cause the cancellation of your registration.

Payment of fees and other charges may be made with:

- Cash
- Checks
- Approved financial aid
- Approved Credit cards

Registration fees may be paid on the SPSU web site using credit cards (except VISA). On-line transactions are fully encrypted for the safety of both the student and the university.

Students who register for courses and pay appropriate fees using any acceptable method of payment are considered enrolled and space is reserved in the class(es) for the duration of the term.

Students are encouraged to register and pay fees as early as possible to avoid potential problems.

All payments returned to the University due to insufficient funds are subject to a $25.00 returned check fee. Any outstanding returned check payments will be turned over to either a collection agency or the State Attorney General's Office for further legal collection action. All accounts turned over to a third party for legal collections will be subject to an additional collection cost (in addition to the original debt owed to the University).

Other Fees

Tuition and Fees

Tuition and fees vary according to a student's starting term and status. For a complete listing of current tuition and fees, please visit http://www.spsu.edu/fiscalaffairs/BusinessOffice.html and follow the appropriate link.

Academic Credit by Examination

Students who wish to attempt academic credit by examination shall be charged a testing fee of $50.00. An official receipt from the Business Office must be presented prior to taking the examination. Acceptance of the fee from a student does not imply that the credit by examination has been approved by the university. All requests for credit by examination are subject to approval by the academic department and by the registrar.

Transportation Fee

Students who are currently enrolled are charged a transportation fee to cover the cost of the maintenance of the transportation infrastructure including parking lots, sidewalks, overhead covers, and other amenities, and may register a vehicle for parking on campus without further cost. For additional information and a copy of university parking regulations, contact the University Police Department.

Graduation Fee

Every student receiving a degree must pay a graduation fee of $40. The final due date for payment of this fee is published in the registration bulletin. Students who fail to observe the petitioning deadline are charged a late fee of $60.00 (in addition to the $40.00 fee).

International Student Health Insurance

Based on the guidelines provided by the American College Health Association and NAFSA: the Association of International Educators, Southern Polytechnic State University requires international students on F-1 and J-1 visas to purchase the endorsed SPSU International Student Insurance policy. Payment of this fee is mandatory and should be paid directly to the Office of Business and Finance along with payment of tuition and miscellaneous fees. Purchase of this insurance policy is mandatory each semester.

Refunds

The Board of Regents of the University System of Georgia and the Department of Education establishes the refund policy for the university. The refund schedule is published on the Registrar's web site.

Refunds of fees and charges will be made only upon official withdrawal from all classes through the Registrar's Office. A student who partially withdraws (withdraws from some classes, but is still registered in other classes) after the official drop/add period does not receive a refund.

Where applicable, any refunds resulting from unearned financial aid will first be returned to the Title IV programs, other sources of aid, and/or finally to the student. The student must repay all funds 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) when space is available in a course scheduled for resident credit.

To be eligible for participation under this amendment to the Georgia Constitution, such persons:

- Must present a birth certificate or other comparable written documentation of age to the Registrar's Office at the time of registration
- Must meet all University System and Southern Polytechnic State University admission requirements
- Must meet all University System, Southern Polytechnic State University, and legislated degree requirements if they are degree-seeking students

The student affairs areas at Southern Polytechnic State University include:

- Student Life
- Student Center
- Student Health Services
- Recreation Sports and Intercollegiate Athletics
- Career & Counseling Center

The Dean of Students supervisesa professional staff who are responsible for providing these services and activities for students. In addition, the Dean of Students may be contacted by students who are encountering problems or issues on campus for which they need assistance.

Student Activities

There is more to college life than classrooms and tests.Getting involved in Student Activities includes countless other recreational activities, special events, and opportunities for learning, leadership and service. Participating in campus life outside the classroom offers students the opportunity to learn the lessons, make the memories, and forge the relationships that will inspire and sustain them for a lifetime.

Through Campus Activities Board (CAB), Greek Life, and over 60 Student Organizations, you can connect the dots between circuit boards and business plans and becoming the kind of team member, leader, and community member you would like to become.

Emergency Locator Service

Emergency assistance in locating a student is provided by the Dean of Students Office (678-915-7374) from 8:00 a.m. until 5:00 p.m., Monday through Friday. TheUniversity Police Department provides emergency assistance in locating students on weekends and after 5:00 p.m. on weekdays (678-915-5555).

If campus security officials determine that a student (for whom a missing person report has been filed) has been missing for more than 24 hours, then within the next 24 hours they will:

* Notify the individual identified by the student to be contacted in this circumstance;

* If the student is under 18 years old, notify a parent or guardian; and

* In cases where the student is over 18 and has not identified a person to be contacted,

notify appropriate law enforcement officials.

Student Housing

SPSU offers nearly 1200 on-campus student housing beds. In addition to providing a convenient and economical "home", on-campus living also meets a student's physical needs of shelter, comfort, and attractive surroundings. Living on campus contributes to the educational development of each student through exposure to students of varied backgrounds, experiences, and personal philosophies. The Department of Housing and Residence Life is staff by professionals along with 22 Resident Assistants. The primary function of the Housing and Residence Life staff is to create and maintain a desirable environment for all residents.

All students who have applied for admission to Southern Polytechnic State University and are interested in living on campus, will need to visit the Housing and Residence Life website

International students are required to have private health insurance protection. 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 maintained in the Student Health Services Office. The required immunization form can be found on the SPSU web-site.

Career and Counseling Center

Counseling Services

The Career and Counseling Center offers a variety of counseling services to students, including help with personal, academic, and career concerns.

Personal concerns such as anxiety, depression, relationship problems, low self-esteem, low self-confidence, and communication issues can make it very difficult for students to gain the most from the university environment and from their classes. Professional counselors provide time limited individual and/or group sessions for students seeking confidential assistance with these and other personal issues.

Part of the career development process involves increasing self-understanding in such areas as values, life goals, interests, and skills. Counselors can help students increase their self-understanding and learn how to match their personal characteristics with the work environments that a university education makes possible for them.

Academic concerns center on more effective time management, study skills and dealing with test anxiety. Counselors can assist

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	MAT 1+2	MATH 2253 Calculus
ANDt2 Twgy obtain]	1+2	Internet.

Regents' Test

The University System of Georgia requires that all students obtaining a degree have literacy competence. Students enrolled in an undergraduate baccalaureate degree program leading to a degree must pass the Regents' Test in order to graduate. The ATTIC offers guidance and advice on how to pass this critical test.

It is highly recommended that students visit the Regents' web site at www.gsu.edu/rtp. Here, students will find advice on how to write successful essays, how NOT to write failing essays, and will see a list of Regents' writing test topics.

Students may also visit the ATTIC tutoring center where they can review materials relating to the test and get help.

For additional information about the Regents' Test, see Academic Regulations in this catalog.

COMPASS

Non-traditional students-students should take COMPASS. The test

Diploma. All students must comp lete an Honors Project and an Honors Presentation. In addition, students are required to submit a final written report that is bo und and placed in the library.

Probation and Dismissal

Students that fall below the requir ed GPA are placed on probation for one semester. A student on probation whose GPA does not meet the requirements at the end of their next enrolled semester will be dismissed from the Honors Program

University Police

Southern Polytechnic is committed to a safe, healthy environment in which our students, faculty an d staff can grow professionally and personally. The University promotes strong safety policies and prompt reporting and investigation

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

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://eu.spsu.edu/sparc.html

Office of Sponsored Programs (OSP)

The Office of Sponsored Programs has 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 678-915-3156, visit the web site at http://eu.spsu.edu/osp/ or stop by rooms J-354 and J-356.

The Usability Center (UC)

Since 1995, The Usability Center at Southern Polytechnic has been helping clients apply usability concepts to products in the development process. This allows the user's experience to improve the product before it reaches market. The Usability Center provides usability testing, consultation, lab management, cognitive walk-through, heuristic evaluations, usability research, as well as participant recruitment and selection, and other customized usability related services. For more information go to: http://usability.spsu.edu

ICAPP Program Development

ICAPP Advantage prepares people to be knowledge workers (workers who generate value for others by creating, sharing or using ideas) in occupations that are in high demand and short supply in specific regional labor markets. ICAPP Advantage is directly tied to specific job commitments by employers.

- ICAPP was created to help employers succeed in Georgia. ICAPP is company-focused, and is not intended to create new degree programs at institutions.
- ICAPP Advantage can be used as an economic development incentive to encourage a company or other employer to either expand in or relocate to Georgia.
- ICAPP Advantage students earn credit hours that can count toward earning a degree. Students may also earn career-related certificates with the academic credit earned.

For more information go to: http://www.icapp.org

English Language Services (ELS)

ELS Language Centers provide a unique opportunity for foreign students to learn English as a second language or to improve their English proficiency. ELS distinguishes itself as the finest in English language instruction by providing excellent customer service. ELS Language Centers have become the world's largest network of campus-based, English language instruction centers with over 30 locations throughout the United States. We provide full-time daily classes year-round in four-week terms. In addition, we offer specialized programs that are customized to fit your needs. For more information go to: http://www.els.edu/atlanta.

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

Term GPA … The term GPA is the pure GPA earned during any particular term of attendance at SPSU.

Cumulative GPA … The cumulative GPA is a student's GPA that includes all course work taken throughout all terms of attendance at SPSU. Grades from other institutions are not included in a student's SPSU cumulative GPA.

Administrative Changes

Students are expected to keep the university apprised of changes to their postal address, and phone number. The official means of communication with students is via email. All SPSU students are provided an email account free of charge and are responsible for information and notices that are posted for them.

Academic Renewal

Undergraduate students who have been readmitted or reinstated after a period of absence of five (5) calendar years or longer are eligible for academic renewal, provided they have not attended any post-secondary school during the five years. Academic renewal for the student signals the initiation of a new grade point average to be used for determining academic standing.

This provision allows University System of Georgia degree-seeking students who earlier had experienced academic difficulty to make a fresh start and have one final opportunity to earn an associate or bachelor's degree.

Renewal applies to institutional grade point averages only and many financial aid regulations require inclusion of all attempted courses to be included in any award process. Check with the financial aid office for details about how renewal effects financial aid.

For complete details about this policy, see the Registrar's Office.

Academic Standing

In order to graduate an undergraduate student must achieve a cumulative GPA of 2.00

Dean's List

Undergraduate students who have earned 12 or more hours with a scholastic average of

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:

- Audit courses count at full value in determining the number of credit hours for which the student is enrolled.
- No academic credit is granted for audited courses.
- Students may not change a class to or from audit status after the close of the drop-add period.
- The grade assigned for auditing is "V" (visited), and will have no effect upon the student's scholastic average.

Students will not be permitted to receive credit for their participation in a course as an auditor.

Additionally, students who audit a course will not be allowed to receive academic credit, includin g credit by examination for the

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

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 writing. Check with the Registrar's Office for the procedure to follow.

written grade report may obtain one by written request to the registrar's office.

Grading System

Regular Grades

The following letter grades are used to specify the level of performance in academic courses and are computed into the semester and cumulative grade point averages:

Grade	Definition	Comments
A	Excellent	
B	Good	

- Has passed all required courses for the degree
- Has achieved the necessary sc

- And earn credit for a total of at least 30 hours in excess of the requirements for any previous SPSU degrees earned.

Requirements for a dual major are listed in the Curricula sections. However, in general, there are specific courses that must be completed and the above criteria must be met. Currently, only mathematics and physics offer dual majors.

Student Activity Absence

Students who are absent because of participation in approved university activities such as field trips and athletic events will be permitted to make up the work missed during their absences. The student is responsible for reporting such absences to the instructor and for arranging with the instructor for make up work. This policy is not to be construed as blanket permission to miss classes and any excessive absence may result in failure of the class.

Student Records

In accordance with the policy of the Board of Regents of the State of Georgia and under the provisions of the Family Education Rights and Privacy Act of 1974, Southern Polytechnic State University maintains various educational records for each matriculating student.

These records are considered confidential and will not be released for use outside the institution wi thout the written consent of the student. Exceptions as authorized by the Act are noted.

Directory Information

Southern Polytechnic maintains student information in various forms. Students who desire that "directory information" not be released without consent should so notify the Registrar's Office in writing. The following may be incl uded as "directory information"

Students who feel they have not been given appropriate consideration for the transfer of university system of Georgia core courses should appeal to the core chief transfer officer.

Evaluation of Courses for Transfer Credit

In order for SPSU to perform an evaluation of transfer credits, the student

- must provide official transcripts containing all the courses being considered,
- must be accepted for admission to SPSU,
- must provide course descriptions, syllabi, or other documentation on course content if requested by SPSU, and
- may be tested for proficiency in courses that were not USG Core courses.

Withdrawing After the Mid-Point

Students who withdraw after th e midpoint of the term are not eligible for a grade of "W" except in cases of hardship or extenuating circumstances as approved by the faculty. (See Administrative Procedures for inst ructions.) Students withdrawing after the withdrawal deadline date receive a grade of "WF" for the course(s), which counts the same as an "F" for grade point purposes.

Withdrawals After the Deadline

A request for a grade of "W" (past the deadline date) is properly made on a Petition to Withdraw After the Deadline form, available in the Registrar's Office.

- The petition must be completed and signed by the student's instructor(s).
- The petition must be accompanied by documentation sufficient to support the extenu ating circumstances claimed.

No student will be allowed to wi thdraw from a course after the final class day of the term except via the petition process.

in this area. If you have completed Area D at your original institution, Southern Polytechnic State University will accept this area in its entirety. If the area has not been completed, you will be required to take additional course work to complete the necessary hours.

E. Social Sciences (12 hours)

These are courses approved by the undergraduate curriculum committee that address learning outcomes in the social sciences, including, but not limited to, history and American government. Interdisciplinary courses are acceptable. If credit course work is used to satisfy the U.S./Georgia history and constitution requirement, course(s) shall be part of this area.

Transfer Students: If you have completed Area E at your original institution, Southern Polytechnic State University will accept this area in its entirety. If the area has not been completed, you will be required to take additional course work to complete the necessary hours, but never exceeding a total of fourteen semester hours between you former institution and SPSU. We will accept courses in this area whether or not we offer the course at SPSU.

F. Courses Related to the Program of Study (18 hours)

These are courses numbered below 3000 that are related to your program of study, and courses which are prerequisites to major courses at higher levels.

Transfer Students: Transfer evaluation of courses in Area D is on a course-by-course basis. If you have completed Area F at your original institution, Southern Polytechnic State University will accept this area in its entirety, provided your major does not change. If the area has not been completed, you will be required to take additional course work to complete the necessary hours.

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 Music	3
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 sciences 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
BIOL 2107K	Biology Principles I	4
BIOL 2108K	Biology Principles II	4

CHEM 1211K	Principles of Chemistry I	4
CHEM 1212K	Principles of Chemistry II	4
PHYS 1111K	Introductory Physics I	4
PHYS 1112K	Introductory Physics II	4
PHYS 2211K	Principles of Physics I	4
PHYS 2212K	Principles of Physics II	4

Mathematics Group

Take one from this list of three courses for a total of 3 or 4 hours

Course	Title	Hours
MATH 1113	Pre-calculus	4
MATH 2240	Survey of Calculus	3
MATH 2253	Calculus I	4
MATH 2254	Calculus II	4

Area Total is 11 or 12 Hours

Area E

Social Sciences
Four Courses Are Required

All Students must complete one course from each of the following four groups

American Context Group

Take one of these three.

Course	Title	Hours
HIST 2111	U.S. History to 1877	3
HIST 2112	U.S. History since 1877	3
POLS 1101	American Government	3

NOTE: Any of the above three courses will satisfy the legislative requirements for U.S. Constitution and Georgia History

World History Group

Take one of these two.

Course	Title	Hours
HIST 1111	World Civ: Pre 1500	3
HIST 1112	World Civ: Post 1500	3

Behavioral Sciences Group

Take one of these two.

Course	Title	
ECON 1101	Introduction to Economics	3

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eCore

eCore „ short for electronic core -curriculum „ allows Univ ersity System of Georgia (USG) stud nts the opportunity to complete t heir first two years of their collegiate careers in an onli ne environment. eCore courses are taught entirely online, exce pt for the occasional proctored exam. eCore offers courses in English, mathematic s, science, history, and the social scienœs that are designed, developed, taught an

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 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 exam as specified by the Georgia State Board of Accountancy. Included in the 120 hours required to earn this degree is a comprehensive coverage of business principles.

Accounting Bachelor's Degree Requirements

Area A Essential Skills		
ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
MATH 1113	Pre-Calculus	4
Area B Institutional Options		
SPCH 2400	Public Speaking	2
STS 2400	Science, Technology, and Society	2
Area C Humanities/Fine Arts		
Group 1	Literature Group	3
Group 2	Art and Culture Group	3
Area D Science, Mathematics, and Technology		
MATH 2240	Calculus	3
Science	2 science courses plus 2 labs	8
Area E Social Sciences		
Group 1	American Context	3
Group 2	World History	3
Group 3	Behavioral Science	3
Group 4	Cultures and Societies	3
Area F		
ECON 2105	Macro Economics	3
ECON 2106	Micro Economics	3

Architecture

Offering the Bachelor of Architecture

The mission of the Architecture Program at Southern Polytechnic State University is to expand and extend the university mission into the realm of architecture. The program prepares students for professional practice in the design, planning, development, and stewardship of the built environment.

An architect tackles many issues: people's needs, building needs, a building site, and environmental concerns. Because creativity is the greatest source of solutions that fit all these issues, students find that a background in art proves helpful. The best ideas are bigger than a computer mouse or a drafting instrument, so we've structured a program that puts your imagination and your hands to work from Day One.

Known as a 2+3 program, our School begins with two years of Design Foundation. Students analyze the organization of space, building designs by noted Architects, and contextual issues. They evaluate each building's successes and failures, and discuss how they might make changes to improve the designs. This preparation introduces you to the issues, processes, and the spirit of experimentation that characterizes the professional design of built environments. This experience forms a foundation of skills that you develop more fully during the last three years of the program. Because our courses must be taken in sequence, Architecture students typically attend year-round.

Many students elect to take our Furniture Design Studio, following in the footsteps of great architects who design and create furniture „ and learning much from the process of choosing materials, creating joints, and fitting together materials. A spacious workshop provides tools for use in modeling and construction projects.

Laptops and drafting instruments come in handy, but the most important piece of equipment for an architect is imagination. Initially, SPSU's award-winning faculty stimulate ideas through freehand drawing, which helps you reach into your creative "well" and channel those images onto paper.

Next, you'll learn a lot about scale and materials by putting models together. After you master these two skills, you're ready for computer use.

Throughout this program of study, you work with outstanding educator practitioners. Our faculty includes several Fellows of the American Institute of Architects, as well as faculty who have earned their Ph.D. „ an unusual distinction in our profession.

About the program

SPSU is the only public state institution in Georgia to offer the

All studios are taught in sequence. The first Design Foundation studio [DFN 1001], for example, is offered only in the fall term. Missing the admissions deadli ne and failure to successfully complete the mandatory Summer Design Workshop will require the student to repeat and successfully complete the design

- Electives/Directed study courses in the Professional Program can be taken as a Minor in another Program or as Architectural Electives with approval of Program Academic Advisor

- All DFN and Professional studios must be passed with a minimum of "C" grade.

- Architecture Students within the Professional sequence must complete all prescribed courses within all previous semester, as per current flow chart, in order to advance into the following semester. This is an addiction to maintaining a cumulative GPA of 2.0 or above.

The Design Foundation

Design Foundation constitutes the first two years of the Bachelor of Architecture degree program. The Design Foundation sequence is an introduction to design issues and processes. Students learn to apply critical thinking using applied design skills to solve abstract and moderately complex design problems of the built environment. Students demonstrate their understanding of course material through exercises and simulated design projects.

Admittance to the Professional Program,

Students MUST meet the following 3 requirements for admittance to the Professional Program:

- Minimum cumulative grade point average (GPA) of 2.5 in all course work including DFN,
- Successful completion of all regents core courses,
- A satisfactory portfolio review according to the set guidelines and evaluation processes bythe Architecture Program.

Portfolio Review: Mandatory condition to enter the Professional Program

A design portfolio review and approval by the Faculty is an essential requirement to enter the Professional Program. Students must follow the established guidelines to prepare their portfolios.

All four DFN studio works and other design/art work must be well articulated with a table of contents and strong graphics with well referenced and focused elaboration of critical design processes that led to final design solutions/projects. Faculty teams each consisting of five-members evaluate student's four semesters of design work following the design criteria approved by the Architecture Faculty. Students achieving the successful approval of their portfolio work will be awarded admission to the Professional Program.

Students whose portfolios are not approved by a 5-member faculty consensus are encouraged to improve their designs by repeating DFN 2004. Students can then compete again for admission to the professional program by resubmitting their portfolios with that class.

Professional Program

The Professional Program is comprehensive and rigorous. The Professional Program includes students who have successfully completed the two-year sequence of Design Foundation and who demonstrate exceptional professional promise. Students admitted to the Professional Program must maintain satisfactory progress by achieving a minimum grade of "C" in all lecture courses.

IMPORTANT: All professional studios are in sequence. Each studio must be passed with a minimum of "C" grade in order to advance into the next studio.

Student Work

All student work executed and produced is intellectual property of the Architecture Program. Student work may be returned at the discretion of the faculty. The faculty also reserves the right to refuse credit for any work that was executed outside the precincts of the Architecture facilities or otherwise executed without

ARCH 3113	Architecture Culture III	3
ARCH 3211	Architecture Structures I	4
ARCH 3212	Architecture Structures II	3
ARCH 3311	Environmental Tech I: System Selection & Materials	3
ARCH 3313	Environmental Technology II: Human Comfort and: HVAC Systems	3
ARCH 4013	Architecture Studio III	4
ARCH 4014	Architecture Studio IV	4
ARCH 4114	Architectural Cultures IV	3
ARCH 4116	Urban Planning and Design Theory	3
ARCH 4224	Environmental Technology III: Codes and Technical Documentation	3
ARCH 4225	Environmental Technology IV: Lighting and Vertical Circulation	3
ARCH 4411	Design Cost Control	2
ARCH 5313	Professional Practice and Ethics	3

Arts

Offering the Bachelor of Science in Technical Communication …

Digital Media and Graphics

(Degrees Offered: Bachelor of Science in Technical Communication„Digital Media and Graphics concentration; Bachelor of Arts in English and Professional Communication„Media, Communication, and Culture concentration)

Southern Polytechnic State University offers a variety of arts courses that may be used to satisfy core requirements, or as free electives. In addition, we offer a concentration track in our BS in Technical Communication program that allows students to develop the applied arts and information design skills needed in a world increasingly dominated by digital media arts. We also offer a concentration track in our BA in English and Professional Communication for students who are interested in applying these skills to careers in marketing communication, media arts, and entertainment.

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*

Program Offerings in Digital Media/Media Arts:

The B.S. in Technical Communication„Digital Media and Graphics concentration is designed to prepare students for a variety of careers in which visual communication takes center stage.

Possible positions include:

- Documentation specialist
- Visual communication specialist
- Information designer
- Multimedia specialist
- Graphics specialist
- Website designer and content developer

Students pursuing the BS degree with a concentration in Digital Media and Graphics must complete:

The Core Curriculum
Required upper-division courses in technical communication (TCOM)
Courses in the Digital Media and Graphics concentration

	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[3]	
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
ARTS 3000	Visual Thinking	3
COMM 3035	Organizational Communication	3
COMM 3050	Journalism	3
ENGL 3010	Science Writing[1]	3

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

Cellular Form and Function group

BIOL 3100K	Microbiology	4
BIOL 3400K	Cell Physiology	4
BIOL 4410K	Immunology	4
BIOL 4470	Plant Physiology	3

Organismal Form and Function group

BIOL 4100K	Entomology	4
BIOL 4200K	Zoology	4
BIOL 4400K	Anatomy & Physiology I	4
BIOL 4440K	Botany	4

Pre-Professional Track Requirements

BIOL 3400K	Cell Physiology	4
BIOL 4400K	Anatomy & Physiology I	4
BIOL 4460K	Anatomy & Physiology II	4
BIOL ELEC	At Least 4 Biology Courses Above 2108K (Excluding Track requirements)	12-16
Free Electives		10-14

A grade of "C" or better must be earned in all courses (excluding core areas A-E and free electives).

Biology Minor Requirements

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

- A minimum of 18 semester hours of Biology coursework
- 9 of the 18 hours in Biology must be upper level courses (3000 or above)
- Students who use BIOL 2107K and/or 2108K to satisfy Core D requirements cannot use these courses to satisfy requirements of the minor

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 a business area 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*
Jennie S. Conn ,*Associate Professor, Accounting*
Juan Carlos Guzman, *Temporary Associate Professor,* Finance
Zeynep Kelani, *Temporary Instructor, Economics*
Joyce McGriff, *Assistant Professor, Marketing*
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*
Robert Thacker, *Assistant Professor, Management*
Sandra Vasa-Sideris, *Professor, Management*

MGNT 3125	Business Finance	3
MGNT 3135	Marketing Principles	3
MGNT 3145	Legal Environment	3
MGNT 3205	Management Information Systems	3
MGNT 4115	Human Resources Management	3
MGNT 4125	Technology and Public Issues	3
MGNT 4145	International Management	3
MGNT 4151	Operations Management	3
MGNT 4595	Business Strategy	3
MGNT Elective:	Select 1 additional MGNT course	3
Minor Requirements		15

Students in the Bachelor of Arts in Business Administration program are required to complete a minor in International Studies and must also complete a foreign language requirement (by exam, coursework or demonstration).

Free Electives		2
Degree Program Total		120

Business Administration „ Bachelor of Science Requirements

ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
COMM 2000	Business Communication	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 in Laboratory Science	8
Area E1	American Perspective	3
Area E2	World History	3
Area E3	Course in Behavioral Science	3
Area E4	Course in Cultures and Societies	3
ACCT 2101	Accounting I	3

MGNT 3210	Professional Selling
MGNT 3224	Business Marketing
MGNT 3228	Market Research & Demand
MGNT 4103	Marketing Management
MGNT 4903	Special Topics in Marketing

Chemistry

Offering the Bachelor of Science in Chemistry

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 two concentrations-General Chemistry and Materials Science.

The Chemistry major is designed to prepare students for careers in the traditional chemical scienc

TOTAL 16

Spring Semester

CHEM 2512	Organic Chemistry II	4
CHEM 3100	Analytical Chemistry	5
PHYS 2212	Physics II	4
area C2	Art & Culture	3

TOTAL 16

Year 3

Fall Semester

BIOC 3111	Biochemistry I	4
MSCI 3101	Material Science	4
area E3	Behavioral Science	3
ENGL	21xx Literature	3
Free Elective		3

TOTAL 14

Spring Semester

CHEM 3300	Instrumental Analysis	4
CHEM 4411	Inorganic Chemistry	3
TCOM 2010	Technical Writing	3
area E4	Cultures & Societies	3

TOTAL 16

Year 4

Fall Semester

CHEM 4111K	Physical Chemistry I	4
CHEM 4412	Adv. Inorganic Chemistry	3
CHEM	Upper-level Elective	3
Free Electives		4

TOTAL 14

Spring Semester

CHEM 4112	Physical Chemistry II	3
CHEM 4112L	Physical Chemistry II Lab	1
CHEM 4415	Solid State Chemistry	3
Free Electives		7

TOTAL 14

TOTAL for degree: 120

Chemistry Curriculum: General Track

Year 1

Fall Semester

CHEM 1211	General Chemistry I	4
HIST 10xx	World History	3
MATH 1113	Pre-calculus	4
ENGL 1101	English Comp I	3
SPCH 2400	Speech	2

TOTAL 14

Spring Semester

CHEM 1212	General Chemistry II	4
HIST 21xx	American History	3
MATH 2253	Calculus I	4
ENGL 1102	English Comp II	3

TOTAL 16

Year 2

Fall Semester

CHEM 2511	Organic Chemistry I	4
CHEM 2601	Chemical Literature	2
PHYS 2211	Physics I	4
MATH 2254	Calculus II	4
STS 2400	Science, Technology & Society	2

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

CHEM 4111K	Physical Chemistry I	4
CHEM 4411	Inorganic Chemistry	3
area E3	Behavioral Science	3
Math or Science elective		4
Math or Science elective		4

TOTAL 14

Spring Semester

CHEM 4112	Physical Chemistry II	3
CHEM 4112L	Physical Chemistry II Lab	1
area E4	Cultures & Societies	3
Free Electives		4

TOTAL 15

TOTAL for degree: 120

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 organizations (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 engineering, environmental engineering, geotechnical engineering, water resource engineering, and construction engineering. Typical job titles for graduates may include construction engineer, project engineer, planner, project supervisor, consulting engineer, and design engineer.

Civil Engineering requires rigorous training in basic engineering principles along with the development 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 tailored 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 engineering profession.

Faculty:

Sung-Hee Kim, *Ph.D., P.E., Assistant Professor and Program Director*
Samuel Beadles, *Professor*
Ilseok Oh, *Ph.D., Assistant Professor*
Wasim Barham, *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	Differential Equations	3
MATH 2335	Numerical Methods	3
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 C1	Course in English Literature	3
Area C2	Course in Art and Culture	3
Area E1	Course in History: Political Science	3
Area E2	World History	3
Area E3	Course in Behavioral Science	3
Area E4	International Issues	3
EDG 2160	Civil Graphics/CAD	3
ENGR 2214	Engineering Mechanics„Statics	3
ENGR 3131	Strength of Materials	3
ENGR 3132	Strength of Materials Lab	1
ENGR 3305	Data Collection and Analysis	4
ENGR 3324	Project Cost Analysis	4
ENGR 3343	Fluid Mechanics	3
ENGR 4402	Engineering Ethics	1
CE 1000	Orientation to Engineering & Surveying Professions	1
CE 3201	Structural Analysis	3
CE 3202	Design of Concrete Structures	3
CE 3701	Geotechnical Engineering	3
CE 3708	Geotechnical Lab	1
CE 3702	Environmental Engineering	3
CE 3703	Environmental Engineering II	3
CE 4103	Design of Steel Structures	3
CE 4105	Foundation Design	3
CE 4177	Transportation Engineering	4
CE 4178	Highway Design and Construction	3
CE 4703	Engineering Hydrology	3
CE 4800	Senior Project	3
CE XXXX	Technical Electives	9
SURV 2221	Surveying I	4
Degree Program Total		129

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

Civil Engineering Technology

Offering:

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.

Civil Engineering Technology „ Bachelor of Science Requirements

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
MATH 2306	Differential Equations	3
CE 1000	Orientation to Professions	1
CET 1002	Orientation to CET Computer Practices	1
CET 2110	Problem Solving Methods in CET	1
CET 3410	Soil Properties and Site Exploration	4
CET 3110	Construction Materials & Sustainability	4
CET 3210	Structural Mechanics	3
CET 3510	Traffic Analysis and Road Design	3
CET 3130	Applied Fluid Mechanics & Hydraulics	3
CET 3310	Water Treatment and Distribution	3
CET 3320	Wastewater Collection and Treatment	3
CET 3220	Applied Structural Steel Design	3
CET 3210	Cost Estimating and Scheduling in CET	4
CET 3230	Concrete Infrastructure Design	3
CET 4120	Senior Project	3
CET 4310	Stormwater Management & Erosion Control	3
CET 4410	Foundation and Retaining Wall Design	3
CET 4110	Ethics of Engineering	1
SURV 2221	Surveying I	4
SURV 3421	Geographic Information Systems I	4
EDG 2160	Civil Graphics and Computer Aided Drafting	3
ENGR 2214	Engineering Mechanics … Statics	3
ENGR 3131	Strength of Materials	3
ENGR 3132	Strength of Materials Lab	1
CET Electives	12 hours	
Degree Program Total		128 hours

CET students are required to earn a grade of "C" or better in all CET, CE, ENGR, and SURV courses required in the major and all courses used as CET electives. Students are required to earn a GPA of 2.0 or better in all CET, CE, ENGR and SURV courses.

Surveying and Mapping Program

(Bachelor of Science Degree Offered)

Program Coordinator: Professor Matt Wilson

Students completing the Surveying and Mapping program will be able to:

- Implement procedures for th e use and care of field equipment.
- Apply Math, science, and technology.
- Perform a boundary survey and preparation of a plat using appropriate Georgia standards and laws.
- Perform typical land surveyin g activities including ALTA, topographic, volume, as-built, control, geodetic, and subdivision surveys.
- Design residential subdivisions including lot layout, roads, and drainage.
- Perform coordinate calculat ions on the State Plane Coordinate System and transformations to other coordinate systems.
- Identify the surveyor's role in a land information system (GIS).

	Hydraulics	
CE 1000	Orientation to Professions	1
MGNT 3105	Management and Organizational Behavior	3
EDG 2160	Civil Graphics and Computer Aided Drafting	3
CET 2200	Introduction to Structures	4
CET 3510	Traffic Analysis and Road Design	3
CET 4310	Storm Water Management and Erosion Control	3
CET 3120	Cost Estimating and Scheduling in CET	4
SURV 2221	Surveying I	4
SURV 3222	Surveying II	4
SURV 4410	Surveying Computations and Adjustments	4
SURV 3421	Geographic Information Systems I	4
SURV 4465	Legal Aspects of Land Surveying	4
SURV 4470	Land Development Design	4
SURV 4415	Geodetic Surveying Methods	4
SURV 4475	Land Surveying Practice	2
SURV	Elective	4
Free Elective		3
Degree Program Total		

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 concentrat ion (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 th eir 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

Required Courses

- CSE 1301 Programming and Problem Solving 1 (4 credits)
- CGDD 2002 Fundamentals of Game Design (2 credits)

Computer Science

Offering:

- The Bachelor of Science in Computer Science (ABET Accredited)
- The Bachelor of Arts in Computer Science

Why study Computer Science at SPSU?

What field of study has seen more technological developments that have become part of our daily lives in just a matter of the past few decades than any other? Developments such as the Internet and email, search engines, wi-fi, etc., virtually unknown a few decades ago, make computer science one of the strong contenders for this distinction!

Combining fundamental theory with hands-on lab work in current programming languages, the Computer Science degree gives students a breadth of knowledge -- of operating systems, architecture, networks, and databases -- in a high-tech environment. Our numerous labs are equipped with the latest technology, including a real-time lab with the most current commercial-grade software tools and an IT lab with its own server for management and IT courses. And in our classrooms, professors teach using networked computers and smart boards, and technologies that allow for interactive demonstrations of programs at work, and other innovative pedagogical techniques.

About the program

As preparation for diverse employment opportunities, the Computer Science program offers a wide range of Mathematics and Computer Science courses, such as Programming Language Concepts, Data Structures, and Algorithm Analysis. Students may elect to earn a Bachelor of Science degree in Computer Science, which offers a mix of rigor and exposure to current technologies, or the Bachelor of Arts in Computer Science, which offers flexibility, e.g., with a minor in one additional area of study. For student convenience, many classes are offered in the evenings, especially as students make progress toward graduation.

The Faculty

Each faculty member in Computer Science has his or her own

- The remainder may be taken as lab sciences or as other approved courses that provide breadth and/or depth in the natural sciences or otherwise explore the scientific method

Computer Science „ Bachelor of Science Requirements

BSCS Program Objectives

I. Students: Meet the educational needs and prepare them for careers within the discipline . Computer Science students should be well-versed in not only the fundamentals but also develop skills in problem solving, logic, organization, and ethics.

- To provide graduates with a thorough grounding in key principles and practices of computing, and in the mathematical principles that underpin them
- To provide graduates with an understanding of the ethical aspects of computing within society
- To provide graduates with applicable communication and team skills to be used in computing careers
- To prepare graduates for employment in the computing profession

II. Curriculum: Maintain a challenging curriculum that is consistent with national standards and regional industrial needs.

- Maintain a curriculum that is consistent with national recommended standards (ACM & IEEE Computer Society)
- Maintain an up-to-date curriculum by taking into account significant changes within the discipline and regional industrial needs

BSCS Learning Outcomes

Each graduate of the program should be able to:

- Convey the understanding of, and ability to solve, problems through artifacts of computing such as specifications, code and other written documents.
- Demonstrate and apply their knowledge of fundamental data structures and algorithms to solve problems.
- Describe and explain the major concepts in the areas of operating systems, programming languages, architecture, and distributed computing.
- Demonstrate an ability to work effectively in teams on computing related projects.
- Demonstrate an ability to effectively communicate technical information.
- Demonstrate an understanding of social, professional and ethical issues related to computing.
- Obtain the skills and knowledge to be employable in positions that utilize their computing education.

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 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	Two lab science courses required	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 1002	Introduction to the Computing Disciplines	2
CSE 1301	Programming & Problem Solving I	4
CSE 1302	Programming & Problem Solving II	4
CSE 2642	Professional Practices and Ethics	2
CS 3123	Programming Language Concepts	3
CS 3153	Database Systems	3
CS 3224	Computer Organization & Architecture	4
CS 3243	Operating Systems	3
CS 3424	Data Structures	4
CS 4253	Distributed Computing	3
CS 4413	Algorithm Analysis	3
CS 4893	CS Capstone	3
SWE 2313	Intro to Software Engineering	3
SWE 3613	Software System Engineering	3
Approved Science Elective		4
Approved Math Elective (MATH 2255, MATH 2306, MATH 2335, or 3000 level or above)		3
Upper-level CS Electives (or Approved UL CGDD/SWE/IT Electives)		9
Free Electives (* MATH 1111 may not be used as free elective hours)		5
Degree Program Total		122

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Computer Science „ Bachelor of Arts Requirements

BACS Program Objectives

- To meet the educational needs of the students and prepare them for careers using their computing knowledge. Students should be well versed in not only the fundamentals but also develop skills in problem solving, logic, organization, and ethics.
- To provide graduates with a thorough grounding in key principles and practices of computing.
- To provide graduates with an understanding of the

-

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

Construction Engineering

Offering the Bachelor of Science degree in Construction Engineering

The Construction Engineering program is part of the Division of Engineering at Southern Polytechnic State University. In this major the traditional areas of civil engineering and construction are combined to produce graduates who are able to work effectively in all aspects of the construction industry.

Construction Engineering requires rigorous training in basic engineering principles along with the development of skills in

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
- On- Line Professional Certificate in Specialty Construction
- Professional Certificate in Facilities Management
- 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 w a c c r e d i t e d b y p a n d t i

CM 3620	Construction Finance and Feasibility	4
CM 4620	Development Process II	3

Specialty Concentration

CM 3280	MEP Codes and Loads	4
CM 3190	Sustainable Construction	3
CM 3480	Construction Estimating IV	4
CM 4480	Mechanical Systems and Electrical Systems Design-Build	3
CM 4560	Construction Project Management	3
CM 4800	Construction Management Technique	3

Facilities Management Concentration

CM 3190	Sustainable Construction. LEED	3
CM 4560	Construction Project Management	3
CM 3620	Construction Finance & Feasibility	4
CM 3290	Facilities Management	4
CM 4620	Development Process II	3
CM 4480	Design/Build	4

Note: Specialty Prerequisite for CM 4800 is CM 4480 in addition to the other prerequisites

Construction Minor

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

CM 2000*	Construction Graphics	3
CM 3000*	Computer Applications in Construction	3
CM 3160*	Commercial and Heavy Construction Methods	3
CM 3410	Quantity Surveying	3
CM 4510	Construction Scheduling	3

**Students having the prerequisite knowledge in these courses may substitute courses of greater or equal credit from the following list with the consent of the CM Department Chair:*

CM 3411	Construction Estimating Software	2
CM 3420	Construction Estimating and Bid Preparation	4
CM 4511	Construction Scheduling Software	2
CM 4560	Construction Project Management	3
CM 4760	Construction and Real Property Law	3

Construction Management Certificate Programs

SPSU's Construction Management Department offers four Certificate programs namely:

- Project Management Certificate
- Highway Project Management Certificate
- Land Development
- Specialty Construction Certificate (also available online)

Certificate programs are offered to provide training and education for students and working professionals in various areas of construction. Students can usually complete requirements in 3 to 4 Semesters. The credits earned through the certificate programs may also be applied toward completing a B. S. degree in Construction.

Admission Requirements:

Applicants must meet all SPSU admissions requirements for undergraduate admission.

Construction Graduate Courses

CM 5030	Descriptive Structural Systems
CM 6000	Information Methods

Certificate in Land Development

The primary objective of the Certificate in Land Development is to provide training and education to members of the real estate and land development field in construction and land development principles and practices. Students can complete the requirements in 3-4 semesters. These courses may also be applied toward completing a B.S. degree in Construction Management upon acceptance to SPSU.

Prerequisites must be met pr ior to enrollment in certain certificate courses.

Required Courses: (14 semester hours)

CM 3160	Commercial & Heavy Construction Methods	3
CM 3310	Introduction to Development	3
CM 3710	Site Planning	4
CM 4570	Land Development Process I	4

*may substitute courses from elec tives list if competency can be demonstrated

Elective Courses: (7 semester hours)

CM 2000	Construction Graphics	3
CM 3110	Residential & Light Construction Methods	3
CM 3410	Construction Quality Surveying	3
CM 3430	Construction Estimating III	3
CM 4510	Construction Scheduling	3
CM 4620	Land Development Process II	3

Certificate in Project Management Construction

The professional Certificate in Project management is designed for working professionals who wish to further their Tr thP8J 0 -1.760-0 TD -.0TD -.0007 Tc 0 Tw [(dw [(CM 3110)cion)Tj /F3 prnagement.1(( )-8535 0 T9

Electrical and Computer Engineering

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
ECET 4830	Telecommunications Management	3
ECET 4840	Advanced Telecommunications	4
ECET 4850	Telecommunications Project	4
ECET 4860	Network Security	4
EDG 1210	Survey of Engineering Graphics	2
MGNT 3105	Management and Organizational Behavior	3
MGNT 4135	Project Management	3
TCET Electives		6
Degree Program Total		130

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

NOTE: TCET 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.

Electrical and Computer Eng Tech Graduate Classes

ECET 6001	Circuit and System Modeling with SPICE
ECET 6002	Programmable Devices
ECET 6003	Advanced Test Engineering
ECET 6004	System Engineering
ECET 6100	Discrete -time Signals and Systems
ECET 6101	Digital Signal Processing
ECET 6102	Mechatronics
ECET 6201	Advanced Digital Design
ECET 6202	Embedded PC Systems
ECET 6203	Topics in Machine Intelligence
ECET 6204	Networked Embedded PCs
ECET 6300	Telecommunications Networking
ECET 6301	Telecommunications
ECET 6302	Digital Communication Networks
ECET 6303	Wireless Communication Systems
ECET 6401	Linear Control System Analysis and Design
ECET 6402	Power Flow Studies and Fault Analysis
ECET 6403	Applications of Power Electronics in Electric Drive Systems
ECET 6404	Switching Power Supplies
ECET 6704	Project Proposal
ECET 6901-6905	Special Topics
ECET 7504	Research
ECET 7704	Project

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 essential to the success of an electrical engineer.

Nearly every industry utilizes electrical engineers. Graduates have the qualifications to enter careers in areas such as, but not limited to, telecommunications, computer engineering, manufacturing, the aerospace industry, power generation and distribution, alternative energy, robotics, and automation. Typical job titles for graduates may include electrical engineer, electronics engineer, telecommunications engineer, project engineer, planner, project supervisor, consulting engineer, and design engineer.

Electrical Engineering requires rigorous training in basic engineering principles along with the development of skills in the areas of planning and management of design projects and the associated systems and resources. Graduates in the area of Electrical 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 electrical engineering projects and to serve in key leadership positions within the engineering profession.

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

Faculty:
Lance Crimm, *P.E., Professor and Program Director*
Deidra Hodges, *Ph.D., Assistant Professor*
Yusun Chang, *Ph.D., Assistant Professor*

Electrical Engineering

ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
COMM 2400	Public Speaking	2
STS 2400	Science872	

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,

	OR	3
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
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 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 departmental course, or approved SIS, STS, or other electives[3]	
Free Electives	15
Concentration Courses (Professional Writing and Communication or Media, Communication and Culture) *or* Minor Courses (International Studies or Spanish)	15

Professional Writing and Communication (15 hours)

Apparel Textile Technology

Fashion Design and Product Development

Bachelor of Apparel and Textiles

Fashion is clothing that is in style at a particular time. The focus of the Fashion Design and Product Development program is the "concept to distribution" design and development of fashions for the ready-to-wear clothing market. Men's wear, women's wear, active and leisure apparel, children's wear and many other sewn products are all part of the fashion/apparel industry, one of the largest and most important industries in the United States. Excellent starting salaries, rapid advancement, job diversity, and travel are just some of the benefits to graduates of this program. The industry offers employment in all 50 states, and many opportunities around the world. Graduates work with technologies, computers and software to design and create quality products in a fast-paced, ever changing fashion environment.

The Faculty:
Thomas Ball Interim Department Chair
Keely Clay Assistant Professor

Program Educational Objectives

- To prepare graduates with the fundamental understanding of concept, product development, sourcing, marketing and merchandising of the ready-to-wear apparel industry.
- To provide graduates with an understanding of the political and ethnical aspects pertaining to global product development.
- To prepare graduates with the basic knowledge for various entry level positions in the fashion/apparel industry.
- To provide a challenging curriculum consistent with industry needs.

ARTS 2010	Introduction to Drawing	
MGNT 3205	Management Information Systems	
MGNT 4145	International Management	
ATT 4820	Senior Internship	
Free Electives		8
Total Degree Requirements		121

Apparel and Textiles Minor

To be eligible for a minor in Apparel and Textile Technology, the student must complete 18 credit hours from the following courses with at least 9 hours of upper division course work.

ATT 1300	International Sourcing	3
ATT 1400	Principles of Merchandising	3
ATT 2301	Apparel Computer-Aided Design I	4
ATT 2505	Fabric Formation and Design	3
ATT 2600	Apparel Analysis & Product Dev	3
ATT 3100	Fashion Merchandising	3
ATT 3602	Apparel Computer-Aided Design II	4
ATT 3800	Fashion Forecasting & Trends	3
ATT 4444	QA for Textiles & Apparel	4
ATT 4670	Apparel/Textile Business Practices	3
ATT 4750	Advanced Design and Product Dev	3

Certificate in Apparel Product Development

The Fashion Design and Product Development program offers a Certificate in Apparel Product Development. The objective is to provide training and education to members of the apparel industry, graduates of fashion and design schools and other interested parties seeking to im prove their skills. The courses may also be applied toward completing the Bachelor of Apparel and Textiles degree. All requirements for normal admissions are applicable. The course includes five classes from the following:

ATT 1300	ATT 1400
ATT 2301	ATT 2600
ATT 3602	ATT 4670
ATT 3800	ATT 2505

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 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
Elective Courses as defined below		17
Program Total		60

Elective Courses:

At least one course in humanities (Area C)	3
At least one course in social sciences (Area E)	3
Any humanities, social science, math, lab science or any area F course from any program.	11

Relevant Course Descriptions:

Core Courses
Humanities: see English (ENGL), Arts (ART); Modern Languages (FREN, SPAN)
Social Sciences: (including ANTH, ECON, ES, GEOG, PSYC, RELG, SOCI, STS) see also History (HIST), Political Science (POLS)

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:

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,

HIST 3501	Modern Social and Cultural History
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

STS 4400	Topical Studies in Science and Technology	
Free Electives		12
Degree Program Total		120

- 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 Interim 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
Christina R. Scherrer Associate Professor
Gregory Wiles Instructor

BS in Industrial Engineering Technology Requirements

Area A

ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
MATH 1113	Pre-calculus	4

Concentration in Logistics

The primary objective of the Concentration in Logistics is to provide training and education to students interested in entering the Supply Chain industry.

Required Courses

IET 2227	Introduction to Statistics	3
IET 2449	Logistics Planning & Control	3
IET 3511	Sustainability Engineering	3
IET 4405	Operations Research	3
IET 4115	Human Resource Management	3
IET 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.

Required Courses:

IET 3339	Statistical Quality Control	3
IET 3356	Quality Concepts & Systems Design	3
IET 3403	Industrial Experimentation	3
IET 3407	Six Sigma Concepts & Lean Mfg	3
IET 3410	Principles of Team Dynamics	3
IET 4135	Project Management	3
IET 4151	Production and Operations Management	3
Total		21

Students who successfully complete the Concentration with a grade of "C" or better in each course will be awarded a Green Belt Certificate.

Manufacturing Operations

Bachelor of Applied Science

The Bachelor of Applied Science in Manufacturing Operations has been specifically designed for students who have completed an Associate of Applied Science Degree from a Technical College System of Georgia institution.

The goal of the partnership between SPSU and the TCSG schools is to provide the opportunity for degreed graduates from the technical schools of Georgia to complete a Bachelor's degree in approximately 60 semester credits which in equivalent to about

IET 2449	Logistics Planning & Control	3
ECET 3000	Electrical Principles	4
MET 1311	Manufacturing Processes	3
MET 2322	Manufacturing Processes Lab	3
TCOM 2010	Technical Communications	3

Degree Program Total 120

Supply Chain Logistics

Bachelor of Applied Science

The Bachelor of Applied Science in Supply Chain Logistics has been specifically designed for students who have completed an Associate of Applied Science Degree from a Technical College System of Georgia institution.

The goal of the partnership between SPSU and the TCSG schools is to provide the opportunity for degreed graduates from the technical schools of Georgia to complete a Bachelor's degree in approximately 60 semester credits which in equivalent to about two years as a full time student.

All required major courses to complete the BAS in Supply Chain Logistics are offered totally online by SPSU faculty. All general education requirements are also offered on-line through the university system called E-core.

The BAS Supply Chain Logistics prepares students for careers in managing raw materials, work-in-process and finished goods inventories and how to efficiently control the movement of those

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 High School degree or GED and been out of high school for at least five years or have earned 30 college credits from an accredited institution of higher learning with a minimum GPA of 2.0.

Required Courses:

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

Industrial Engineering Technology Department Certificate in Production Design

The primary objective of the Certificate in Production Design is to provide training and education to members of the Industrial Engineering field in the measurement and analysis of work and in the design or improvement of facilities. Students can complete the requirements in 3-4 semesters. These courses may also be applied toward completing a B.S. degree in Industrial Engineering Technology upon acceptance to SPSU.

Admission Requirements:

Applicants must meet all undergraduate admission requirements.

Required Courses:

ACCT 2101	Accounting I	3
IET 3322	Work Measurement and Ergonomics	4
IET 3433	Eng Product and Process Costing II	3
IET 4422	Plant Layout and Materials Handling	4
IET 4451	Systems Simulation	3
MGNT 4151	Production and Operations Management I	3
Total		20

Industrial Engineering Technology Department Certificate in Quality Principles

The primary objective of the Certificate in Quality Principles is to provide training and education to members of the Industrial Engineering field in quality system principles, methodology, elements and standards. Students can complete the requirements in 3… 4 semesters. These courses may also be applied toward completing a B.S. degree in Industrial Engineering technology upon acceptance to SPSU.

Admission Requirements:

Applicants must meet all undergraduate admission requirements.

Required Courses:

IET 2227	Introduction to Statistics	3
IET 3339	Statistical Quality Control	3
IET 3356	Quality Concepts and Systems Design	3
IET 3403	Industrial Experimentation	3
IET 3410	Principles of Team Dynamics	3
MGNT 4135	Project Management	3
MGNT 4151	Production and Operations Management I	3
Total		21

Information Technology

Offering:

- Bachelor of Science in Information Technology
- Bachelor of Applied Science in Information Technology

	OR	3
MGNT 4135	Project Management	
MGNT 3105	Management & Org. Behavior	3

Systems & Administration Track

IT 4203	Adv Web Development	3
IT 4153	Advanced Database	3
IT 4333	Network Conf & Administration	3
IT 3653	Client Server System Administration	3

Information Assurance & Security Track

IT 4833	Wireless Security	3
IT 4843	Ethical Hacking for Effective Defense	3
IT 4853	Computer Forensics	3
IT 4903	Special Topics in Information Security	3

Information Technology Bachelor of Applied Science Requirements

ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
MATH 1111	College Algebra	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	

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 and knowledge that will allow them to deal with the new demands of the global economy.

Companies that will employ our graduates will be global ones, so it is necessary for their employees to understand the political, economic, cultural, as well as technical contexts in which their companies function.

The International Studies degree will prepare graduates for employment in:

- Government
- Graduate study
- Intelligence
- International business
- Pre-law
- Public policy
- The military
- The transportation industry
- The travel industry
- Work in the non-profit sector

Students pursuing this degree must complete:

The Core Curriculum	60
Required Upper Division Core in international studies	24
A particular area of concentration	14-19
Directed International Electives	9
Free Electives	7-12

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 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 Context	3

Students taking Political Science Concentration should take POLS 1101 or HIST 2112

Students taking History or History of Science and Technology Concentration should take HIST 2111 or HIST 2112

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 2100	Basic Quantitative Research Methods for Political Science and International Studies Majors	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 3600	Comparative Culture	3
SIS 400x	One Course in Regional Studies	3
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

**Or another language at a similar level*

Directed International Electives:	Take any three of the following courses:	9
ECON 2106	Microeconomics	
GEOG 3101	World Regional Geography	
HIST 3200	History of Science Survey	
HIST 3301	Diplomatic and Military History since 1815	
HIST 3401	Colonization and Rebellion in the Transatlantic World	
HIST 3501	Modern Social and Cultural History	
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 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	16
Computing	19
Construction	14
Electrical Engineering Technology	15
History	15
History of Science and Technology	15
Industrial Engineering Technology	15
International Business	15
Latin American Studies	15
Management	15
Political Science	15
Social Science	15
Psychology	15
Spanish	15
Surveying	16
Technical Communication	15
Technology and the Law	15

Biology Concentration (15-16 credits)

This area of concentration will provide students with a basic understanding of the principles and terminology in the Biology discipline. Students taking this option should take BIOL 2107K

analytical and communications skills applicable in a wide range of professional settings.

World History: Select whichever course not taken to satisfy core requirements (3)

Psychology Concentration (15 Credits)

With this concentration, students will be introduced to the basic terminology, theoretical frameworks and developments within psychology.

Group A: Select three of the following*: (9)

PSYC 2011	Cognitive Psychology
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

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 Psychology Concentration must be numbered 3000 or higher.

Social Science Concentration (15 credits)

With this concentration, students will be introduced to the basic terminology, theoretical frameworks and developments within various social science disciplines.

Orientation: Select two of the following: (6)

ANTH 1102	Introduction to Anthropology
GEOG 1101	Introduction to Human Geography
POLS 3601	Contemporary World Politics
RELG 1200	World Religions

Social Science Electives: Select three of the following: (9)

HIST Any 3000- or 4000- level History course

PSYC Any 3000- or 4000- level Psychology course

POLS Any 3000- or 4000- level Political Science course

SIS Any 3000- or 4000- level SIS course

SPAN 3003 Hispanic Cultures and Civilizations (only for students with the requisite Spanish language skills)

Note: Only one course may be selected from each discipline.

Spanish Concentration (15 credits)

With this concentration students can achieve an intermediate low proficiency in Spanish and a basic understanding of Hispanic cultures.

Any three 3000 level Spanish courses (9)

Any two 4000 level Spanish courses (6)

Surveying Concentration (16 credits)

This concentration will give students a basic understanding of the principles and terminology involved in surveying. Students taking this option should take PHYS1111 and PHYS 1112 to satisfy the lab science core requirements.

CE 1001	Orientation	(1)
EDG 2160	Civil Engineering Graphics	(3)
SURV 2221	Surveying I	(4)
SURV 3222	Surveying II	(4)
SURV 3421	Geographic Information Systems	(4)

Technical Communication Concentration (15 credits)

This concentration will give students a basic understanding of the principles and terminology involved in technical writing.

COMM 2000	Business Communication	(3)
TCOM 2010	Technical Writing	(3)
Any three TCOM courses numbered 3000 or above		(9)

Technology and the Law (Pre-Law) Concentration (15 credits)

One of the most common career paths chosen by students of International Studies is a legal career. Additionally, legal training in technology issues is in demand at present and is extensively needed domestically as well as internationally. This concentration will provide International Studies majors with additional coursework that will better prepare them for pursuing a career in law upon graduation with a B.S. in International Studies.

American Context Core: Take both courses not used to satisfy General Core (6)

HIST 2111	U.S. History to 1877
HIST 2112	U.S. History since 1877
POLS 1101	American Government

Technology and the Law Electives: Select three courses (9)

CM 4760	Construction Law
MGNT 3145	Legal Environment of Business
POLS 3209	U.S. Constitutional Law
POLS 3301	Modern Political Theory
POLS 3401	Regulatory and Environmental Law
POLS 3501	Intellectual Property Issues

International Studies Minor

To be eligible for a minor in International Studies, the student must complete the following with a grade of C or better:

1. Select one course from the following:

SIS 2903	Special Topics in Studies Abroad
SIS 400x	Regional Studies

2. Select four courses not used to satisfy core requirements from the following list.

No more than two can be numbered below 3000.

ANTH 1102	Introduction to Anthropology
ECON 1101	Introduction to Economics
ECON 2106	Micro Economics
GEOG 1101	Introduction to Human Geography
GEOG 3101	World Regional Geography
HIST 1111	World Civilization to 1500
HIST 1112	World Civilization since 1500
HIST 3200	History of Science Survey
HIST 3301	Diplomatic and Military 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	

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,

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

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

Mechatronics Engineering

Offering the Bachelor of Science degree in Mechatronics Engineering

Mechatronics Engineering is the integration of mechanical and electrical engineering disciplines with an infusion of computer science and software engineering. Mechatronics engineers use this integrated approach to bring higher performance to engineering systems, and to make them more reliable and more cost-effective. Professionals skilled in this area have been identified as a critical need by industry and by the Society of Manufacturing Engineers. Studies conducted by the National Research Council discuss the value of interdisciplinary solutions that integrate multiple technologies across technical disciplines.

Mechatronic systems can be a complete product or a sub-component of a product. Examples of mechatronic systems include aircraft flight control and navigation systems; automotive electronic fuel injection and anti-lock brake systems; automated manufacturing systems including robots, numerical control machining centers, packaging systems and plastic injection-molding systems; artificial organs; health monitoring of engineered and surgical systems; copy machines; and many more. A common element of all these systems is the integration of analog and digital circuits, microprocessors and computers, mechanical devices, sensors, actuators, and controls.

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 390x	Special Topics in International

Physics

Offering:

- Bachelor of Science in Physics
- Bachelor of Arts in Physics

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.

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 mathematics, electrical or mechanical engineering technology. All of our physics students receive job offers that put them in the front lines of fascinating careers and maximize their earnings potential.

Our graduates have been hired by respected organizations like Applied Decision Analysis, Inc., Argonne Labs, Barco Chromatics, BellSouth Mobility, Cape International Management, Inc., Flexible Products Company, Georgia Department of Agriculture, Gallet & Associates, Hulsey Seed Laboratory, Inc., Institute of Paper Science & Tech, Inc., Law Engineering & Environment Serv. Inc., Lockheed, Lucas Body Systems NA, NASA, National Science Foundation, Nortel Telecommunications, Nova Engineering &

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 Studies, in the School of Arts and Sciences at Southern Polytechnic State University. By offering a Political Science degree, SPSU seeks to produce graduates who have a higher degree of technical and statistical expertise than those found in customary political science programs elsewhere and also have hands-on experience in applied research.

Political Science degree will prepare graduates for employment in:

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

Students pursuing this degree must complete:

The Core Curriculum	60
Required Upper Division Core in Political Science	33
Directed International Electives	12
Free Electives	15

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

Political Science Bachelor of Science Requirements

ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
MATH 1111	College Algebra	3
MATH 1113	Pre-Calculus	4
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 in Laboratory Science	8
Area E1	Course in American Context	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
GEOG 4101	Geographic Information Systems	3
POLS 2100	Basic Quantitative Research Methods for Political Science and International Studies Majors	
POLS 2401	Global Issues	3
POLS 2801	Comparative Politics	3
POLS 3100	Intermediate Quantitative Research Methods	3
POLS 3101	International Political Economy	3
POLS 3209	U.S. Constitutional Law	3
POLS 3301	Modern Political Theory	3
POLS 3601	Contemporary World Politics	3
POLS 3701	American Institutions	3
POLS 3801	Political Behavior	3
POLS 4100	Advanced Multivariate Statistical Analysis	3
POLS 4801	Capstone: Political Science Practicum	3
SIS 400x	Regional Studies	3
SPAN 2001	Elementary Spanish I*	3
SPAN 2002	Elementary Spanish II*	3

** or other language at equivalent level*

International Electives:	Take any four of the following courses:	12
GEOG 3101	World Regional Geography	
HIST 3301	Diplomatic and Military History since 1815`	
HIST 3401	Social and Cultural History during the 20th Century	
HIST 3501	Colonization & Rebellion in the Trans-Atlantic World	
HIST 3601	History of Pacific Rim	
HIST 3801	World HIstory since 1945	
IT / POLS 4063	Political Issues in Electronic Government	
LANG 300x	any 3000-level language course	
POLS 3401	Regulatory and Environmental Law	
POLS 3501	Intellectual Property Issues	
POLS 4101	Political Economy of Post-Communist Transformation	
PSYC 3101	International Social Psychology	
SIS 3600	Comparative World Cultures	
SIS 4100	Cross-Mr(nc)-nspInte Tw [(iy(ie0(Polit.elogy))] 0cy EC	

Psychology

Offering:

Bachelor of Science in Psychology

The Faculty:

Richard Bennett, *Associate Professor and Director of International Studies*
Albert Churella, *Associate Professor*
J. LaJuana Cochrane, *Associate Professor and Psychology Coordinator*

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

Psychology Concentration Group A: Select three of the following*:		(9)
PSYC 2011	Cognitive Psychology	
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

Social Science

Offering:

Bachelor of Science in International Studies

Concentration in Social 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 Social Science 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 Social Science, SPSU seeks to produce graduates who not only understand the historical, politi

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

Software Engineering

Offering:

MATH 2345	Discrete Mathematics	3
MATH 2260	Probability & Statistics I	3
Math/Science Electives	(Math at the level of MATH 2253 or higher; Science at the level of Area D or higher)	6
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	Take Two Courses From the Laboratory Sciences Group (excluding Phys 1111 & 1112)	8
PHYS 2211K	Principles of Physics I	4
Area E Group 1	American Context	3
Area E Group 2	World History	3
ECON 2107	Engineering Economics (see note below)	3
Area E Group 4	Cultures and Societies	3
CSE 1002	Introduction to The Computing Disciplines (institutional credit only)	2
CSE 1301	Programming and Problem Solving I	4
CSE 1302	Programming and Problem Solving II	4
CSE 2642	Professional Practices & Ethics	2
CS 3153	Database Systems	3
CS 3224	Computer Organization & Architecture	4
CS 3424	Data Structures	4
CS 3243	Operating Systems	3
SWE 2313	Introduction to Software Engineering	3
SWE 3623	Software Systems Requirements	3
SWE 3633	Software Architecture & Design	3
SWE 3643	Software Testing & QA	3
SWE 4324	User-Centered Design	4
SWE 4663	Software Project Management	3
SWE 4713	SWE Application Domain	3
SWE 4724	Software Engineering Project	4
SWE Upper Level Electives	Choose 2 courses from the approved list, at least one must be an SWE course	6
Free Electives (Excludes Math 1111, PHYS 1111K and PHYS 1112K) (see note below)		8
Degree Program		127+
		2

Note: If Area E is transferred into the university, student is required to take ECON 2107 as part of Free Electives.

A grade of "C" or better must be earned in all CSE, CS, SWE, CGDD, and IT courses applied to degree requirement.

Software Engineering Minor

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

Minor in SWE Program Objectives

Students earning a minor in Software Engineering will:

- Possess broad foundations in softwaoh,01 Tc -x3TD -.d9.3(incino)8.nce

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, space, 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 Bachelors degree in Systems Engineering is a new program at SPSU. Freshmen may enroll in the program beginning fall semester 2007, sophomores beginning fall 2008, and so on. For further questions, please contact Dr. Renee Butler at rbutler@spsu.edu or 678-915-5414.

The Faculty:

Renee J. Butler, *Ph.D., P.E. Associate Professor and Program Director*
Adeel Khalid, *Ph.D., Assistant Professor*

Systems Engineering „ Bachelor of Science Requirements

ENGL 1101	Composition I	3
ENGL 1102	Composition II	3
COMM 2400	Public Speaking	2
TCOM 2010	Technical Writing	3
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
CHEM 1211K	Principles of Chemistry I	4
CSE 1301	Programming and Problem Solving I	4
CSE 1302	Programming and Problem Solving II	4
ECON 2107	Introduction to Economics & Engineering Economy	3
EE 2301	Circuit Analysis I	4
ENGR 2214	Engineering Mechanics - Statics	3
ENGR 3122	Engineering Mechanics - Dynamics	3
MATH 2253	Calculus I	4
MATH 2254	Calculus II	4
MATH 2255	Calculus III	4
MATH 3312	Linear Algebra	4
PHYS 2211K	Principles of Physics I	4
PHYS 2212K	Principles of Physics II	4
SYE 1101	Systems Engineering Orientation	1
SYE 2100	Systems Analysis and Design	3
SYE 2300	Economic Decision Analysis	3
SYE 2600	Applications of Probability	3
SYE 3100	Systems Reliability, Maintainability and Risk Management	3
SYE 3120	Contemporary Technological Systems: Design, Analysis & Architecture	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 articulationwill 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 includ ing 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 B.S.). chanD -.02w1y 016 Tw (e"),

Technical Communication Minor

To be eligible for a minor in Technical Communication a student must complete 15 hours of technical communication courses. Students take TCOM 2010 plus 12 additional hours of course work, at least 9 hours of which must be at the 3000 or 4000 level.

Students can choose from:

- TCOM 2020 and/or TCOM 2030
- ARTS 3000
- STS 4000
- Any class with the TCOM course prefix
- Additional courses carrying the COMM or ENGL prefix, with departmental approval

Core Course Descriptions

Anthropology Core Courses

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.

Arts Core Courses

ARTS 2001 Art Appreciation
Prerequisite: ENGL 1101
3-0-3
Appreciation of visual arts is developed through an introduction to the aesthetics, criticism, history, and production of visual art in the Western world. Some non-Western art will be included.

ARTS 2002 Drama Appreciation
Prerequisite: ENGL 1101
3-0-3
Survey of drama as a performing art, considering both literary and nonliterary elements. Some non-Western drama will be included. In addition, attendance at one or more live dramatic performances will be required.

ARTS 2003 Music Appreciation
Prerequisite: ENGL 1101
3-0-3
Survey of music in the Western world, including historical movements and basic musical notation. The course also covers some non-Western music, as well as contemporary, classical, and popular music.

ARTS 2004 History of Contemporary American Music
Prerequisite: ENGL 1101
3-0-3
Survey of the development of contemporary American music genres from a historical and analytical perspective from the beginnings of American contemporary styles in the late nineteenth century to the present. Additionally, the course examines the social and historical context of various cultures in the American mosaic of people in the present time, especially the two primary cultures: those of European and African ancestries. Includes a music listening component and further develops some of the topics covered in ARTS 2003.

Astronomy Core Courses

ASTR 1000K Introduction to the Universe
3-2-4
A survey of the universe, examining the historical origins of astronomy; the motions and physical properties of the Sun, Moon, and planets; the formation, evolution, and death of stars; and the structure of galaxies and the expansion of the universe. Laboratory exercises supplement classroom work.

Biology Core Courses

BIOL 2107K Biological Principles I
3-3-4
An introduction to biology including the chemistry of life, cell structure and functions, bioenergetics, genetics, basic statistics, biotechnology, and evolution. The laboratory exercises supplement the class work.

BIOL 2108K Biological Principles II
Prerequisite: BIOL 2107K
3-3-4
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.

Chemistry Core Courses

CHEM 1211K Principles of Chemistry I
Prerequisite: MATH 1111
3-3-4
First course in a two-semester sequence covering the fundamental principles and applications of chemistry designed for science majors. Topics to be covered include composition of 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 of a variety of research skills. Includes Regents' Essay practice and work in the ATTIC, as required. Final grade of "C" or better necessary to receive course credit. Special sections of the course may be offered that focus on the needs of those international students for whom English is a second language. Such sections will include a required lab hour in the ATTIC, but they will remain three-credit-hour courses. Also offered as an eCore (online) class.

Introduction to listening, speaking , reading, and writing in French and to the culture of Fr ench 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 Fr ench 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 Introductionto Human Geography
3-0-3
A survey of global patterns of resources, population, culture and economic systems. Emphasis is placed upon the factors contributing to these patterns an d the distinctions between the technologically advanced and less advanced regions of the world. Includes cultural, political, ur ban, and economic geography.

German Core Courses

GRMN 1001 Elementary German I
3-0-3
An introduction to the German language and the culture of the German-speaking world. Beginning of a survey of basic German grammar and the development of the four language skills of listening, speaking, reading, and writing German. Some aspects of everyday life in the German-speaking world will also be introduced. Not open to native speakers of German. Does not meet C-2 Core requirement.

GRMN 1002 Elementary German II
3-0-3
The second part of an introduction to German language and the German-speaking world. Completi on of the survey of Basic German grammar and further development of the four language skills of listening, speaking, re ading, and writing German. Aspects of everyday life in the German-speaking world will also be introduced. For those students who have completed GRMN 1001 or have had one year of German inhigh school. Not open to native speakers of German.

History Core Courses

HIST 1111 Survey of World Civilization pre 1500
3-0-3
A survey of the cultural, politica l, economic, intellectual, social, and scientific development of early world civilizations from prehistoric times to the Age of Exploration, ca. 1500. Also offered as an eCore (online) class.

HIST 1112 Survey of World Civilization post 1500
3-0-3
A survey of the cultural, politica l, economic, intellectual, social, and scientific development of civilizations from the Age of Exploration to the present.

HIST 2111 United States History to 1877
3-0-3
United States history from the colonial period through Reconstruction. Emphasis on the interpretation of American institutions and ideas. Satisfie s U.S. and Georgia history and constitution requirement. Also offered as an eCore (online) class.

HIST 2112 United States History since 1877
3-0-3
The rise of the United States asin industrial power from the late 19th century to the present. Special emphasis on change and reform during this period. Satisf ies U.S. and Georgia history and constitution requirement.

HIST 2911 U.S. and Georgia Constitution and History
1-0-1
A one-hour course designed to allow students with transfer credit for American history or American government from outside the University System of Georgia tomeet the U.S. and Georgia history and constitution requirement. Ma y not be taken as an elective.

Mathematics Core Courses

MATH 1111 College Algebra
Prerequisite: Placement by th

between curves, moments, work, and volumes of rotation. No student may receive credit for both MATH 2240 and MATH 2253.

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 PHYS 1111K in any curriculum, but credit will not be allowed for both PHYS 1111K and PHYS 2211K.

PHYS 2212K Principles of Physics II
Prerequisites: MATH 2254, 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 calculus will be used. Laboratory exercises supplement classroom work. This course may be substituted in any curriculum for PHYS 1112K, but credit will not be allowed for both PHYS 1112K and PHYS 2212K.

Political Science Core Courses

POLS 1101 American Government
3-0-3
A study of the structure and function of the federal government from its historical antecedents to its contemporary challenge. Satisfies U.S. and Georgia history and constitution requirement. Also offered as an eCore (online) class.

POLS 2401 Global Issues
3-0-3
An introduction to international re lations covering such issues as diplomacy, nuclear politics, war, secret intelligence, revolution, international development, debt, and dependence.

Psychology Core Courses

PSYC 1101 Introduction to General Psychology
3-0-3
An introduction to the methods, th eories, and research findings in psychology. The course examinesthe influence of biological, cognitive, and social factors on behavior. Also offered as an eCore (online) class.

Spanish Core Courses

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

SPAN 1002 Elementary Spanish II
Prerequisite: SPAN 1001 or one year of high school Spanish

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.

Course Descriptions

Degree Course Descriptions

In Alphabetical Order

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 financial statements ("preparer perspective"), as well as understanding and analysis of the financial statements ("user perspective"). This is an introductory course that presupposes no prior knowledge of accounting. The emphasis with respect to business structures will be on corporations.

ACCT 2102 Accounting II
Prerequisite: ACCT 2101
3-0-3
This course is a study of the application of accounting principles to specialized problems of corporations, special reports, and formation cost of sales and manufacturing, fundamentals of management accounting, information and analysis for planning and controlling, decision analyses, cost management, and continuous improvement.

ACCT 3230 Intermediate Accounting I
Prerequisite: ACCT 2101,ACCT 2102, MGNT 3125
3-0-3
The theory and practice of financial accounting and reporting. A study of the conceptual framework and process by which accounting standards are established; preparation of financial statements and disclosures; applications of fair value concepts and present value measurements to accounting events; and accounting for current assets, plant assets, natural resources, intangible assets, current and long-term liabilities, and related income and expense elements.

ACCT 3231 Intermediate Accounting II
Prerequisite: ACCT 3230
3-0-3
The theory and practice of financial accounting and reporting. A study of stockholders' equity, dilutive securities, earning per share, investments, revenue recognition, deferred income taxes, pensions, leases, accounting changes, error analysis, the statement of cash flows and full disclosure in financial accounting.

ACCT 3530 Cost Management
Prerequisite: ACCT 3231
3-0-3
Focus on cost accounting concepts, with emphasis on developing and evaluating information that management needs to plan, make key decisions, and monitor business performance. Key topics include cost typology and behavior and how each impacts decision making process and product costing, cost-volume-profit analysis, flexible budgeting, incremental decision analysis, and performance evaluation.

ACCT 4530 Advanced Accounting
Prerequisite: ACCT 3530
3-0-3
The theory and practice of financial accounting and reporting pertaining to business combinations and consolidated financial statements, accounting for partnerships and related business forms, foreign currency transactions and financial statement translations, and other advanced accounting topics.

ACCT 4535 Accounting Information Systems
Prerequisite: MGNT 2201
3-0-3
A study of the structure, flow, and use of accounting data in computer-based and networked environments. Topics include systems development and documentation, internal control, business processes, databases, and software applications.

ACCT 4555 Auditing and Assurance
Prerequisite: ACCT 4535, IET 2227
3-0-3
Practice and theory of auditing financial statements. A study of most of the major activities performed during the conduct of a financial statement audit, from client acceptance to issuance of an audit report.

ACCT 4560 Taxation I
Prerequisite: ACCT 2101, ACCT 2102
3-0-3
Students are introduced to a broad range of tax concepts and tax policies. Students should develop an understanding of how tax laws affect most business and personal financial decisions. Tax reporting, tax planning, and basic tax research skills will be emphasized.

ACCT 4565 Fraud Accounting
Prerequisite: ACCT 2102
3-0-3
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.

Anthropology Course

ANTH 1102 Introduction to Anthropology
3-0-3
Introduction to basic cultur al 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, transporta tion, domestic production, Asia/Europe/Americas operations, foreign investment, foreign purchase, turn time, competitive advantage, communications, full package production capabilities, cultural priorities, political influence, international regulation s and alliances, costs, quality,

3-0-3
Evaluation of the comprehensive factors that determine sound

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 th e direction of a member of the full-time faculty or visiting facu lty. Areas of study may include extension and enhancement of material offered in required architecture courses or exploratio n 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 3311, ARCH 3313
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 anunderlying 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 4116 Urban Planning and Design Theory
Prerequisite: ARCH 4013
2-3-3
This course critically examines th e evolution and current trends in the development of modern cities. Diverse socio-economic-political and spat ial issues are explored that shape and continuously transform the physical fabric of cities, metropolitan centers, regions and global facets of architecture and urbanism. Class exercises range from actual urban design project to critical and applie d assignments to explore and understand theoretical and applie d underpinnings of varied and diverse urban forms.

ARCH 4224 Environmental Technology II: Codes and Technical Documentation
Prerequisite: ARCH 3311, ARCH 3313
2-3-3
This course is an introduction to the Standard Building Code, N.F.P.A. 101 and A.D.A and / orInternational 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 4225 Environmental Technology IV: Natural & Artificial Lighting, Electrical Systems & Vertical Circulation:
Prerequisite: ARCH 4222
2-3-3
This course further builds on the technology sequence. This course further elaboratrt
en the Building

Students must have Design Proposal approved by their Design Advisory Committee (two internal professors) before pursuing their Diploma Project.
Design Projects developed basedon approved design proposal [ARCH 5593] must be properlydocumented according the approved layout, table of contents and structure. Thesis Project Book must be approved by the Thesis Coordinator to be acceptable for publication.
Thesis requirements will be considered incomplete without the submission of the Project Book according to the approved guidelines.

ARCH 5998F Focus Studio
Prerequisite: ARCH 4014, ARCH 5593
0-12-4

Focus studio requires previous successful completion of the Thesis Project. The focus studio must meet all minimum learning outcomes [Student Performance Criteria] required by the NAAB [National Architectural Accrediting Board] at the final year level of the undergraduate professional program in Architecture. In addition, students must meet faculty's learning expectations as well as meeting the NAAB minimum learning outcomes for achieving a Comprehensive Design solution.

ARCH 5999T Thesis Project
Prerequisite: ARCH 5593, ARCH 5998
1-12-5

Diploma Project Coordinators facilitate procedures , process, and

Special topics in the arts - especially music, art, or drama. Offered by the program at its discretion.

ARTS 2903 Music Theory
Prerequisite: ENGL 1101; ARTS 2003 or Departmental Approval
3-0-3
Music theory is an in-depth study of how music is "put together". Concepts learned are note reading; rhythmic notation; major and minor scales; time and key signatures; intervals; triads; triad inversions; I, IV, V7; cadences; Roman numeral analysis. It is highly recommended that students have a basic music-reading background.

ARTS 3000 Visual Thinking
Prerequisites: TCOM 2010; Prerequisite or co-requisite: TCOM 2020 or TCOM 2030
3-0-3
Study of visual thinking as an alternative to and enhancement of verbal and mathematical thinking. Helps students develop creative problem-solving skills by (1) analyzing types of conceptual blocks, and (2) developing techniques that use order and visual coherence to overcome these blocks. Students may be required to produce graphic solutions to problems; however, prior drawing experience is not required.

Biochemistry Courses

BIOC 3111K Biochemistry I
Prerequisite: CHEM 2512K
3-3-4
An introduction to the structure, chemistry and metabolism of biomonomeric molecules, with emphasis on monosaccharides, amino acids and fatty acids. Laboratory exercises supplement classroom work.

BIOC 3112K Biochemistry II
Prerequisite: BIOC 3111K
3-3-4
Continuation of Biochemistry I, with emphasis on the structure, chemistry and metabolism of biomacromolecules, biopolymers/biocomplexes. Laboratory exercises supplement classroom work.

BIOC 3115K PHYSICAL BIOCHEMISTRY
Prerequisite: BIOC 3111K
3-3-4
General principles of biomolecular thermodynamics, cryogenics, kinetics, homeostasis, electrodynamics, and ultrasonics, and their applications to biological systems. Laboratory exercises supplement classroom work.

BIOC 3901-3905 Special Topics
1 to 5 hours
Special topics selected by the department. Offered on a demand basis.

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

Biology Courses

BIOL 2107K Biological Principles I
3-3-4
An introduction to biology including the chemistry of life, cell structure and functions, bioenergetics, genetics, basic statistics, biotechnology, and evolution. The laboratory exercises supplement the class work.

BIOL 2108K Biological Principles II
Prerequisite: BIOL 2107K
3-3-4
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 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. Laboratory exercises supplement classroom work. Biochemistry I is recommended, but not required, prerequisite for this course.

BIOL 3200K Biotechnology
Prerequisite: BIOL 3310K
1-9-4
Application of modern molecular biochemical techniques and principles in a project-based laboratory setting. Students will use recombinant DNA technologies to pursue research projects, present results in informal group meetings, and be responsible for keeping records of all experiments and data for possible publication in research journals. May require additional time outside of the scheduled lab hours.

BIOL 3201 Biophysics I
Prerequisite or concurrent: BIOC 3111K
3-0-3
An introduction to the biophysics of living systems with emphasis on growth, energy transduction, transport processes, light and vision.

BIOL 3202 Biophysics II
Prerequisite: PHYS 3001
3-0-3
A continuation of Biophysics I with emphasis on the biophysical aspects of contractile and neural systems, kinesiology, biomedical applications of radiation, thermal, magnetic resonance and sonic techniques.

BIOL 3300K Ecology
Prerequisite: BIOL 2108K
3-3-4
An examination of the relationship of organisms with their abiotic and biotic environments. Population, community, and ecosystems interactions are evaluated from both ecological and environmental perspectives.

BIOL 3310K Molecular Biology

The student must submit a writ ten proposal describing the

MGNT 3500 Database Management
Prerequisite: MGNT 2201
3-0-3
Focuses on fundamental concepts for database management and components of information systems within the functional areas of business. Covers analysis, design, implementation, maintenance, and administration of databases.

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 4800 Senior Project
Prerequisite: Senior Standing, consent of the Program Coordinator.
2-3-3
Capstone design experiencefor graduating Construction Engineering majors.

CE 4901-4903 Special Topics
Prerequisites: Senior standing, consent of the Program Coordinator.
1 to 4 hours
Special topics offered by the program on a demand basis.

Civil Engineering

CE 3202 Design of Concrete Structures
3-0-3

ACI design procedures for reinforced concrete beams, columns, footings, slabs and other members, Introductory to masonry design.

The course offers computer oriented methods for solving determinate and indeterminate structures including matrix analysis of two-and three-dimensio nal 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 struct ural 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 pr ofessional practice and options within the disciplines of civil engineering, civil engineering technology, construction engineering and surveying and mapping: career opportunities, professional licensin g, 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 comput er 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 engi neering design processes using mathematics and principles of sciences, as well as engineering analysis as a decision-making tool for evaluati ng design alternatives. The concepts and tools of critic al thinking are applied.

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 4330 Solid Waste Management
Prerequisite: CET 3310 or CET 3344.
2-3-3
Study of management and equipment alternatives in solid waste

CGDD 4113 - 3D Modeling and Animation

Prerequisite: CGDD3103 and CS4363

3-0-3

This course explores the theory

CS 4363 Computer Graphics and Multimedia
Prerequisite: CS 3424
3-0-3
The basic principles and practices of interactive computer graphics and multimedia systems are covered in this introductory course. The design and implementation of state-of-the-art computer graphic rendering and visual multimedia systems are the main part of the course. The sub-topics of the course deal with specific input/output hardware devices and their technology, software and hardware standards, programming methods for implementing 3-dimensional graphical applications and interactive multimedia applications, and a study and evaluation of the effectiveness of graphic/multimedia communications. A large component of the class is the building of a large-scale application.

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

COMM 2400 Public Speaking
2-0-2
A general course in public speaking designed for students with limited experience. This course deals with all aspects of effective planning, preparation, and presentation of different types of speeches. It focuses on basic principles of speech rather than on professional presentations.

COMM 2500 Advanced Public Speaking
Prerequisite: COMM 2400
3-0-3
The study of principles and methods of selected forms of public speaking and oral presentation for various purposes and audiences. Speaking coverage ranges from speeches for special occasions, argumentation and debate, persuasive speaking, extemporaneous speaking and oral interpretation of literature.

COMM 2510 Intercollegiate Forensics

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 2111 Architecture Culture I: Prehistory through Gothic with an Introduction to Non-Western Traditions
3-0-3
The history of architecture is presented as a collection of buildings, each of which is seen as a concrete solution to a given set of culturally derived problems and issues. These buildings, as precedents, are not to be analyzed based on composition or aesthetic image, but rather as design solutions to complex socio-cultural problems. History is used as a didactic device to aid the design student in problem solving by presenting examples of how architects have successfully transformed the intellectual concerns of their day into built form.

DFN 2211 Introduction to Structures
Prerequisite: MATH 1113 and PHYS 1111 [Trig based]
3-0-3
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 2241 Design Communication I
Prerequisite: DFN 1000 and 1001 orApproval of the Instructor
1-3-2
Design Communication I course 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

necessary to receive course credit. Special sections of the course may be offered that focus on the needs of those international students for whom English is a second language. Such sections will include a required lab hour in the ATTIC, but they will remain three-credit-hour courses. Also offered as an eCore (online) class.

ENGL 1102 English Composition II
Prerequisite: "C" or better in ENGL 1101
Note: Some sections of ENGL 1102 offer special topics for writing.
3-0-3
A composition course that develops writing skills beyond the levels of proficiency required by ENGL 1101, emphasizing interpretation and evaluation, and that incorporates a variety of more advanced research methods. Includes Regents' Essay practice and work in the ATTIC, as required. Special sections dealing with a focused topic may be offered for international students for whom English is a second language. Such sections will include a required lab hour in ATTIC, but they will remain three-credit-hour courses. Also offered as an eCore (online) class.

ENGL 2030 Research in Professional and Critical Writing
Prerequisite: ENGL 1102
3-0-3
This course provides an introduction to the research methods used by professional writers and by scholars working in literary studies, media studies, and cultural studies. Students explore the relationship between theory and research and learn how to approach writing from a variety of critical perspectives. Students will become familiar with a number of text-based and qualitative research methods. Students also learn digital research methods and apply them to a range of genres.

ENGL 2111 World Literature I
Prerequisite: ENGL 1102
3-0-3
A survey of important works of world literature from ancient times through the mid-seventeenth 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. Also offered as an eCore (online) class.

ENGL 2112 World Literature II

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

wye-delta and part-winding st arters will be included. The laboratory will consist of several pr ojects in designing, testing and demonstrating various motor starters and controllers. The designs will require using Programm able Logic Controllers in the projects. The course will conclude with variable frequency drives.

ECET 4540 Introduction to Power Electronics
Prerequisites: ECET 2310, ECET 3500
3-3-4
An introduction to the devices, circuits and systems utilized in power electronics. An overview of power semiconductors: switches diodes, thyristors, gate turn-off thyristors, insulated gate transistors, MOS-controlled thyr istors and other controllable switches. General power electronic circuits such as uncontrolled and phase controlled dc converters, dc -to-dc switch mode converters, switch mode dc-to-ac inverters and their application in motor drive, speed control and power supplies are included.

ECET 4550 Alternate Energy
Prerequisite: ECET 2310
3-3-4

This course will introduce students to alternative forms of energy generation, storage and delivery. The class will explore present day technologies using oil, coal and gas then move into emerging technologies such as solar, wind, waves, tidal, geothermal, etc. Storage technologies such as batteries and flywheels will also be addressed along with fuel cell de livery techniques. The course will end by exploring more futu ristic possibilities such as space-based solar and high-altitude wind generation.

ECET 4560 Elective Drives
Prerequisite: ECET 3500, and ECET 4610
3-3-4

This course covers basic AC/DC electric-machine drives for speed/position control. It presen ts an integrated discussion of electric machines, power electr onics, and control systems. Computer simulations are used for understanding power-electronics based converters and the design of feedback controllers. Applications of el ectric drives can be found in electric transportation, robotics , process control, and energy conservation.

ECET 4610 Control Systems
Prerequisites: ECET 2310, MATH 2306
3-3-4
This course is a study of feedback control systems theory including practical applications of compensation and PID concepts. Control system modeling, transient and steady state characteristics, stability and frequency response are analyzed. Compensation and controller design using Root locus methods are covered. The use of control system software, such as MATLAB, in the analysis and design of control systems is emphasized.

ECET 4630 Digital Signal Processing
Prerequisites : ECET 2310, ECET 3220, MATH 2306
3-3-4
An introduction to the concept of discrete and digital signals and systems. Difference equations, Discrete Fourier Transforms (DFTs), Fast Fourier Transforms (FFTs), Z-Transform techniques, IIR filter design, and FIR filter de sign are covered. An introduction to the architecture, assembly language and application examples of general and special purpose microprocessors such as the TMS 320 and DSP56000 families is included.

ECET 4710 Network Programming and Interfacing
Prerequisites: ECET 3400, ECET 3810
3-3-4
Introduction to the applicatio n and design of embedded and networked PC systems. Programming emphasis will be Visual C++ including TCP/IP. Networking emphasis will be on an ethernet LAN connecting desktop and embedded PC's. Interfacing emphasis will be on robotic subsystems including vision, voice, motion-control, web-based data acquisition, and wireless sub-systems. WinCE and pocketPC networking will also be introduced.

ECET 4720 Distributed Microcontrollers and PCs
Prerequisites: ECET 3220, ECET 4710
3-3-4
A study of networked PIC microcontrollers connected to a host PC or several networked PCs. Two popular versions of various microcontroller archit ectures will be discussed. Software will emphasize both assembly language programming and ANSI C programming. Hardware will emph asize the bus interconnections between the devices such as RS232/RS485, I2C, CAN, SPI, etc. Example Real Time Operating Systems (RTOS) for microcontrollers is introduced as well. Development of a capstone project, through the de sign of a printed circuit board is also included.

ECET 4730 VHDL and Field Programmable Gate Arrays
Prerequisite: ECET 2210
3-3-4
Provide a thorough introducti on to the Virtual Hardware Description Language (VHDL) and apply this knowledge to Field Programmable Gate Arrays (FPGA's). Current applications will be presented and students will design , develop, test and document complete FPGA based designs. The use of schematic capture tools for configuring FPGA's will also be covered.

ECET 4820 Communications Networks and the Internet
Prerequisites: ECET 3400
3-3-4
This course covers the fundamental concepts, operational characteristics, and design prin ciples of digital networks. The course focuses on local-area and wide-area network topologies and protocols that are used in the Internet. Topics include: TCP/ IP protocol, Internet standards, routing and switching devices, Internet organization, Ethernet and virtual LANS, Frame Relay, and an overview of aspects ofcomputer network operating systems related to networking. In the lab, students work with the protocols and devices used in local area networks and the Internet.

ECET 4830 Telecommunications Management
Prerequisite: ECET 3400
3-0-3
A study investigating the issues encountered by management in the telecommunications industry. Co urse covers such broad topics as: regulations, national and international standards, the management of several key telecommunications technologies and managing telecommunication profe ssionals. Laboratory exercises are also designed to illu strate the management of telecommunications environments.

ECET 4840 Advanced Telecommunications
Prerequisites: ECET 2210, ECET 4820, ECET 3810
3-3-4

opportunities to become proficient with standard instrumentation used in electrical engineering.

EE 4201 Introduction to Control Systems
Prerequisites: MATH 2306, EE 2401
3-3-4
The focus of this course is a study of feedback control systems theory including practical applicat ions of compensation and P,PI, and PID concepts. Control system modeling, transient and steady state characteristics and response, stability and frequency response are analyzed; Compensation and controller design using Root locus methods are covered. The use of control system software, such as MATLAB, in the analysis and design of control systems is emphasized.

Engineering Courses

ENGR 2214 Engineering Mechanics - Statics
Prerequisites: PHYS 2211K (or concurrent enrollment).
3-0-3
Study of force vectors, equilibrium of particles, equi librium of rigid bodies in two and three dimensions; trusses, friction, centroids and moments of inertia.

ENGR 2500 Solid Mechanics & Materials
Prerequisites: CHEM 1211K, ENGR 2214
3-3-4
This course is made of two distinct parts. The first part of the course is a study of stress and strain of deformable bodies in tension, compression, bending, and torsion. Topics covered include: axial stress and strain; thermal stress and strain; statically indeterminate systems; torsional stress and strain; bending stresses in beams; beam deflections; combined stresses; and finite element analysis meth ods. The second part of the course is a study of metals and alloys, ceramics, polymers, and composites as related to design. Areas include corrosion, atomic structure, mechanical properties , fatigue, and the effects of alloying, hot- and cold-working and heat treating. The lab work includes tensile testing, heat tr eating, impact testing, hardness testing, and corrosion.

ENGR 2710 Engineering Calculations
Prerequisites: MATH 2254
4-0-4
This course will focus on the fundamentals of linear algebra as applied to electrical, mechanical, and mechatronic engineering applications. Students will be in troduced to the fundamentals of state-space theory of linear system s, and to apply the theory to the modeling, analysis, and design of real-world systems. The student should be able to complete calculations by hand for small problems, or by using Matl ab for larger problems.

ENGR 3122 Dynamiics
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
3-3-4
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 we ll 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

ENGR 4421 Instruments and Controls
Prerequisites: EE 2110, ENGR 3343, MATH 2306
3-3-4
Characteristics of instruments used in mechanical systems for determining parameters such as temperature, pressure, and flow are studied. The use of these devices in automated systems is covered. Furthermore, the elements of control theory, selection of control modes, and application to mechanical systems are studied. Laboratory exercises illustrating the use of pertinent instrumentation for determining the performance of mechanical equipment are conducted.

Ethnic Studies 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).

ES 2100 Ethnic Literature and Cultures
Prerequisite: ENGL 1102
3-0-3
An introduction to an ethnic literature with an emphasis on a variety of cultural and historical perspectives. This course includes a variety of activities that draw upon literature, film, music, and live cultural experiences. Instructor's choice will determine which ethnic group is the focus for the class (e.g., from African, Asian, African-American, Hispanic, other Latino, or European areas; taught in English translation).

Fashion Design (Apparel and Textiles) Courses

IET 1000 Orientation
1-0-1
A part of this course is devoted to an orientation to the department, to college policy, and to expectations for students. The rest of the course is devoted to an orientation to the field of Industrial Engineering.

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 pa

total consumption; and the relationsh ip 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 examin e 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 st yle selection, color selection, and the fabric and trim market.

ATT 4444 Quality Assurance for Textiles and Apparel
Prerequisites: ATT 2505
3-2-4
This cour

listening, speaking, reading, and writing German. Some aspects of everyday life in the German-speaking world will also be introduced. Not open to native speakers of German. Does not meet C-2 Core requirement.

GRMN 1002 Elementary German II
3-0-3
The second part of an introduction to German language and the German-speaking world. Completion of the survey of Basic German grammar and further development of the four language skills of listening, speaking, reading, and writing German. Aspects of everyday life in the German-speaking world will also be introduced. For those students who have completed GRMN 1001 or have had one year of German in high school. Not open to native speakers of German.

GRMN 2001 Intermediate German I
Prerequisite: GRMN 1002 or equivalent.
3-0-3
A continuation of skills development of comprehension, speaking, reading of general and technical texts, writing, grammar and an introduction to Germanic cultures. Not open to native speakers of German.

GRMN 2002 Intermediate German II
Prerequisite: GRMN 2001 or equivalent
3-0-3
A continuation of GRMN 2001. Not open to native speakers of German.

History Courses

HIST 1111 Survey of World Civilization pre 1500
3-0-3
A survey of the cultural, political, economic, intellectual, social, and scientific development of early world civilizations from prehistoric times to the Age of Exploration, ca. 1500. Also offered as an eCore (online) class.

HIST 1112 Survey of World Civilization post 1500
3-0-3
A survey of the cultural, political, economic, intellectual, social, and scientific development of civilizations from the Age of Exploration to the present.

HIST 2111 United States History to 1877
3-0-3
United States history from the colonial period through Reconstruction. Emphasis on the interpretation of American institutions and ideas. Satisfies U.S. and Georgia history and constitution requirement. Also offered as an eCore (online) class.

HIST 2112 United States History since 1877
3-0-3
The rise of the United States as in industrial power from the late 19th century to the present. Special emphasis on change and reform during this period. Satisfies U.S. and Georgia history and constitution requirement.

HIST 2911 U.S. and Georgia Constitution and History
1-0-1
A one-hour course designed to allow students with transfer credit for American history or American government from outside the University System of Georgia to meet the U.S. and Georgia history and constitution requirement. May not be taken as an elective.

HIST 3200 History of Science Survey
3-0-3
Survey of developments in physical, biological, and human sciences and their connection to western culture *from the sixteenth century to the present. Prerequisite: Junior standing or consent of the department chair.*

HIST 3250 History of American Technology
Prerequisite: Junior standing or consent of the department chair.
3-0-3
Survey of the development of technology and its impact on American society. Topics will include technology transfer and American innovation, the organization and mechanization of industrial production, and the technologies of cities, households, transportation, communication, and leisure.

HIST 3260 History of American Science and Medicine
Prerequisite: Junior standing or consent of the department chair.
3-0-3
Survey of the development of American science and medicine and their impact on American society. Topics will include the development of various fields of science, he relationship between science and government, the relationship between science and medicine, and the development of medical knowledge and practice.

HIST 3301 Diplomatic and Military History since 1815
Prerequisite: HIST 1112.
3-0-3
Students will discuss the period of unprecedented stability in Europe that followed Napoleon's defeat at Waterloo, demonstrate an understanding of the Age of Imperialism, with its transformative effects on African and Asian societies. The course will also cover the contemporaneous wars of independence in Latin America, and the growing interdependence between that region and the United States. 3o cover the contemlrowl42Tw (y not be ss the

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 rela ted to manufacturing and non-manufacturing sectors through cost measurement and control in job order, process,

problems relating to purchasing , inventory, transportation, and warehouse management.

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
3-0-3
This course gives an in-depth approach to the proper ways to organize and operate a warehouse.

architectures; security; privacy; web development for client servers systems.

IT 3883 Advanced Applications Development
Prerequisite: IT 1324 or CSE 1302
3-0-3
This course will allow the student to learn a second programming language and application development. Topics include review of language fundamentals, features of the programming language and development environment, and software development processes. This course will include course projects for hands-on experience with processes and tools.

IT 4123 Electronic Commerce
Prerequisite: IT 3123 or CSE 1302
3-0-3
This course will examine the aspects of electronic commerce. Topics include internet development, EDS, security, network connectivity and privacy. Basic business practices using electronic commerce will also be covered.

IT 4063 Political Issues in Electronic Government
Prerequisite: POLS 3701
3-0-3

This course examines a variety of issues, e.g., identity, security, privacy issues, citizen participation, constitutional rights, etc., in electronic government using a comparative international perspective.

IT 4153 Advanced Database
Prerequisite: CS 3153
3-0-3
This course will study how databases are used with programming applications. Topics include advanced PL/SQL (or similar database programming language), database transaction, database security, database maintenance, and distributed and web databases.

IT 4203 Advanced Web Development
Prerequisite: IT 3203
3-0-3
This course covers more advanced topics on web server site design and development including server pages, programming, database integrations, and web server systems and security administrations.

IT 4323 Data Communications & Networks
Prerequisite: IT 3123
3-0-3
Fundamental concepts of computer networking. Topics include properties of signals and media, information encoding, error detection and recovery, LANs, backbones, WANs, network topologies, routing, Internet protocols, and security issues. The focus is on general concepts together with their application to support the business enterprise.

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
Independent study on topics of mutual interest to faculty and students. Assignments depend upon the specific background of the student, equipment availabili ty, software availability, etc. Projects require a proposal presentation, scheduling, implementation and both written and oral presentations of study results.

MET 4901-4905 Special Topics
Prerequisite: Consent of the Department Chair
1 to 5 hours

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 1401 Intro to Statistics
Prerequisites: MATH 1101, MATH 1111, or MATH 1113, or approved equivalent
3-0-3
A course in basic statistics. Topics include descriptive statistics, probability, distributions, hy pothesis testing, inferences, correlation, and regression. (eCore Course - Online)

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, subspaces, linear transformations, matrix operations, diagonalization, inner product spaces, and eigenvalues.

MATH 3320 Introductory Real Analysis I
Prerequisite: MATH 2254 and, MATH 3310 or permission of the instructor
4-0-4
The structure of the real number system line from a topological and analytical point of view. Topics include the continuous nature of the real line, open and closed sets, sequences and formal convergence, compactness, topics related to functions of a real variable.

MATH 3321 Introductory Real Analysis II
Prerequisite: MATH 3320
4-0-4
A continuation of MATH 3320. Topics include continuity, uniform continuity, formal definitions of the derivative and integral, covers, and composite functions.

MATH 3336 Numerical Methods II
Prerequisites: MATH 2306, MATH 2335
3-0-3
A continuation of MATH 2335. Systems of equations, approximation theory, and differential equations. Understanding the nature and limitations of each method is emphasized.

MATH 3396 Combinatorics
Prerequisite: MATH 2254 and, MATH 3310 or permission of the instructor
3-0-3
Enumeration and graph theory. Topics in enumeration include combinatorial identities, recurrence relations, and generating functions. Topics in graph theory include Eulerian and Hamiltonian paths and circuits, planarity, and coloring.

MATH 3496 Number Theory
Prerequisite: MATH 3310 or concurrently or permission of the instructor
3-0-3
An introductory course. Topics include divisibility, prime number theory, congruences, multiplicative functions, quadratic residues,

MATH 4440 Abstract Algebra
Prerequisite:MATH 3310 and MATH 3312
4-0-4
A first course in abstract algebra. Topics include operations, the

religion, politics and technology. While continuing in the aim of developing an understanding of how architecture manifests the socio-cultural conditions of a gi ven moment in aesthetic form, it takes as its central concern th e search for a definition of 'Modernity', and how it might be translated into a style. Particular attention is paid to the various 'i sms' of the Modern Movement and

An introduction to international relations covering such issues as diplomacy, nuclear politics, war, secret intelligence, revolution, international development, debt, and dependence.

POLS 2801 Comparative Politics
Prerequisite: POLS 2401
3-0-3
Provides a generalized overview of the political systems and policymaking processes in several important countries. Included are country case studies from both the developed and developing worlds, as well as communist and post-communist realms.

POLS 3100 Intermediate Quantitative Research Methods
Prerequisite: POLS 2100 Basic Quantitative Research Methods
3-0-3

This course builds upon the material learned in POLS 2100. Students will develop an in-depth understanding of the linear regression model as a tool for hypothesis testing, including assumptions and diagnostics for a full understanding and proper use. Students will learn to conduct analysis using datasets relative to political science under the guidance of the instructor.

POLS 3101 International Political Economy
Prerequisite: POLS 2401
3-0-3
Discusses the major international governmental and non-governmental organizations that are involved in global trade, finance and development. Besides introducing the student to various theoretical frameworks in international political economy, the course examines the interrelationships among political, economic and social forces through the use specific case studies.

POLS 3209 U. S. Constitutional Law
3-0-3
This course provides students with an in-depth

reform in either domain, as well as the significant barriers to economic competition in the world marketplace.

Other Relevant Course Descriptions:
Core Courses
History (HIST)
International Studies (SIS)

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

SPAN 3901-3905 Special Topics
Prerequisite: SPAN 2002 or equivalent, but SPAN 3001 and 3002 recommended.
1-5 hours
Arranged through agreement with and permission of instructor. This might include an internship abroad, Spanish for business, science and technology, management, or other topics. Readings, writings, and discussions in Spanish.

SPAN 4001 Professional Spanish
Prerequisites: Nine semester hours minimum of Spanish on the 3000 level.
3-0-3
An advanced level course in written and spoken Spanish common to the Hispanic world of the workplace, business, technology, and other professions, including simulations, writing reports, and cross-cultural references, among other topics.

SPAN 4002 Techniques in Translation for Professional Spanish
Prerequisites: Nine semester hours minimum of Spanish on the 3000 level.
3-0-3
An advanced level course in the techniques of translation from Spanish to English of texts including business, technological, scientific, legal, medical, and other fields.

SPAN 4003 Service Learning Project
3-0-3
A project arranged between between student and industry or community representative, with approval of faculty of Spanish. After 40 hours of service, final report is required.

SPAN 4901-4905 Special Topics for Professional Spanish
Prerequisites: Nine hours minimum of Spanish on the 3000 level, and prior agreement with faculty of Spanish.
1-5 hours.
A repeatable course that may be used for the Service Learning project, and for study abroad on the advanced level.

Other Relevant Course Descriptions:

Core Courses

History (HIST)

International Studies (SIS)

Political Science (POLS)

Social Sciences (including ANTH, ES, GEOG, PSYC, RELG, STS)

Religion Course

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 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.

STS 390x Special Topics
1 to 5 hours.
Special Topics in Social, Technology, and Society. Offered by the department on a demand basis.

STS 4000 International Issues in Science and Technology
Prerequisite: ENGL 1101 and STS 2400
3-0-3
Examines the technical, social and moral issues raised by current international advances in science and technology. Places emphasis on comparative studies by examining a series of topics, each from the perspectives of a variety of nations.

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.

dynamics, and the interaction of society with political and economic forces in society. Also offered as an eCore (online) class.

Software Engineering Courses

SWE 4663 Software Project Management
Prerequisite: SWE 2313 or SWE 3624
3-0-3
This course studies how to plan and manage projects at each stage of the software development life cycle. It covers specific techniques of Planning, Organizing, Monitoring, and Adjusting (POMA) phases of software projects. Topics include technical and managerial skills needed to achieve project goals. A required team project combines technical and managerial techniques of software design and development.

SWE 4724 Software Engineering Project
Prerequisite: TCOM 2010 & COMM 2400 & (SWE 3624 or three of these four: SWE 3623, SWE 3633, SWE 3643, SWE 4663)
4-0-4
This is the capstone project course and constitutes a major design experience. The course focus is on a team project comprising the development of a realistic software system during all phases of the software development life cycle. Topics include software project management, design, verification and validation, development, evolution and quality assurance. Current methods, techniques, and software tools are utilized in the development of the project.

SWE 4743 Object-Oriented Development
Prerequisite: CS 3424
3-0-3
This course involves engineering activities related to the analysis, design, and implementation of object-oriented software systems. Topics included modeling foundations, requirements specification and documentation, design concepts and strategies, and OOAD methodologies with an emphasis on UML. The course includes a major project utilizing current analysis and design methods and tools implemented in a contemporary IDE.

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 ubiquitous computing; and function-behavior analysis.

SWE 4901 - 4904 Special Topics
Prerequisite: As determined by the instructor and Department Chair
1 to 4 hours
Special Topics selected by the Department Chair. Offered on a demand basis. A student may repeat this course with special permission. Special topics may cover the state of the art of Software Engineering.

Surveying and Mapping Courses

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 interpretation 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 the Global Positioning System; introductory coordinate computations; 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 photographic 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 boundaries, 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 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 3320.
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; data collection techniques; advanced systems and macro programming.

SURV 4423 Advanced Field Operations
Prerequisite: SURV 3222
2-6-4
Emphasis placed on production surveying; use of codes to develop maps; extensive data collection; computer drafting and plotting.

SURV 4465 Legal Aspects of Land Surveying
Prerequisite: SURV 3222.
4-0-4
Cadastral systems; Georgia laws on surveying and property; boundary survey legal research; writing of legal descriptions; evidence evaluation; US Public Land System.

SURV 4470 Land Development Design
Prerequisites: CET 4444 or SURV 2250 and SURV 2221.
3-3-4
Site analysis; subdivision design; drainage design; sewer design; legal requirements; platting; CAD computer methods.

SURV 4475 Land Surveying Practice
Prerequisite: SURV 4465.
1-3-2
Legal research; boundary analysis; boundary survey project; office procedures; business practice.

SURV 4901-4904 Special Topics
Prerequisites: Senior standing , consent of the program head
Variable credit 1 to 4 hours

Systems Engineering Course Descriptions

SYE 1101 Systems Engineering Orientation
Prerequisite: none
This course examines the field of Systems Engineering in today's world. The students will become familiar with what is expected 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 requirements. Students will learn to use tools and techniques including Quality Function Deployment, IDEF0 Charts, and Enhanced Block Flow Diagrams.

SYE 2300 Economic Decision Analysis
Prerequisites: MATH 2253, ECON 2107
This course covers the basic tools used in engineering economic decision making, including discounted cash flow, replacement and

SYE 3700 Manufacturing and Production Systems
Prerequisites: SYE 2600, SYE 3400
An analysis of decision making in the current production environment and the tools and optimization models needed for finding solutions to problems rela ting to production planning and scheduling, inventory, and warehouse design.

SYE 3710 Logistics and Supply Chain Systems
Prerequisites: SYE 2600, SYE 3400
An analysis of decision making in the current logistics environment and the tools and optimization models needed for finding solutions to problems rela ting to supply chain design and strategy, transportation, and warehouse management.

SYE 4400 Engineering Optimization II: Stochastic Decision Models
Prerequisites: SYE 2600, SYE 3400
Modeling and solution of decision problems under uncertainty. Topics include Markov Chains, stochastic programming, stochastic dynamic programming, queuing theory, utility theory and simulation. Computer solution techniques are emphasized.

SYE 4500 System Modeling and Simulation
Prerequisite: SYE 2600
Modeling and simulation of systems. Topics include basic simulation and system modeling techniques, random sampling procedures, input analysis, output analysis and system evaluation. Practical implementations using common modeling languages and simulation software are emphasized.

SYE 4900 System Design Project
Prerequisite: student must be in his/her last spring semester
The course focuses on the student completing a project that is a comprehensive application of the subject matter in the SyE curriculum. The general intent of the project is to demonstrate the students' knowledge of the inte grative aspects of the systems engineering process. There is a formal report and a defended oral presentation required before indu strial and academic experts.

Systems Engineering Elective Courses

SYE 3650 Process Engineering and Improvement
Prerequisite: SYE 3600
This course emphasizes application of engineering principles for improving the quality of processes, products and services. Topics include data collection, analysis

essays, give an oral report, and complete a research project on environmental topics. Cross-listed as ENGL 3015.

TCOM 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 ENGL 3020.

TCOM 3030 Instructional Design
Prerequisite: TCOM 2010;either TCOM 2020 or 2030 or concurrently
3-0-3
Introduction to systematic instructional design and instructor-led training. Students will study a major model of instructional design and apply it to develop and refine a unit of instruction. Students will prepare and deliver a training lesson, participate in team instructional design activities, and evaluate the training developed and presented by other students.

TCOM 3045 Fundamentalsof Information Design
Prerequisite: TCOM 2010
3-0-3
Introduces students to the principles and best practices of effective information design for both print and electronic media. Includes such topics as information types, information categorization and hierarchies, types of organizational patterns, message and document genres, structural markup languages, structured information design and technologies, content management, and single sourcing.

TCOM 3901-3903 Special Topics
Prerequisite: Consent of the department chair
1 to 3 hours
Special topics in communications. Offered by the program at its discretion.

TCOM 4000 Professional Editing
Prerequisites: TCOM 2010;either TCOM 2020 or 2030 or concurrently
3-0-3
Development of skills in proofreading, copyediting, and comprehensive editing. This course addresses issues of style, content, organization, and visual design.

TCOM 3430 Foundations of Graphics
Prerequisite: TCOM 2010;either TCOM 2020 or 2030 or concurrently
3-0-3
An introduction to the fundamental elements and principles of graphic design and application of these concepts to page design and layout. Study of elementary color theory. Introduction to production techniques and current software applications.

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 writing and editing, web graphics and multimedia elements, and website architectures and content management. Students work individually and in teams to design and develop websites. Some classroom instruction is provided in basic HTML and XHTML coding, the composition of cascading style sheets, and the use of Dreamm Weaver and FrontPage.

TCOM 4040 Advanced Graphics for Technical Communicators
Pre- or co-requisite: TCOM 4030
3-0-3
This course examines the role of graphics in technical and professional communication. Students develop competency in desktop publishing, digital image editing, and vector-based

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- M.Ed., University of Kansas
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Tambe, Balkrishna, Professor Emeritus
Tippens, Paul, Professor Emeritus
Tucker, Lee, Professor Emeritus

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