

Graduate Academic Catalog 2012-2013

Southern Polytechnic State University in the University System of Georgia

1100 South Marietta Parkway
Marietta, Georgia 30060-2896

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

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

Table of Contents

Programs of Study

Southern Polytechnic State University offers the following graduate programs of study:

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)

In addition to the above, SPSU also offers the following undergraduate programs:

Associates Degree Programs

- General Studies (Associate of Science Transfer Program)

Bachelors Degree Programs

- Apparel and Textiles (Bachelor of Apparel and Textiles)
- Applied Science (Bachelor of Applied Science)
- Accounting (Bachelor of Science)
- Architecture (Bachelor of Architecture)
- Biology (Bachelor of Science)
- Biotechnology (Bachelor of Science)
- Business Administration (Bachelor of Arts)
- Business Administration (Bachelor of Science)
- Chemistry (Bachelor of Science)
- Civil Engineering (Bachelor of Civil Engineering)
- Civil Engineering Technology (Bachelor of Science)
- Computer Science (Bachelor of Arts)
- Computer Science (Bachelor of Science)
- Computer Engineering Technology (Bachelor of Science)

- Construction Engineering (Bachelor of Science)
- Construction Management (Bachelor of Science)
- Electrical Engineering (Bachelor of Electrical Engineering)
- Electrical Engineering Technology (Bachelor of Science)
- English and Professional Communication (Bachelor of Arts)
- Environmental Science (Bachelor of Science)
- Industrial Engineering Technology (Bachelor of Science)
- Information Technology (Bachelor of Science)
- International Studies (Bachelor of Science)
- Mathematics (Bachelor of Science)
- Mechanical Engineering (Bachelor of 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)

Programs of Study	2
General Information	5
About This Catalog.....	5
Student Rules and Regulations	5
Responsibility for Notices.....	5
University Police and Crime Statistics	5
Accreditation	5
Certificates.....	6
Quick Facts for Prospective Students	6
Graduate Admissions	8
International Students.....	8
Readmission	8
Admission Procedures and Deadlines	9

Financial Aid Information	10
Satisfactory Academic Progress	10
Steps to Apply for Financial Aid	10
Types of Financial Aid	10
Financial Information	12
Student Fees	12
Fee Payment	12
Cancellation of Registration	12
Delinquent Accounts.....	12
Refund of Fees and Charges	12
Vehicle Parking Fee.....	12
Academic Credit by Examination.....	12
Graduation Fee	12
International Student Health Insurance	12
Students Sixty-two Years of Age or Older	13
Student Life	14
Emergency Locator Service	14
Student Housing	14
Student Health Services	14
Student Center.....	15
Bookstore.....	15
Post Office.....	15
Career and Counseling Center.....	15
Experiential Education (Internship and Cooperative Education).....	15
Athletics and Recreational Sports	16
Recreational Facilities.....	16
Athletic Facilities	16
Library.....	16
The ATTIC.....	17
Licensure of Professional Engineers.....	17
University Police	17
Extended University.....	17
Academic Regulations	20
General Information	20
Student Responsibility.....	20
Definitions.....	20
Academic Standing	21
Appeals Procedure	21
Auditing Classes	21
Catalog and Curriculum Appeals	21
Certificate Programs	22
Changing Your Student Record	22
Classification of Students.....	22
Classroom Attendance	22
Credit for Courses Completed More than Eight Years Prior to	
Graduation	22
Credit for Duplicate Courses or Dual Credit.....	22
Credit by Examination	22
Continuous Enrollment	22
Cross Registration.....	22
Cumulative Grade Point Average	23
Disruptive Behavior and Academic Dishonesty	23
Enrollment Verification and Student Status	23
Exceptions to Academic Regulations	23

Grade Appeals	23
Grade Changes	23
Grade Reports.....	23
Grading System	24
Graduation Requirements	24
Late Instructor.....	25
Maximum Credit Hours	25
Progress Reports	25
Removal of Previous Major Courses	25
Student Activity Absence	25
Student Records	25
Transfer Credit, Policy for Acceptance of	26
Transcript Request.....	26
Transient Authorization.....	27
Withdrawal from Classes	27
Withdrawals After the Deadline	27
Graduate Degree Programs	28
Master of Science in Accounting	28
Accounting	30
Business Administration	32
Master of Business Administration Program Degree Requirements	33
Computer Science	35
Construction Management.....	38
Engineering Technology--Electrical	40
Graduate Programs in Information Design and Communication....	42
Information Technology.....	46
Quality Assurance.....	48
Software Engineering.....	51
Systems Engineering.....	54
Graduate Course Descriptions	56
Accounting Course Descriptions	56
Business Administration	57
Computer Science Graduate Courses.....	59
Construction Management Graduate Courses	62
CSE Courses	64
Engineering Technology--Electrical Graduate Courses	64
Information Design and Communication Graduate Courses	66
Information Technology Graduate Courses	69
QA 6725 Quality Assessment of the Organization.....	71
Software Engineering Graduate Courses	73
Systems Engineering Graduate Courses	75
Accounting and Business Transition Courses (Common	
Professional Core).....	76
Graduate Faculty Listings.....	78
Business Administration Faculty	78
Department of Business Administration Faculty Emeriti	78
Computer Science Faculty	78
Construction Management Faculty.....	79
Engineering Technology--Electrical Faculty.....	79
Information Design and Communication Faculty	79
Information Technology Faculty.....	80
Quality Assurance Faculty.....	80
Software Engineering Faculty.....	80
Southern Polytechnic State University Senior Administration.....	81

Institutions of the University System of Georgia	81
Index.....	82

General Information

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. Information on changes will be available in the Office of the Registrar and major academic program offices. 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.

Student Rules and Regulations

The rules and regulations for Southern Polytechnic State University students are comprised of the catalog sections on Academic Regulations and Student Life Regulations. These regulations are intended to set forth the requirements of the faculty to the end that a large student body may live and work together harmoniously with a minimum of friction and misunderstanding. Each student is expected to be familiar with these catalog sections. The student is also expected to be a law-abiding citizen and to obey the laws of the City of Marietta, Cobb County, the State of Georgia, and the United States.

Responsibility for Notices

Students are expected to be aware of the contents of all general notices including those appearing on official campus bulletin boards and in the official school newspaper. Students are also expected to keep the university apprised of their current mailing address and to regularly check their SPSU email address. All official notifications are issued by way of email.

University Police and Crime Statistics

Southern Polytechnic is committed to a safe, healthy environment in which our students, faculty, and staff can grow professionally and personally. The University promotes strong safety policies and prompt reporting and investigation of any actions or events that would harm the well-being of any student, employee, or faculty member.

The University Police employs police officers that comply with certification, training, and all other requirements of the Peace Officers Standards and Training Council of Georgia. Our officers have arrest powers on Southern Polytechnic property, which is under the control of the Board of Regents of the University System of Georgia, and on any public or private property within five hundreds yards of property under the control of the Board of Regents.

Our officers conduct preventive patrols on campus including the residence halls; are responsible for the security of university-owned property; investigate reported crimes at the university; conduct educational programs and workshops to promote personal safety; and actively work to prevent and detect crime throughout the Southern Polytechnic campus. Our program complies with The Jeanne Clery Disclosure of Campus Security Policy and Crime Statistics Act. Our disclosure report can be found on the police department web page at <http://police.spsu.edu>.

Accreditation

Southern Polytechnic State University is an accredited, coeducational, residential university offering associate, bachelor, and master's degrees.

Southern Polytechnic State University is **regionally accredited by the Commission on Colleges of the Southern Association of Colleges and Schools** (1866 Southern Lane, Decatur, GA 30033-4097, Telephone: 404-679-4501).

The Civil, Computer, Electrical, Industrial, Mechanical, and Telecommunications Engineering Technology programs are accredited by the Technology Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, Telephone: 410-347-7700

The Bachelor of Architecture program is accredited by The National Architectural Accrediting Board, Inc. (NAAB). (www.naab.org)

The Bachelor of Science program in Construction Management is accredited by The American Council for Construction Education (ACCE) (www.acce-hq.org)

The Master of Business Administration, B.S. in Management, B.A.S. in Management, and B.A. in Management are accredited by The Association of Collegiate Business Schools and Programs (ACBSP)

The Bachelor of Science with major in Computer Science and the Bachelor of Science with a major in Information Technology are accredited by the Computing Accreditation Commission of ABET, Inc. 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, Telephone: 410-347-7700; email accreditation@abet.org, website: <http://www.abet.org>.

The Bachelor of Science with major in Surveying and Mapping is accredited by the Applied Science Accreditation Commission of ABET, Inc. 111 Market Place, Suite 1050, Baltimore, MD

Quick Facts for Prospective Students

21202-4012, Telephone: 410-347-7700; email
accreditation@abet.org, website: <http://www.abet.org>.

Certificates

In addition to the above degree programs, SPSU also offers certificates in the following areas:

Graduate

Graduate Certificate in Business Continuity (Information Technology)
Graduate Transition Certificate in Computer Science (Computer Science)
Graduate Certificate in Information Security and Assurance (Information Technology)
Graduate Certificate in Information Technology (Information Technology)
Graduate Transition Certificate in Information Technology (Information Technology)
Graduate Certificate in Quality Assurance (Industrial Engineering Technology)
Graduate Certificate in Software Engineering (Software Engineering)
Certificate in Systems Engineering
Advanced Certificate in Systems Engineering
Graduate Certificate in Technical Communication (English, Technical Communication and Media Arts)
Advanced Certificate in Visual Communication and Graphics
Advanced Certificate in Content Development
Advanced Certificate in Instructional Design
Advanced Certificate in Communications Management
Advanced Certificate in User Experience

Undergraduate

Certificate in Apparel Product Development (Industrial Engineering Technology)
Professional Certificate in Land Development (Construction Management)
Certificate in Engineering Sales (ETM)
Certificate in Land Surveying (Civil Engineering Technology)
Certificate in Logistics (Industrial Engineering Technology)
Certificate in Production Design (Industrial Engineering Technology)
Professional Certificate in Project Management: Construction (Construction Management)
Certificate in Facilities Management (Construction Management)
Professional Certificate in Programming (Computer Science)
Certificate in Quality Principles (Industrial Engineering Technology)
Professional Certificate in Specialty Construction (Construction Management)
Professional Spanish (International Studies)

Other certificates may be available. Check our web site for additional information.

Students who wish to pursue a Masters degree, a transition certificate, or a graduate certificate at SPSU are admitted to the School of Graduate Studies. The admissions requirements are outlined below.

What are the qualifications I must possess in order to be considered for admission into a graduate program at SPSU?

You must have:

- Graduated from a regionally accredited institution with a bachelor's degree
- Attained a 2.75 undergraduate grade point average (on a 4.0 scale) (Some degrees require higher GPA's.)

If you are an international student, see the special section in this catalog for additional requirements.

The following graduate programs have additional requirements:

M.S. in Electrical Engineering Technology:

Undergraduate engineering or engineering technology degree in the areas of electrical, computer, or telecommunications

M.S. in Information Design and Communication:

A timed, proctored, on-campus essay written in response to a given assignment

M.S. in Software Engineering:

Documentation of at least one year of software project-related work experience (or comparable co-op work)

M.S. in Systems Engineering:

Undergraduate engineering, engineering technology, computer science or physical science degree

Some departments require the GRE or GMAT. See admissions requirements for the specific major you are interested in for details.

What if I don't meet these qualifications?

If you do not meet the criteria above, you might still be admitted, but a committee will review your overall application and make a determination based on:

- Your undergraduate work,
- Your professional industry experience,
- Any other indicators that might point to your potential to succeed. You may submit anything you feel might help the committee to understand your background for consideration.

If you are admitted by the review committee, you will be admitted on probation. If you attain a 3.0 GPA at SPSU after 9 hours of graduate work (or three courses) you will be removed from probation and will be allowed to continue as a graduate student. If you do not attain a 3.0 GPA after 9 hours, your academic record will be reviewed and you may be dismissed.

What documents should I submit in order to be considered for admission?

In order for an application to be complete, all required documents must be submitted and evaluated.

- An application for admission to a graduate program
- An official transcript from each college previously attended
- Three letters of recommendation from faculty, work supervisors, clients, or professional colleagues
- A description of relevant work experience, if applicable
- A Statement of Purpose, describing professional career goals and how completion of the graduate program will help achieve them

If you are an **international student**, see the special section in this catalog for additional requirements.

Are the graduate programs at SPSU eligible for federal and other types of financial aid?

Yes.

Are the graduate programs at SPSU accredited?

Yes. Southern Polytechnic State University is an accredited, coeducational, residential university offering associate, bachelor, and Masters degrees.

Southern Polytechnic State University is regionally accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (1866 Southern Lane, Decatur, GA 30033-4097, Telephone: 404-679-4501)

The Association of Collegiate Business Schools and Programs (ACBSP) accredits the Master of Business Administration.

When do I have to have my application and other documents submitted in order to be considered for the coming term?

SPSU uses a rolling admission process. This means you can apply at any time up until the term has started. However, the number of seats in each program is limited and you are encouraged to apply early in order to be assured of there being sufficient space. You will dramatically decrease the chances of having problems with your admission and your application for financial aid if you will meet the following priority deadlines:

Fall Term: July 1st

Spring Term: November 1st

Summer Term: April 1st

Some departments require much earlier applications in order to meet review board requirements.

In order for an application to be complete, all required documents must be submitted and evaluated. If, for some reason, you cannot assemble all of your documents in time, submit the materials you have and then follow up with other documents when they become available. The earlier you have everything submitted before a term starts, the easier it will be to have a seamless and trouble-free start to your academic pursuit.

Graduate Admissions

General Information

This section contains information that pertains to all graduate programs.

Admission Information – All applicants require:

- A completed application form
- A \$20 non-refundable application fee
- Three letters of reference
- An official transcript from each previous college attended
- Some departments require the GRE or GMAT. See admissions requirements for the specific major you are interested in for details.

All admission materials must be received by the dates in the following schedule:

Term	Deadline for Admission
Fall	July 1
Spring	November 1
Summer	April 1

Materials received after the deadline dates will be processed, but may not be processed in time to allow students to begin that term.

Admission to Southern Polytechnic State University is made without regard to race, nationality, sex, or religion.

For any information regarding admission to Southern Polytechnic State University, write:

Director of Graduate Studies
Southern Polytechnic State University
1100 South Marietta Parkway
Marietta, Georgia 30060-2896.

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 or Board of Regents.

Each program has unique entrance requirements. For details, see the admissions requirements for the program you are interested in the pages that follow.

International Students

Students whose native language is not English must submit minimum official TOEFL scores of a total of 550 paper-based, 213 computer-based, 79 Internet-based to the Graduate Admissions Office. Also, graduates of foreign schools of higher education must be able to document that their degree is equivalent to a four year bachelor's degree awarded by an accredited United States college or university. Note: Southern Polytechnic State University reserves the right to require applicants to send their international educational credentials to an approved SPSU professional evaluation service before being considered for admission.

All international students must purchase medical insurance made available through Southern Polytechnic State University or provide proof of alternate coverage through a comparable policy.

International students applying from outside the United States must submit all admissions documents, including immunization certificates, at least 60 days prior to the above deadlines.

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

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

Acceptable foreign credentials

Graduates of foreign schools of higher education must be able to document that their degree is equivalent of a four year bachelor's degree awarded by an accredited United States college or university. Note: Southern Polytechnic State University reserves the right to require applicants to send their international educational credentials to an approved SPSU professional evaluation service before being considered for admission.

English language proficiency

Students whose native language is not English must submit minimum official TOEFL scores of a total of 550 paper-based, 213 computer-based, 79 internet-based to the Graduate Admissions Office.

Additional Requirements for International Applicants

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

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

All international students must purchase medical insurance made available through Southern Polytechnic State University or provide proof of alternate coverage through a comparable policy.

Readmission

Students who have an absence of two or more consecutive terms of matriculation at Southern Polytechnic State University and who are not academically dismissed must be approved by the appropriate graduate academic program for readmission before being eligible for registration. An application for readmission, together with any pertinent supporting information, must be submitted to the appropriate graduate academic program at least 20 working days before the

registration date of the semester in which the student plans to enroll.

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 in accordance 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.

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.

Admission Procedures and Deadlines

General Information

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

All international applicants are required to submit all admissions documents to the Office of Graduate Admissions at least **three months before** the registration date of the semester in which the student plans to enroll.

- All applications must be accompanied by a non-refundable \$20.00 application fee. Checks should be made out to Southern Polytechnic State University.
- Complete both sides of the application, sign and return with application fee, to the Graduate Admissions Office. Southern Polytechnic State University, 1100 South Marietta Parkway, Marietta, GA 30060-2896.

- Request that all colleges and universities that you have attended send an official transcript to the Graduate Admissions Office. Note: If you have attended Southern Polytechnic State University, you need only the transcripts which are not already on file.
- Complete the Certificate of Immunization and return it to the Graduate Admissions Office. Note: If you attended Southern Polytechnic State University, you are not required to complete the Certificate of Immunization.
- Submit three reference forms from former college professors, employers, or other people who are familiar with your abilities. Mail the reference forms to the address listed on the front of the form. Technical and professional communication applicants are required to submit three reference letters instead of reference forms.
- Students whose native language is not English must submit an English Proficiency Test. We accept the TOEFL or IELTS test. Scores of a total of 550, 213 computer-based, 79 internet-based to the Graduate Admissions Office. Students who are on F-1 visas will also need to provide a financial affidavit indicating financial security to the Graduate Admissions Office. Graduates of foreign schools of higher education must be able to document that their degree is equivalent of a four year bachelor's degree awarded by an accredited United States college or university. Students who have academic work outside of the United States will also be required to complete and submit to the Graduate Admissions Office an International Educational Summary Sheet. Note: Southern Polytechnic State University reserves the right to require applicants to send their international educational credentials to a professional evaluation service before being considered for admission.
- Submit individual graduate program requirements as indicated.

Special Accommodations

Upon acceptance and before enrollment, any student with a documented disability or special need must notify the Disability Services Coordinator in the Advising, Tutoring, Testing, and International Center (ATTIC) of any particular accommodations required.

Financial Aid Information

Satisfactory Academic Progress

Federal law requires students receiving federal student aid to maintain satisfactory academic progress as defined by the institution. The Satisfactory Academic Progress (SAP) requirements are separate from the regulations governing academic probation and suspension.

Southern Polytechnic State University's SAP requirements include:

- a maximum time frame requirement,
- a completion rate requirement, and
- a cumulative grade point average requirement.

Aid recipients must meet each of the three in order to be considered to be making SAP and to continue to receive financial aid.

Maximum Time Frame Requirement

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

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

Example: A student majoring in Construction transfers in 50 semester credit hours. It takes 128 semester hours to earn a degree; therefore, the student's maximum time frame is $(128 \times 150\%) - 50 = 142$. This student's financial aid eligibility is exhausted once he or she has attempted 142 semester hours at SPSU.

Completion Rate Requirement

In order to complete a program of study within the required time frame, the aid recipient must complete 66.7% of the hours attempted to date at SPSU. Credit hours attempted will be cumulative and will include all hours in which the student was enrolled at the end of the official drop/add period each academic term and received a grade of A, B, C, D, F, W, WF, I, IP, S, and U.

Cumulative Grade Point Average Requirement

Graduate students receiving financial aid must maintain a cumulative grade point average at or above the 3.00 minimum required for graduation. The cumulative grade point average will be computed by dividing the number of quality points earned by the total credit hours attempted for which the student received grades of A, B, C, D, F, WF, or I. No quality points are earned for an F, WF, or I.

How Often Will SAP Be Checked?

Percentage completion rates and cumulative GPA requirements will be monitored at the end of each spring semester. If a student is not making SAP at the end of any term they will be placed in one of two categories:

Financial Aid Probation

Students with a GPA of less than the required 3.00 And/or Students with a completion rate less than the required 66.7%.

Financial Aid Suspension

Any student on financial aid probation and still not making SAP

Students on Financial Aid Probation may receive financial aid. If the student does not achieve the required completion rate and cumulative GPA requirement by the end of the probationary term, he/she will be placed on **Financial Aid Suspension** until the requirements are met. Students on Financial Aid Suspension may not receive financial aid.

Steps to Apply for Financial Aid

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

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

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

Information concerning financial aid may be obtained by writing to:

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

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

Types of Financial Aid

Types of Financial Aid

Graduate students may be eligible for both subsidized and unsubsidized Federal Direct Loans based on the evaluation of FAFSA information. Once the FAFSA has been received and evaluated, the student will be awarded applicable loans.

The maximum subsidized loan for one academic year is \$8500 and the maximum unsubsidized is \$12500 for a total of \$20500 in one academic year. A student can always borrow less and we

encourage you to only borrow what is needed for educational related expenses.

After the student is awarded these loans, the offer must be accepted electronically via the SPSU email account. At that time instructions will be provided about completing the Master Promissory Note (MPN) and on line counseling. Once all of these requirements are completed, loan proceeds can be disbursed to the students account.

Financial Information

Student Fees

The Board of Regents of the University System of Georgia establishes matriculation and Non-Resident fees. All fees and charges are subject to change without notice; however, Southern Polytechnic will make every effort to communicate changes as they occur.

Fee Payment

Registration and fee payment dates are published in the registration bulletin. Payment of fees and other charges may be made with:

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

Registration fees may be paid on the SPSU web site using credit cards. On-line transactions are fully encrypted for the safety of both the student and the university. SPSU does not accept VISA.

Students who register for courses and pay appropriate fees using any acceptable method of payment shall be considered enrolled and space shall be 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 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 of twenty five percent in addition to the original debt owed to the University.

Cancellation of Registration

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

Delinquent Accounts

All delinquent debts and/or obligations to the University 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 of twenty five percent in addition to the original debt owed to the University.

Refund of Fees and Charges

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.**

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.

Residence hall charges are refunded on a pro-rata basis, only by separate application to the Director of Housing and Residence Life. Refunds are subject to the rules and regulations regarding student responsibilities in the residence halls, as outlined in the Student Handbook.

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.

Vehicle Parking Fee

Students who are currently enrolled are charged a transportation fee that covers the cost of parking. For additional information and a copy of university parking regulations, contact the University Police Department.

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.

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.

Students Sixty-two Years of Age or Older

Citizens of the State of Georgia who 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

Student Life

The student affairs areas at Southern Polytechnic State University include:

- Student Activities
- The Student Center
- Student health services
- Recreational sports and intercollegiate athletics
- Career & Counseling services

The Dean of Students supervises a professional staff who are responsible for providing these services and activities for students. In addition, the Dean of Students should be contacted by students with hardship situations or by those who are encountering difficulties with campus life.

Emergency Locator Service

Emergency assistance in locating a student is provided by the Office of the Dean of Students (678-915-7374) during normal school hours, from 8:00 a.m. until 5:00 p.m., Monday through Friday. The University 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 1800 on-campus student housing beds. In addition to providing a convenient and economical home for students, on-campus living also provides a great learning opportunity. 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 staffed by 8 full-time professionals along with 38 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 been accepted to Southern Polytechnic State University will need to visit the Housing and Residence Life

website at www.spsu.edu/housing for application information. On-campus housing is required for all first-year students. However, this requirement may be waived if you will be living at home with a parent/guardian. Please contact our office for more information.

Howell Residence Hall and Hornet Village Suites are reserved for traditional first-year freshmen only. There is also a mandatory meal plan for all residence hall residents. Our on-campus apartments, University Courtyard and University Commons, are available to upperclassmen students. Consideration of a roommate request will be given providing the request is mutual and space is available.

Housing payments are due in full each semester. If you have any additional questions you may contact the Department of Housing and Residence Life by calling 678-915-7335 or by sending an email to housing@spsu.edu.

Application

All students who have applied for admission to Southern Polytechnic State University and who have requested information about on-campus housing will be sent an application. Since space is limited, it is important to make requests for housing early. A request for housing consists of:

- The completed and returned Residence Life lease agreement
- A \$100 application fee

The application and fee should be sent to the University's Residence Life Office. However, completing the request does not guarantee housing will be assigned. When the lease agreement and deposit have been received, a notification of housing status will be sent by Residence Life.

The Director of Residence Life is responsible for all room assignments. Preferences for a specific residence hall or apartment will be honored whenever possible. Mutual roommate requests should be so marked on the lease agreements of both students. Consideration of a roommate request will be given providing the request is mutual and space is available.

Student Health Services

The school nurse, who is on duty Monday through Friday in the clinic located in the Recreation and Wellness Center, provides limited outpatient services for minor illnesses. If the nurse cannot provide sufficient medical treatment, she may refer the student to a medical facility located near the campus. Due to the limits on the health services provided by Southern Polytechnic State University, each student is encouraged to have adequate health and accident insurance through either a personal or family insurance policy.

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 for any student paying the Student Health Fee.

Student Center

Southern Polytechnic State University's Student Center includes:

- Food service and dining areas
- A 467 seat theater for films, concerts, and entertainment productions
- A bookstore
- A post office
- A large recreation room featuring pool and ping-pong tables
- Additional meeting rooms, lounges, and TV/video viewing areas
- A Cyber Café offering 8 internet & e-mail computer stations

Offices for the Dean of Students, Student Activities, Student Center Operations, and Counseling & Career Services are also located in the student center.

The student center is the focal point for the majority of entertainment activities provided by the Campus Activities Board including concerts, dances, and videos. Also, the student government, newspaper, radio station, fraternity/sorority and other student organization offices are located here. The Student Center is where the Southern Polytechnic State University community comes together to eat, meet, relax, and be entertained.

Bookstore

The Southern Polytechnic State University bookstore is located on the lower level of the Student Center. In addition to new and used textbooks, you can also purchase software, reference books, school supplies, engineering supplies, calculators, SPSU apparel, greeting cards, health and beauty aids, drinks, and snacks.

On the last day of registration and the first week of classes, the bookstore is open for extended hours.

Post Office

The Southern Polytechnic State University Post Office is located next to the Bookstore and is open 9:00 a.m. to 5:00 p.m. Monday through Friday. Post Office boxes are available for rental by the term.

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 **individual sessions for students** seeking confidential assistance with these and other personal issues.

Part of the career development process involves increasing our self-understanding in such areas as our 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.**

Many students find graduate course work more difficult than they expected and find that it strains their abilities. **Counselors can assist students with enhancing their skills** in stress management, finding balance between work, family and school and with overcoming any barriers to their success while in school.

Counselors provide outreach programs on many topics such as coping with depression, assertiveness training, improving relationships, and other special student concerns. All counseling services are **free of charge**, confidential, and are available on an appointment or a walk-in basis.

Career Services

The Career and Counseling Center provides job search assistance for students seeking full-time or part-time employment. The Center can never guarantee employment for any student or graduate. Services offered include:

- Assisting in resume preparation
- Offering job search workshops and mock interviews
- On-Campus interviews, Employer Information Sessions, and Career Fairs

Employment opportunities (on and off campus) are provided in the Career Link database. **Degree candidates should begin the job search process at least two semesters prior to their graduation.** Students already employed in their field will still find it beneficial to visit the Center's website and/or to register in the database to enhance their professional opportunities.

Experiential Education (Internship and Cooperative Education)

Internship Program

The Southern Polytechnic State University Internship program is a short-term or time-limited work experience in a professional environment where the emphasis is on learning versus earnings. It is designed to enhance academic, personal, and professional development and will assist you in making a smooth transition from the classroom to the world of work, or to provide students with insight about potential careers. Usually, an Internship is a one-time experience for a student who has attained at least some academic preparation in a professional field.

Internship Eligibility Requirements:

- Must be a registered student the semester prior to going to work
- Must have completed at least one semester at SPSU
- Must have maintained at least a 3.0 GPA at SPSU
- Must attend an internship/co-op orientation session and a small group meeting with the program coordinator

International Students

In addition to meeting the internship eligibility requirements, International Students **MUST** obtain written eligibility authorization from the SPSU International Services Office **before beginning EACH working assignment**. Due to the INS regulations, International students are not permitted to intern more than one and a half-academic years for undergraduates and one academic year for graduates. Once an Internship is obtained, International students **MUST** return to the International Office to complete additional paper work. International students failing to do so will be **DROPPED** from the Internship Program.

Cooperative Education Program (Co-op)

Students alternate semesters of full-time paid work assignments with full-time classroom instruction semesters. These work assignments are also supervised and closely related to the student's academic program.

Co-op Eligibility Requirements

- Must have completed nine (9) credit hours in a SPSU graduate program
- Must be a registered student the semester prior to going to work
- Must have a 3.0 GPA
- Must have at least three (3) semesters remaining before graduation
- Must commit to work two (2) alternating work periods with the same employer

Advantages of participating in the Experiential Education Program include:

- Providing career related hands-on work experience
- Earning a competitive salary for school and tuition expenses
- Learning the company culture
- Networking with professionals
- Helping get your foot in-the-door for full-time employment
- Developing self-confidence
- Establishing valuable contacts for letters and references
- Gaining practical experience in the work environment
- Improving opportunities for post graduate jobs
- An opportunity to work with professionals in your field

Athletics and Recreational Sports

The Department of Recreational Sports 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, and softball.

There are also individual competitive tournaments such as billiards, golf, tennis, and racquetball.

- In addition to the intramural sports program, the department offers:
- A club sport program
- A wellness program
- Special events
- An outdoor recreation program

The outdoor recreation program sponsors various adventure trips throughout the year.

Recreational Facilities

The Recreation and Wellness Center, opened in the summer of 1996, offers many recreational opportunities to the student. A state of the art weight room that includes free weights, Cybex weight training, 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 and one large multipurpose field for student use. The intramural sports program makes use of these fields throughout the year with flag football, soccer, and softball leagues. Also included in the complex are 9 tennis courts and 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.

Library

General Information – The Lawrence V. Johnson Library collection consists of some 118,000 cataloged volumes and more than 1,300 periodical and serials titles. Other formats include: Microforms, U.S. Geological Survey Maps for the State of Georgia; Professor Reserves; and Text Reserves. An increasingly popular service is e-Reserves whereby journal articles, sample tests, plus syllabi are delivered electronically to the students.

GALILEO – Georgia Library Learning online, popularly known as GALILEO, is an initiative funded by the University System that allows access to online databases, including full-text and full-image files. Faculty and students have access to more than 100 indexing and abstracting services and to the Internet. Additionally, students who bring their laptops will be able to access GIL, GALILEO and the Internet for research purposes in any area of the Library which has wireless access.

GIL – The automated library union catalog, GIL, lists materials held by libraries throughout the state of Georgia. Materials from libraries nationwide may be obtained through the Interlibrary Loan

service in the Reference Department. GILExpress is a self-initiated, free service to request materials from other University System of Georgia Libraries.

Additional information about services offered at the Johnson Library may be accessed at <http://www.spsu.edu/library/library.html> ; or, patrons may enter queries via email to reference@spsu.edu .

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 and Disability Services. For more information, call (678) 915-7361.

Tutoring

The ATTIC provides opportunities for individualized assistance to Southern Polytechnic students. Tutors help students with core courses in English, 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.

Disability Services

The Disability Services/Testing Advisor coordinates academic support services for students who have a permanent or temporary disability. Individuals eligible for services include, but are not limited to, those with mobility, hearing, learning, visual, speech, or specific neurological disabilities. Services are available free of charge on a self-referral basis.

Students at Southern Polytechnic State University who have a disabling condition and need academic accommodations have the responsibility to voluntarily self-identify by scheduling an appointment with the Disability Services Advisor as soon as possible.

The ATTIC is responsible for providing special assistance for students diagnosed as having specific learning disabilities. To become eligible for special services at Southern Polytechnic State University, students must verify the specific learning disability by having a psychological evaluation on file in the ATTIC.

If you believe you have a specific learning disability, visit the ATTIC for more information.

Under the Americans with Disabilities Act (ADA), special services are available through the ATTIC to any learning-disabled student at Southern Polytechnic State University. All such services are offered based on individual needs.

International Student Services

International Student Services advises the University's international student body, faculty, and staff on Immigration and Naturalization regulations. The coordinator provides student assistance with banking, social security, insurance, housing, employment, practical and curricular practical training, travel regulations, income tax, and the lottery.

International Student Services provides cultural, social, and educational programs. CultureFest introduces international

students' culture, food, and talent to the SPSU community. Friends of Internationals and AMIS (American Ministry of International Students) sponsor family and community activities.

Licensure of Professional Engineers

To protect public safety, each state establishes laws to license engineers who are responsible for decisions that affect public health and safety. The licensing process involves formal education, two written examinations, appropriate work experience, and recommendations by professionals in the field. The two written examinations consist of the Fundamentals of Engineering (FE) and the Principles and Practices of Engineering (PE).

The requirements for a Professional Engineer vary by state, and not all states allow engineering technology graduates to seek licensure. However, it is possible for engineering technology graduates to become Professional Engineers in Georgia and many other states. In Georgia, students completing a bachelor's degree in engineering technology may take the Fundamentals of Engineering (FE) exam in the senior year of study. After accumulating the requisite number of years of appropriate work experience, an engineering technology graduate who has passed the FE exam is eligible to take the PE exam in Georgia or other states in which they are eligible for licensure.

Any student with a goal of becoming a Professional Engineer should contact their faculty advisor for additional information.

University Police

Southern Polytechnic is committed to a safe, healthy environment in which our students, faculty and staff can grow professionally and personally. The University promotes strong safety policies and prompt reporting and investigation of any actions or events that would harm the well-being of any student, employee, or faculty member.

The University Police employs police officers who comply with certification, training, and all other requirements of the Peace Officers Standards and Training Council of Georgia. Our officers have arrest powers on Southern Polytechnic property and on any public or private property within five hundred yards of property under the control of the Board of Regents. Our officers conduct preventive patrols on campus including the residence halls, secure University-owned property, investigate reported crimes at the university, conduct educational programs and workshops to promote personal safety, and actively work to prevent and detect crime throughout the Southern Polytechnic community. Our disclosure report can be found at <http://police.spsu.edu>.

Extended University

Extended University (EU) is an administrative unit reporting to the Vice President for Academic Affairs. The mission of EU is to provide services to SPSU, the business community and the community at large by extending, enhancing and expanding the traditional teaching and service roles of the university to new clients, in new formats and through the infusion of new technologies.

Extended University includes a variety of program and service units. For more information regarding these programs and

services, contact the EU Dean's Office at 678/915-3714, stop by J-330, or visit the unit's web site at: <http://eu.spsu.edu>.

Office of Continuing Education

The Office of Continuing Education (OCE), located in Building F, is responsible for providing all non-credit professional continuing education instruction sponsored by the university. OCE sponsors open enrollment programs in computing, engineering, business, quality, and communications. OCE also offers customized corporate training. OCE Certificate Programs feature a sequential set of courses designed to provide a body of knowledge in selected areas. Currently available certificates include:

- BICSI/SPSU Telecommunications
- Certified in Convergent Network Technology (CCNT)
- Certified Information Systems
- Certified Professional Fiber Optic Installer
- Certified Quality Manager
- CISCO Certified Network Associate (CCNA)
- Distribution Fundamentals (TDF)
- E-Business Solutions in Java
- Embedded Systems (Yamacraw)
- Linux Professional and Linux +
- Microsoft Certified Systems Administrator
- Microsoft Office Specialist
- Network + and A +
- Oracle9i Database
- Outside Plant Engineering
- Practitioner (SSCP)
- Professional Project Management Certificate
- Security +
- Security Professional (CISSP)
- Six Sigma – Green and Black Belt
- Systems Security Certified
- Web Development

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

Office of Distance Learning (ODL)

The Office of Distance Learning (ODL) provides administrative, marketing and technical support for distance learning activities at SPSU. SPSU has offered distance-learning options in a variety of formats since 1995. Academic programs maintain the responsibility for program selection, content and delivery and ODL assists with administration and marketing as well as providing full technical support including development and delivery support. Methods for distance delivery at SPSU include videoconferencing, web and satellite. For more information go to <http://eu.spsu.edu/DistanceLearning>

Grant Development Center (GDC)

The Grant Development Center is designed to assist faculty and staff with identifying and securing sources of external funding to increase research and service. For more information go to: <http://eu.spsu.edu/GrantDevelopmentCenter>

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>

Computing and Software Engineering - Industry Liaison

Services include the support and development for Industry Advisory Board, CSE newsletter development, support of academic credit certificates, administration of the Software Engineering Retraining Program, management of Software Center projects and support for other special projects.

Software Center

The School of Computing and Software Engineering has long been known for applications-oriented educational opportunities. Students regularly participate in class projects, internships, and co-op assignments. In addition, the Software Center offers opportunities to connect business representatives and SPSU students and faculty in research and development projects. For more information go to:

<http://eu.spsu.edu/ComputingandSoftwareCenter>

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 provides 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://eu.spsu.edu/EnglishLanguageServices>

Center for Teaching Excellence (CTE)

At the Center for Teaching Excellence, our job is to facilitate communication on teaching and learning issues and help SPSU continue to be an exceptional teaching-focused university.

The goals of CTE are:

- To provide state of the art teaching resources
- To promote excellence in teaching and learning
- To identify and share best practices in teaching
- To recognize and reward excellence in teaching

For more information go to: <http://cte.spsu.edu>

Academic Regulations

General Information

The university's academic rules and regulations are developed and approved by the faculty. The set of processes used to enforce regulations and maintain order are called administrative procedures. In general, each academic rule has an underlying administrative procedure.

For example, the criteria against which a student is judged for graduation is developed and approved by the faculty. The process that is used to examine records and declare a student eligible to graduate is an administrative procedure.

Student Responsibility

Students are expected to have read this section of the catalog and to be generally familiar with academic rules.

Definitions

Full-time Student – Full-time status is defined for each student level in the table below. Remember that other agencies (such as federal financial aid) may have different definitions of full-time. The definitions below are used when enrollment verifications are produced by SPSU. Note that the definition of full-time changes for summer semester.

- Part-Time Less than 4 hours (summer 3 hours)
- Half-Time 4 or 5 hours (summer 3 or 4)
- 3/4-Time 6 or 7 hours (summer 5)
- Full-Time 8 hours or more (summer 6)

NOTE: Some forms of financial aid require that a student be registered for at least 6 hours without regard to the institutional definition of a full-time student.

Part-time Student – See table above.

Good Standing – A graduate student is in good standing who has a cumulative GPA of 3.00 or higher, and is making reasonable progress toward a degree.

Grade Point Average – The grade point average is calculated by dividing the total quality points earned, by the total number of hours of credit for which grades have been received. Additional information is available on the registrar's web pages.

Phase One Registration – The first period of open registration for a term. Dates are determined by the registrar and posted to the academic bulletin. The purpose of the phase one registration is to allow current students in good standing the opportunity to secure needed classes and to provide an indicator of course needs for the university. In order to remain registered, students are required to secure their classes by paying for them either through financial aid, or with legal tender.

Phase Two Registration – The registration period immediately after phase one and before phase three. Phase two is intended to allow returning and new students the opportunity to make adjustments to class schedules including dropping and adding classes without penalty. In order to remain registered, students are required to secure their classes by paying for them either through financial aid, or with legal tender.

Phase Three Registration – Phase three registration includes a period of free registration that extends into the new term by several days. There is no implied or explicit intent to allow students to use regular registration and the drop/add period to "shop" for classes. The intended purpose of the drop/add period is to allow students ample time to develop a schedule and make necessary adjustments. Phase three is the final registration opportunity for a term and in order to remain registered, students are required to secure their classes by paying for them either through financial aid, or with legal tender.

Audit – Students who audit classes must declare their audit status during the drop/add period. Auditing provides students with the opportunity to attend a class without penalty or risk. The "V" grade is assigned when a course has been audited. No credit is given. This grade may not be

Students are expected to consult this section of the catalog and follow the procedures that are outlined herein when the appropriate time in their academic tenure approaches.

For example, a student who is within a year of graduating should review the graduation section and comply with the time table for petitioning to graduate.

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

used at any future date as a basis for receiving course credit. Courses taken under the audit status carry the same tuition and fees as courses taken in the normal mode. See "Registration" later in this chapter for details about auditing courses.

Withdrawal – Withdrawal is defined as the official act of discontinuing participation in a course or courses during a time in which withdrawal is permitted (usually after the drop/add period or regular registration, but before the mid-point of the term). In most cases withdrawal must be initiated by the student. Students who withdraw during the withdrawal period earn a grade of "W". See "Registration" later in this chapter for details about withdrawing.

Drop – The term "drop" refers to the removal of a course from a student's schedule during the official drop/add period. Dropping classes results in no grade being issued and no charge for tuition or fees.

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.

Academic Standing

In order to graduate a graduate student must achieve a cumulative grade point average of 3.00. In the event that a graduate student repeats a course, only the last attempt counts in the institutional GPA.

Good Standing

To be considered in good academic standing a graduate student must have a cumulative GPA of 3.00 or better.

Academic Probation

Academic probation is assigned to graduate students whose cumulative GPA falls below 3.00.

Continued Probation

A student whose cumulative grade point average remains below 3.0 for two or more consecutive terms of enrollment, but whose term average is 3.0 or higher, may continue enrollment on probation.

A student may continue enrollment while on probation. However, if a student on probation fails to achieve a term grade point average of at least 3.00 (for graduate students) the student will be placed on dismissal.

Academic Suspension

Any student whose semester grade point average is below 3.0 and whose cumulative grade point average is below 3.0 for at least two consecutive terms of enrollment shall be academically dismissed for unsatisfactory scholarship. To appeal the suspension or to seek reinstatement, see the director of graduate studies.

Appeals Procedure

Any rule, regulation, or procedure can be appealed. Decisions are based on evidence that the student was treated unjustly or was not afforded the same opportunities as other students. It is not enough to simply claim "nobody told me". You must have quantitative proof that you were misadvised or misinformed by someone on SPSU's staff, or that you were not treated as other students were treated. Your version of the series of events that led to this situation must be clearly articulated and credible. Your evidence does not have to be prima facie, but it must provide enough reasonable doubt that

you were afforded proper guidance to make a policy exception for your case.

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 are not allowed to receive credit by examination for the same course.

Catalog and Curriculum Appeals

Matters requiring Petitions to the Faculty include requests for consideration for exceptions to policies published in the catalog or as formal institutional Policies and Procedures. Examples include:

- Receiving a grade of "W" past the withdrawal date
- Extension of the time limit for converting a grade of "I"
- Exceptions to residency requirements

Students should complete a Petition to the Faculty form when they feel the academic policies or procedures have not been applied, or will not apply, fairly or appropriately to them.

Students desiring to petition the faculty for an exception should see the registrar's office for information on how to proceed.

If the petition is approved, the matter should be resolved. If the petition is denied, and the student feels that he or she has grounds for an appeal, the following steps are followed:

- The student should discuss the petition with the Registrar to determine the basis for refusal, to be informed of the appeals procedure in his or her particular case, and to be informed of any additional information or documentation that may be desirable, helpful, and/or required.
- Upon written request for appeal to the Registrar's Office, all related information is forwarded to the Vice President for

Academic Affairs for review. The Vice President may approve or refuse the appeal.

- If the Vice President for Academic Affairs denies the appeal, upon written request to the Vice President for Academic Affairs, the student may appeal to the President. All related information will at that time be forwarded to the President for review.
- The President may approve or deny the appeal. The President is the final level of appeal.

Certificate Programs

Students admitted to a certificate program may apply the courses completed for the certificate toward a degree program if they are accepted to a degree program. Students admitted to a degree program may be awarded a related certificate based on completion of the courses in the certificate program provided they also apply for the certificate.

Changing Your Student Record

Changing your major

If any student decides to pursue a different program of study than the one originally listed on the admissions application, the student must officially change majors by applying as a new student to the desired program and meet all admissions requirements.

Changing your demographic information

Most demographic information such as address or phone number can be changed by the student using the student information system on the World Wide Web. To change your name or social security number, you must visit the registrar's office with appropriate documentation.

Note that the official means of communication between the university and students is email. It is the responsibility of the student to check their SPSU email daily for notices posted to them.

Classification of Students

Credit Hour

Definition of a Credit Hour - One credit hour corresponds to one hour per week of classroom work for a semester, or to three clock hours or its equivalent of laboratory work per week for a semester. Some exceptions exist.

Full-time Students

Graduate students enrolled for 8 or more credit hours are considered full-time students. Graduate students enrolled for 6 or more hours are considered full-time during summer term.

Note that the federal government and some other agencies have different definitions of student status.

Classroom Attendance

There are no formal institutional regulations regarding class attendance. Each classroom or laboratory instructor sets his or

her own attendance policy. However, professors are required to report students who are on the class roll and do not attend. Within the first calendar week 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. Professors are required to report students who are registered and do not attend, or who stop attending to the registrar's office.

Credit for Courses Completed More than Eight Years Prior to Graduation

Graduate work completed more than eight years prior to the date of graduation may be credited toward degree program requirements with the approval of the student's major Department Chair, or if the student's enrollment at Southern Polytechnic State University has been continuous since the course was taken.

Credit for Duplicate Courses or Dual Credit

Credit may not be awarded for the same course twice, or for courses deemed so similar as to be considered the same. For example, if a student completes PHYS 1111, 1111L (Trigonometry based Physics I) and then takes PHYS 2211, 2211L (Calculus based Physics I), only one may be counted as hours earned, and only one may be used for graduation purposes.

Credit by Examination

SPSU does not Award Credit by Examination for Graduate Students

Credit by examination is not awarded for graduate students.

Continuous Enrollment

To remain continuously enrolled, a student must not have an absence of two or more consecutive terms of matriculation at Southern Polytechnic State University, summer semester included.

Cross Registration

Students may not attend Southern Polytechnic State University and another institution concurrently for transfer purposes, except under the cross registration program.

Southern Polytechnic State University participates in the cross registration program established among the member institutions of the Atlanta Regional Consortium for Higher Education (ARCHE). The purpose of cross registration is to provide opportunities for enriched educational programs and experiences by permitting students at any ARCHE institution to take courses at any other member institution. A student may cross register only for:

(1) Courses for which the student has met the prerequisites and

(2) Courses not offered at the home institution for the given term.

Applications and additional information about cross registration can be obtained from the Registrar's Office.

Cumulative Grade Point Average

Computing the GPA

The cumulative grade point average determines the student's scholastic standing. The cumulative grade point average is computed by dividing the total quality points earned by the total number of credit hours for which the student has received a final grade of "A", "B", "C", "D", "F", or "WF".

Quality Points are assigned as follows:

Grade	Quality Points
A	Four quality points are assigned
B	Three quality points are assigned
C	Two quality points are assigned
D	One quality point is assigned
F	Zero quality points are assigned
WF	Zero quality points are assigned

Graduate student grade point averages, for the purpose of graduating from a program are computed using only those courses in the major department and those courses approved by the program faculty. Academic standing and other computations depend on all graduate work taken unless work is excluded via an official petition to the faculty where allowed.

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 visit the National Student Loan Clearinghouse web site. Student status shall be reported in accordance with current enrollment rules (see the section entitled "definitions").

Note that the federal government and some other agencies have different definitions of student status.

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.

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.

Courses Taken at Other Institutions

Only courses taken at Southern Polytechnic State University, or courses completed under the cross-registration program, are computed in the cumulative grade point average. Credits earned at other institutions, credit by examination, credits for which quality points are not assigned, institutional credit courses, and courses otherwise excluded by institutional policy are not considered when calculating the cumulative grade point average for graduation purposes.

Disruptive Behavior and Academic Dishonesty

A faculty member reserves the right to remove any student from his or her course if the student's behavior is of a disruptive nature or if there is evidence of academic dishonesty. In instances of disruptive behavior and/or academic dishonesty, the faculty member will discuss the circumstances with the student(s) before taking final action. In the event the student cannot be reached, he or she will be given the grade of "Incomplete" until such time as he or she can be reached. The student shall have the right of appeal of the faculty member's decision:

- First to the faculty member's Department Chair
- Then to the appropriate school dean,
- and, if necessary, to the Vice President for Academic Affairs

Removal from a course under this provision may result in a grade of "F". A grade of "F" issued under these circumstances shall not be superseded by a voluntary withdrawal or by forgiveness policies, and will be included in the student's cumulative grade point average calculated for graduation purposes.

Grade Changes

Grades that have been assigned to a student by an instructor may be changed no later than the end of the third consecutive term following the term in which the grade was awarded. The instructor must initiate grade changes. Grades included in this provision are "A", "B", "C", "D", "S", "U", and "F".

Grade Reports

Grades are reported to students by way of the student information system. Grade reports are not mailed.

Students who desire a written grade report may obtain one by written request to the registrar's office.

Grading System

Regular Grades

In all graduate programs, a minimum of a 3.0 G.P.A. is required. No grades below 'C' may be applied to a graduate program's requirements, and a maximum of 2 'C' grades at the level of 6000 or above may be applied to a graduate program's requirements.

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	
C	Satisfactory	Passing, but often must be repeated if needed for graduation
F	Failure	Course must be repeated if required for graduation
WF	Late Withdrawal	A grade of "WF" in a course is assigned upon official withdrawal after the midpoint of the term, and is counted in the student's scholastic average as a failing grade.

Lab Grades

For subjects including class and laboratory work, both portions are considered essential and the grades on each will be combined at the end of the semester and reported as one. Failure in either class or lab may result in failure of the entire course.

Other Grades

The following symbols are used in the cases indicated but are not included in the calculation of semester or cumulative grade point averages:

Grade	Definition	Comments
I	Incomplete	<p>This symbol indicates that a student was doing satisfactory work but, for nonacademic reasons beyond his or her control, was unable to meet the full requirements of the course</p> <p>An incomplete must be removed during the next term in which the student attends classes, otherwise the Registrar's Office shall convert the "I" into an "F".</p> <p>Once an incomplete grade is issued, a student should not re-register for the course until the grade becomes permanent, or converts to a permanent grade.</p>

IP	In Progress	This grade indicates that credit has not been given in courses that require a continuation of work beyond the term for which the student signed up for the course. The use of this symbol is approved for thesis and project courses. This symbol cannot be substituted for an I (incomplete).
V	Audit	The "V" grade is assigned when a course has been audited. No credit is given. This grade may not be used at any future date as a basis for receiving course credit.
W	Withdrawal	A grade of "W" is assigned when a student officially withdraws from a course before the midpoint of the term. Courses carrying the "W" grade will not be counted in the student's scholastic average.
S	Satisfactory	This symbol indicates that credit has been given for completion of degree requirements other than academic course work.
U	Unsatisfactory	This symbol indicates unsatisfactory performance in an attempt to complete degree requirements other than academic course work.

Graduation Requirements

Catalog for Graduation Evaluation

- A student may elect to be evaluated for graduation from any catalog in effect during the time he or she has been enrolled, provided that enrollment has been continuous or that the student has not changed majors.
- Students readmitted or reinstated will be evaluated for graduation from the catalog in effect at the time of readmission or reinstatement, or any catalog in effect during subsequent periods of continuous enrollment.
- Students changing majors will be evaluated for graduation from the catalog in effect at the time of the change, or any catalog in effect during subsequent periods of continuous enrollment.

Each student is responsible for determining the appropriate catalog to be used for academic advisement and for evaluation of graduation requirements. Catalog selection applies only to the course requirements of that catalog; all other academic procedures and graduation requirements must be satisfied according to regulations in effect at the time of graduation. For further information on the selection of an appropriate catalog, contact your major Department Chair or the Registrar's Office.

General Requirements

In all graduate programs, a minimum of a 3.0 G.P.A. is required. No grades below 'C' may be applied to a graduate program's requirements, and a maximum of 2 'C' grades at the level of 6000 or above may be applied to a graduate program's requirements.

A graduate student is eligible for graduation when he or she:

- Has satisfactorily completed the required number of hours for the degree
- Has passed all required courses for the degree
- Has achieved the necessary scholastic average (3.00 for graduate students)
- Has paid all required fees, fines, and other financial obligations
- Has filed an official "Petition of Admission to Candidacy for a Degree" through the Department Chair to the Registrar's Office.
- Has satisfied any program related requirements
- Has merited the recommendation for the degree by the faculty and the President of the university
- Has earned 75% of the total hours required for the degree in residence at SPSU

Graduation Petitions

A student must submit a formal petition for "Admission to Candidacy for a Degree" to their academic department in accordance with the deadline published in the academic bulletin.

All fall semester petitions for students not in school summer should be made in the spring semester of that year, and co-op students should petition the term before a work term if the work term immediately precedes the term of anticipated graduation.

Students are encouraged to petition early.

Late Instructor

Should the instructor be late in meeting a class or a laboratory period, students will wait a minimum of fifteen minutes. If during the fifteen-minute waiting period no notification to remain is given, students may leave without penalty.

Maximum Credit Hours

Graduate students may register for a maximum of 12 hours each term. Academic department chairs may authorize additional hours under unusual circumstances. The maximum number of hours during summer term is 8.

Progress Reports

"All faculty members shall make available to each student in their classes each semester, an evaluation of the student's academic progress in the class on or before the mid-date of the term. The evaluation must be in the form of graded/evaluated class assignments, examinations, papers or essays, or projects returned to the students on or before the deadline stated above."

Instructors will make every effort to be available during their office hours for discussion of the student's progress in the course prior to the midpoint of the total grading period.

Attendance or participation in a class for which a student has not registered and paid is strictly prohibited without express permission from the office of the registrar.

Removal of Previous Major Courses

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 non-core 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. Courses included in the University System of Georgia core are not excluded.

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 without 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 included as "directory information" unless notification is received to the contrary:

- Student's name
- Place of birth
- Class schedule
- Current enrollment status
- Dates of attendance
- Major field of study
- Participation in officially recognized activities and sports
- Degrees and awards received
- Hometown
- Weight and height of members of athletic teams

Prior college(s) attended

Policies and Procedures

Specific policies and procedures for the maintenance of student records according to the Board of Regents of the University System of Georgia and the test of the Family Educational Rights and Privacy Act of 1974 are available for review in the Registrar's Office.

Destruction of Records

The complete academic record of all matriculating students will become permanent records of the institution. Following the third continuous term of non-enrollment by a student, the nonacademic records will be placed in an inactive, but accessible status. Following the end of the ninth year of inactive status, the nonacademic records will be purged and destroyed by the official responsible for their maintenance.

Students also have the right to file complaints with the FERPA Office of the Department of Education, Washington, D.C., 20201, regarding alleged violations of the Act.

Transfer Credit, Policy for Acceptance of

Transfer credit is awarded in accordance with the policies of the university system of Georgia, accrediting agencies, and SPSU. Courses under consideration for transfer credit are evaluated by the department chair whose department is primarily responsible for the course.

Transfer credit for graduate degree programs (credit earned in anyway except in a resident program course) is limited to a maximum of 9 hours

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

To be considered for transfer credit, courses must normally:

- Represent college or university-level work
- Have been completed with a grade of "B" or better
- Have been taken at institutions holding college-level accreditation by a United States regional accrediting authority
- Be equivalent to courses at SPSU with regard to
 - Credit hours
 - Course content
 - Level of instruction
- Not have been in a subject for which the student received a failing grade at SPSU

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

Students may be required to demonstrate proficiency by passing an examination in order to be awarded some credit.

The amount of transfer credit awarded can be limited by:

- Residency requirements defined in Academic Regulations
- The applicability of transferring courses to the chosen major
- Performance of the student during proficiency evaluations.

Responsibility for transfer credit decisions at SPSU:

The Student has responsibility for providing complete and correct information (including course descriptions, syllabi, and other required documents).

The Chair of the department at SPSU in which the subject is taught has responsibility for determining whether transfer credit will be awarded.

The Chair of the student's major program of study has responsibility for determining whether transfer courses are applicable to that degree program.

The Registrar is responsible for determining restrictions and limits on amounts of transfer credit that can be granted.

The Registrar has final authority in checking compliance with university-wide academic standards and graduation requirements.

Transfer Credit for Courses Earned Outside the United States

Transfer credit for courses completed at institutions of higher learning outside the United States shall be subject to the same criteria as those courses earned in the United States, but outside the State of Georgia.

In addition, the following conditions must also be met by the institution where the credits were earned:

- International course descriptions must have been translated by a recognized translation service and certified as a true and correct translation.

The institution at which the credit was earned:

- Must have been evaluated and endorsed/certified/accredited by a nationally-known evaluation agency
- Must be offering degrees and course work at the college or university level and
- Must have a well-established international reputation for quality instruction

Transcript Request

Students must request transcripts via the National Student Loan Clearinghouse. All transcripts will include the entire academic record; no partial or incomplete record will be issued as a transcript. Though transcripts are normally issued promptly, requests should be made several business days before the document is required, particularly at the beginning or end of a semester. A transcript will not be issued when a student's record shows financial indebtedness to the institution.

Transient Authorization

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

Withdrawal from Classes

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

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

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

Refunds associated with withdrawals are made only in the case where a student withdraws completely from all classes for a term. Refunds are based on the date of the withdrawal and are pro-rated. By University System of Georgia rule, refunds are not initiated for withdrawing from a portion of registered classes.

Withdrawing After the Mid-Point

Students who withdraw after the 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 instructions.) 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.

Professor Initiated Withdrawals

In the event that a student ceases to attend classes and is beyond any reasonable chance to earn a passing grade, a professor, at his or her discretion, may withdraw the student unilaterally. If the student was already failing the class when he or she stopped attending, this policy should not be applied unless there are other mitigating circumstances. **Professor initiated withdrawals are at the discretion of the professor and there is no obligation on the professor's part to initiate a withdrawal under any circumstances.** Students who have decided to stop attending should initiate the withdrawal process as outlined above.

Withdrawals After the Deadline

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

- The petitions must be completed and signed by the student's instructor(s), instructors' Department Chair(s), and major Department Chair.
- The petition must be substantiated by evidence sufficient to support the extenuating circumstances claimed.

No student will be allowed to withdraw from a course after the final class day of the term.

Students withdrawing from **all** classes during the refund period are entitled to a refund of a portion of the fees paid for the course(s). Students should check the Registration Bulletin to determine the date and amount of refund (if any) available. **No refunds are made for partial withdrawal.**

Graduate Degree Programs

Master of Science in Accounting

The MSA is designed to be a 30-hour, online program that can be completed in one year, starting in the fall semester and ending after the summer session. Online courses are delivered in two seven-week sessions within the fall and spring semesters and one session in the summer. Students may proceed through the program at their own pace.

SPSU Accreditation Information

SPSU and the Business Administration program are accredited by the Southern Association of Colleges and Schools (SACS) and the Association of Collegiate Business Schools and Programs (ACBSP).

Admission

Admission to the MSA program is open to persons holding a bachelor or higher degree from an accredited college and who meet the following admission criteria:

Admission Criteria

An undergraduate degree in accounting with a minimum GPA of 2.75 on a scale of 4.0. Special consideration will be given to applicants with GPAs below 2.75 who have obtained the CPA or CMA designations and/or who have substantial relevant experience.

An undergraduate degree in any field with a minimum GPA of 2.75 on a scale of 4.0; at least 24 hours in general business courses; and completion of the following six courses (or equivalent) with a minimum passing grade of "B":

- Intermediate Accounting I
- Intermediate Accounting II
- Advanced Financial Accounting
- Cost Accounting/Management
- Principles of Accounting I
- Principles of Accounting II

Those with a CPA and/or 5 years of experience in the accounting field will receive special consideration.

Provisional admission will be given to students who do not have all of the six required transitional accounting courses listed under number 2 above. These six courses are offered as transition courses. Students who earn a B average in the transitional courses will be fully admitted into the program; otherwise a student will be placed on probation or dismissed from the program.

International Student Admission Requirements:

All of the above requirements

Official TOEFL scores (if English is not your native language) 213 computer based score or 79 Internet based score or IELTS score of 6.5.

International students are required to submit an International Student Affidavit of Financial Support

SPSU reserves the right to request a transcript evaluation from a credible evaluation agency. SPSU approved agencies:

- WES www.wes.org
- Silny & Associates www.jsilny.com
- Education Credential Evaluators www.ece.org

These requirements are subject to change. For current requirements go to:

<http://www.spsu.edu/business/webx//curriculum/msaadd.htm>

Admission Procedure

An applicant may begin the MSA program in August, October, January, or March. Once an application packet is complete and submitted, an admission decision will be issued from the Graduate Admissions Office within 10 business days. All applications must be made online through the SPSU Graduate Admissions Office.

To apply, please go to:

<https://www.applyweb.com/apply/spsu/menu.html>

Official transcripts should be mailed to:

Graduate Admission

Southern Polytechnic State University

1100 South Marietta Parkway

Marietta, GA 30060-2896

A complete application packet includes:

- An application for admission to a graduate program
- An official transcript from each college previously attended
- Three letters of recommendation from faculty, work supervisors, clients,
or professional colleagues (submitted by mail or online)
- A description of relevant work experience, if applicable
- A Statement of Purpose, describing professional career goals and how
completion of the graduate program will help achieve them

For additional information please visit the SPSU Graduate Programs Admission page at

www.spsu.edu/home/prospective/graduates/admissions.html

Admission Deadlines

Following are the dates by which your application must be complete for admission during the sessions offered in the fall and spring semesters for academic year 2009-2010.

Fall Session 1	July 1
Fall Session 2	October 1
Spring Session 1	November 1
Spring Session 2	March 1
Summer Session	April 1

Fees

The SPSU per hour cost for online courses is \$295 per credit hour for both Georgia residents and for non-resident students. There is a \$75 tech fee per semester. (Fees are established by the Board of Regents of the University System of Georgia and are subject to change without notice, though SPSU will make every effort to communicate changes to students as they occur.) Fees are subject to change by the Board of Regents. For current information, please go to:

<http://www.spsu.edu/home/prospective/graduates/documents/Fall2009TuitionandFees.doc>

Accounting

Master of Science in Accounting Program Degree Requirements

MSA Degree Curriculum

Course	Course Title	Hrs.
ACCT 6003	Accounting Theory	3
ACCT 6007	Advanced Accounting Information Control Systems	3
ACCT 6006	Advanced Management Accounting	3
ACCT 6013	Emerging Auditing Technology	3
ACCT 6021	Professional Judgment	3
ACCT 6030	Taxation of Entities	3
MGNT 6059	Legal Environment	3
ACCT 6078	Fund Accounting	3
ACCT 6058	Financial Statement Analysis	3
Electives (Select one course from the following list)		3
ACCT 6068	International Accounting	3
ACCT 6053	Business Valuation & Performance	3
ACCT 6045	Forensic Accounting	3
ACCT 6075	Tax Planning & Research	3

Transition Courses

MGNT 5002	Survey of Financial Accounting	1.5
MGNT 5004	Survey of Managerial Accounting	1.5
ACCT 5007	Intermediate Accounting I	3
ACCT 5009	Intermediate Accounting II	3
ACCT 5011	Advanced Accounting	3
ACCT 5013	Cost Accounting	3

Transition courses are not included in the 30 hour degree requirement. Admission will be provisional if any transition courses are required. A grade average of "B" or better is required for the transition courses.

MSA Sequence

The MSA course offerings are sequenced, however with the exception of two courses, there are no prerequisites. This allows students to be admitted at any point during an academic year. ACCT 6021, "Professional Judgment" and ACCT 6075, "Planning & Research, have prerequisites.

MSA students can complete the degree in one year by taking two courses per session or in two years by taking one course per session. The fall and spring semesters are divided into 2 seven-week sessions, with two courses being offered in each session, while in summer we offer a single seven-week session. Note a student must take a minimum of 2 courses per semester to receive financial aid for a semester.

Course sequence

MSA Course Sequence (May be completed in one or more years):

Semester/Session	Course
Fall Semester	
1st Session	ACCT 6003 Accounting Theory
	MGNT 6059 Legal Environment
2nd Session	ACCT 6006 Advanced Cost Management
	ACCT 6030 Taxation of Entities
Spring Semester	
1st Session	ACCT 6007 Advanced Accounting Information Systems
	ACCT 6078 Fund Accounting
2nd Session	ACCT 6013 Auditing
	ACCT 6058 Financial Statement Analysis
Summer Session	
Required	ACCT 6021 Professional Judgment
Electives	Select one from the following list
	ACCT 6068 International Accounting
	ACCT 6058 Business Valuation and Performance
	ACCT 6045 Forensic Accounting
	ACCT 6075 Tax Planning & Research

Degree Requirements (Course Sequence)

MSA Degree Curriculum

Course Sequence

MSA Course Sequence (May be completed in one or more years):

Semester/Session	Course
Fall Semester	
1st Session	ACCT 6003 Accounting Theory
	MGNT 6059 Legal Environment
2nd Session	ACCT 6006 Advanced Cost Management
	ACCT 6030 Taxation of Entities
Spring Semester	
1st Session	ACCT 6007 Advanced Accounting Information Systems
	ACCT 6078 Fund Accounting
2nd Session	ACCT 6013 Auditing
	ACCT 6058 Financial Statement Analysis
Summer Session	

Required	ACCT 6021 Professional Judgment
Electives	ACCT 6068 International Accounting
	ACCT 6058 Business Valuation and Performance
	ACCT 6045 Forensic Accounting
	ACCT 6075 Tax Planning & Research

Business Administration

Offering the Master of Business Administration Degree

Admission to the MBA program is open to persons holding the bachelor or higher degree from an accredited college.

Admission Procedure

Applicants to the MBA program must submit the following to the Admissions Office no later than the semester deadline date before the beginning of the semester in which they plan to enroll:

- An application for admission to the MBA program
- An official copy of scores from the GMAT (within the past five years)
- An official transcript from each college the applicant has attended,
- Certificate of immunization
- At least three recommendation forms which have been completed by former or current supervisor, professors, or professional colleagues.
- Statement of purpose
- A resume, while not required, is suggested.

International students should refer to the *International Students* sub-section for additional admission requirements.

Admission Criteria

Applicants for admission to the MBA program are excepted to take the GMAT exam prior to being accepted into the MBA program.

Applicants must meet the following criteria:

1. Regular admission index: $GMAT + (200 * \text{undergraduate GPA}) = 925$
2. Transition Certificate: $GMAT + (200 * \text{Transition Certificate GPA}) = 1025$

In order to have scores forwarded to SPSU you must provide our reference code number (5626) on your test application.

Students may also use the GRE using the conversion formula given on the GRE web site.

Incoming students with 300 or less on the writing portion of the GMAT or GRE would be required to take the IDC 5001 course their first semester at SPSU or as soon as IDC 5001 is offered. Students who not pass the course would need to retake it.

Advanced Admission Criteria

A candidate for admission who has already earned a recognized Masters or doctorate degree in another field of study is NOT required to take the GMAT if the advanced degree has been completed at an accredited university in the United States.

Admission Status

The MBA coordinator in conjunction with the department head determines the student's admission status.

Regular admission status applies to students who have met all of the admission requirements of the MBA program. Fully admitted students who have not taken courses in the common professional core (CPC) will be required to take the 5000-level transition courses or equivalent undergraduate courses to fulfill this requirement.

Provisional admission status is offered on an exception basis only. With provisional admission, students are limited to designated courses during a specified time period while they work to fulfill the full admission requirements. Students with provisional admission status are not guaranteed full admission status.

Post-baccalaureate status is available to students who meet the admission criteria but who are NOT seeking a degree.

Master of Business Administration Transition Course Requirement

Accreditation standards require that all students being awarded the Master of Business Administration satisfy the Common Professional Core (CPC). This requirement may be satisfied by completing MBA transition courses or undergraduate courses in the following subject areas: accounting, finance, economics, business law, management and organizational behavior, marketing, and statistics. Applicants who have earned undergraduate credit with a grade of "C" or better for courses such as these will be considered to have satisfied the Common Professional Core for those areas.

Master of Business Administration Program Degree Requirements

The requirement to complete the degree is **36** semester hours at the 6000 level. Students will complete eight required courses and four electives.

Required MBA Degree Curriculum		Hours
ACCT 6000	Managerial Accounting	3
MGNT 6002	Corporate Finance	3
MGNT 6005	Managerial Economics	3
MGNT 6004	Service & Operations Management	3
MGNT 6008	Marketing Management	3
MGNT 6010	Management of Information Technology	3
MGNT 6025	Managing Professionals	3
MGNT 6090	Strategic Management	3
Required Courses		24
Elective Courses		12
Total Hours		36

Concentration with four electives in accounting, finance, marketing, management, management of information systems, or operations and technology management

or

General MBA with any four of the electives

In all graduate programs, a minimum of a 3.0 G.P.A. is required. No grades below 'C' may be applied to a graduate program's requirements, and a maximum of 2 'C' grades at the level of 6000 or above may be applied to a graduate program's requirements.

A grade of "C" or better is required for each course and an overall "B" average (3.0), including in the 5000-level transition courses, is required. Students must maintain a 3.0 average to remain in good standing.

Concentration

In consultation with their advisor, MBA students may design a custom concentration consisting of four elective courses in

business or a related area. Concentrations might be in such areas as accounting, marketing, operations and technology management, or management information systems.

Accounting: Requires taking Intermediate Accounting I and II (6 hours at the undergraduate level or as graduate transition courses). Managerial Accounting is a required course in the MBA program. Graduate accounting courses include Advanced Management Accounting, Emerging Auditing Technologies, Taxation of Entities, Advanced Accounting Information and Control Systems, plus other accounting electives. Students interested in professional accounting certification should meet with the Graduate Accounting advisor. (already approved for a concentration by Graduate Programs Committee)

Finance: Four electives in finance in addition to the required Corporate Finance course. Electives rotate over four semesters and include such topics as Investments, Money and Financial Institutions, Management of Financial Institutions, and Derivatives. (already listed as a concentration but not approved by Graduate Programs Committee)

Management: Four electives in management from such courses as International Management, Entrepreneurship, Issues in Human Resource Management, Technology and Innovation Management, Project Management, and Managerial Communication, Performance Technology (in the MS in Information Design and Communication) among others.

Management of Information Systems: Four electives in addition to Management of Information Technology (required course). Electives rotate among the following courses: Systems Analysis and Design; Database Analysis, Design, and Implementation; Advanced Database Analysis, Design, and Implementation; and Project Management or other related elective as approved.

Marketing: Four electives in marketing in addition to Marketing Management (required course). Electives rotate over two years and include such topics as Marketing Research, Consumer Behavior, Business-to-Business Marketing, and special topics courses.

Operations and Technology Management: Four electives from such courses as Technology and Innovation Management, Current Readings in Technology Management, Logistics and Supply Chain Management (MS Systems Engineering), Quantitative Methods, Total Quality Management (MS Quality Assurance), and Project Management.

General MBA: Choice of any four MBA electives.

Transition Certificate Courses

The following transition courses cover the Common Professional Core and may be required for students who have not previously taken business courses. These courses may not be used to satisfy degree requirements.

MGNT 5000	Survey of Management	1.5
MGNT 5002	Survey of Financial Accounting	1.5
MGNT 5004	Survey of Managerial Accounting	1.5
MGNT 5006	Survey of Corporate Finance	1.5
MGNT 5008	Survey of Marketing	1.5
MGNT 5010	Survey of Business Law	1.5
MGNT 5012	Survey of Economics	1.5

MGNT 5014	Survey of Statistics	1.5
IDC 5001	Writing for the Professions	1..5

Master of Business Administration Program Degree Requirements

The requirement to complete the degree is **36** semester hours at the 6000 level. Students will complete eight required courses and four electives.

Required MBA Degree Curriculum		Hours
ACCT 6000	Managerial Accounting	3
MGNT 6002	Corporate Finance	3
MGNT 6005	Managerial Economics	3
MGNT 6004	Service & Operations Management	3
MGNT 6008	Marketing Management	3
MGNT 6010	Management of Information Technology	3
MGNT 6025	Managing Professionals	3
MGNT 6090	Strategic Management	3
Required Courses		24
Elective Courses		12
Total Hours		36

Concentration with four electives in accounting, finance, marketing, management, management of information systems, or operations and technology management

or

General MBA with any four of the electives

In all graduate programs, a minimum of a 3.0 G.P.A. is required. No grades below 'C' may be applied to a graduate program's requirements, and a maximum of 2 'C' grades at the level of 6000 or above may be applied to a graduate program's requirements.

A grade of "C" or better is required for each course and an overall "B" average (3.0), including in the 5000-level transition courses, is required. Students must maintain a 3.0 average to remain in good standing.

Concentration

In consultation with their advisor, MBA students may design a custom concentration consisting of four elective courses in business or a related area. Concentrations might be in such areas as accounting, marketing, operations and technology management, or management information systems.

Accounting: Requires taking Intermediate Accounting I and II (6 hours at the undergraduate level or as graduate transition courses). Managerial Accounting is a required course in the MBA program. Graduate accounting courses include Advanced Management Accounting, Emerging Auditing Technologies, Taxation of Entities, Advanced Accounting Information and Control Systems, plus other accounting electives. Students interested in professional accounting certification should meet with the Graduate Accounting advisor. (already approved for a concentration by Graduate Programs Committee)

Finance: Four electives in finance in addition to the required Corporate Finance course. Electives rotate over four semesters and include such topics as Investments, Money and Financial

Graduate Degree Programs

Institutions, Management of Financial Institutions, and Derivatives. (already listed as a concentration but not approved by Graduate Programs Committee)

Management: Four electives in management from such courses as International Management, Entrepreneurship, Issues in Human Resource Management, Technology and Innovation Management, Project Management, and Managerial Communication, Performance Technology (in the MS in Information Design and Communication) among others.

Management of Information Systems: Four electives in addition to Management of Information Technology (required course). Electives rotate among the following courses: Systems Analysis and Design; Database Analysis, Design, and Implementation; Advanced Database Analysis, Design, and Implementation; and Project Management or other related elective as approved.

Marketing: Four electives in marketing in addition to Marketing Management (required course). Electives rotate over two years and include such topics as Marketing Research, Consumer Behavior, Business-to-Business Marketing, and special topics courses.

Operations and Technology Management: Four electives from such courses as Technology and Innovation Management, Current Readings in Technology Management, Logistics and Supply Chain Management (MS Systems Engineering), Quantitative Methods, Total Quality Management (MS Quality Assurance), and Project Management.

General MBA: Choice of any four MBA electives.

Transition Certificate Courses

The following transition courses cover the Common Professional Core and may be required for students who have not previously taken business courses. These courses may not be used to satisfy degree requirements.

MGNT 5000	Survey of Management	1.5
MGNT 5002	Survey of Financial Accounting	1.5
MGNT 5004	Survey of Managerial Accounting	1.5
MGNT 5006	Survey of Corporate Finance	1.5
MGNT 5008	Survey of Marketing	1.5
MGNT 5010	Survey of Business Law	1.5
MGNT 5012	Survey of Economics	1.5
MGNT 5014	Survey of Statistics	1.5
IDC 5001	Writing for the Professions	1..5

Computer Science

Offering the Master of Science Degree

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!

Whether you have a degree in computer science, no background in computer science, some academic experience in the field to your credit, or years of work as a computer professional under your belt, a Master of Science in Computer Science from Southern Polytechnic will enhance your career options. We provide the background necessary to analyze problems from multiple angles, and the resources to conduct research and complete projects while you are learning. Classes are available in the evenings to accommodate the needs of the working professional.

Students complete 36 hours of course work in classes that cover core areas, such as programming languages, database systems, computer architecture, algorithms, and software engineering, as well as electives in several cutting edge developments, such as game development, image processing, search engines, wireless networks, enterprise applications development, etc. The Masters courses are all taught by full-time faculty holding doctorates or occasionally by carefully elected experts from the industry. A master's thesis option is available. Graduate assistantships and research assistantships funded by sponsored research are available.

In addition to welcoming full-time students with degrees in Computer Science, we also cater to two major non-traditional groups of students: those whose schedules allow only for part-time studies and those without a degree in Computer Science. For the first group, we offer almost all of our classes during the evenings (and a few on Saturdays). For the second group of students, courses are offered that allow them to "transition" into the Masters courses. The six transition courses are packaged into the credit-based Graduate Transition Certificate in Computer Science (GTCCS). This Transition Certificate will also prepare you for graduate study or an entry-level position in the industry, and is available both face-to-face and online. (Our online courses use a variety of current technologies, including live classroom, online chat, virtual labs, etc.) For those that have completed the Graduate Transition Certificate in Computer Science or have a background comparable to a degree in Computer Science, a credit-based Graduate Certificate in Computer Science (GCCS) is available, and all courses taken for this certificate apply to the Master's degree program in Computer Science. Although no specific undergraduate major is required, applicants must have a baccalaureate degree from an accredited school.

Admission Procedure

- Applicants for admission to the Master of Science program with a major in Computer Science should submit the following to the Graduate Admissions Office:
- An application for admission to the program
- A transcript from each college the applicant has attended

- A certificate of immunization
- A statement of purpose in seeking this degree,
- Three recommendation forms completed by former or current supervisors, professors, or professional colleagues, and
- Optionally: An official copy of scores from the "General Test" of the Graduate Record Examination (GRE).

Submission of the GRE score is strongly recommended to international applicants and should be considered by all applicants to strengthen the application packet. The applicant may be required to submit the GRE score after an initial review, which could delay the decision process.

International students should refer to the International Students sub-section for additional admission requirements.

In addition to having a baccalaureate degree from a recognized college/university, one of the following must be met for a student to be considered for this MS program at Southern Polytechnic State University:

Basic

- Undergraduate GPA of 3.00 or better (out of a possible 4.0) or the equivalent
- Optionally: Official GRE scores meeting the current admission profile

Note: Higher scores may compensate for a lower GPA. In some cases, the GMAT may be considered.

Advanced

The candidate for admission has already earned a recognized Masters or doctor's degree in a closely related, quantitative field of study (e.g., engineering, physics, chemistry, mathematics); the GRE is not required for consideration. The GRE is strongly recommended if the degree is not from the United States.

Alternative

A student holding a baccalaureate degree from an accredited school who does not meet the criteria for Basic or Advanced categories may be admitted upon convincing the faculty of the School of CSE of extraordinary alternative qualifications (e.g., lengthy and distinguished employment in the computer field) that would predict the likelihood of success in completing the MS program.

Provisional Acceptance

Students applying to the program who do not have a degree in Computer Science, Software Engineering, or a computing-related field may be required to take necessary prerequisite courses to prepare for graduate study in Computer Science. Upon acceptance, the admissions committee will evaluate the student's transcripts and determine any necessary prerequisite courses the student must take. These required prerequisite courses are listed on the student's acceptance letter as a condition for being fully admitted into the Masters Program. If four or more prerequisite courses are required, the student will be eligible for the Graduate Transition Certificate in Computer Science.

Master of Science Program in Computer Science Degree Requirements

CS 6123	Theory and Implementation of Programming Languages	3
CS 6223	Advanced Computer System Architecture	3
CS 6413	Theory of Computation	3
CS 6423	Algorithmic Processes	3
Electives		24
Total For The Program		36

Students need to take a total of 12 courses (36 credit hours) at the 6000 level or higher to graduate. This includes 4 required courses (see above). The remaining 8 elective courses must be from 6000-level courses as follows: 5 or more must be from CS, between 0 and 3 from SWE, and 0 or 1 from IT. (With departmental approval, courses from other departments, or up to 2 IT courses, may be included, but 5 or more courses must be CS courses.) Among the elective courses, students must include at least TWO courses from at least ONE of the following tracks. Courses in each track are given below; note that there are some 6000-level CS electives that do not appear in any of these tracks:

Research Track:

- CS 6023 Research Methods and Presentations
- CS 7803 Masters' Thesis (6 hours)

Software Engineering Track:

- SWE 6623 Software Engineering
- All other SWE 6000-level courses which have SWE 6623 as prerequisite

Systems and Architecture Track:

- CS 6243: Adv. Concepts in Operating Systems
- CS 6263: Computer Networks
- CS 6453: Simulation and Modeling
- CS 6273: Parallel and Distributed Processing
- SWE 6823: Embedded Systems Analysis & Design
- SWE 6843: Embedded Systems Construction & Testing
- SWE 6653: Software Architecture

Media & Visualization Track:

- CS 6563: Digital Image Processing and Analysis
- CS 6353: Computer Graphics and Multimedia
- CS 6323: Human Factors

Knowledge Engineering Track:

- CS 6163: Advanced Database Systems
- CS 6533: Artificial Intelligence
- CS 6163: Information Retrieval and Search Engine
- CS 6293: Information Security: Implementation and Application
- CS 6563: Digital Image Processing and Analysis

**** Note that, although a thesis is NOT required, a thesis option is available, which requires a student to take six credits of CS 7803 – Master's Thesis as part of his/her electives. Since a thesis is**

equivalent to 2 courses, students who are interested in the thesis option are encouraged to start their thesis research at least two semesters before they intend to graduate.

***** Note that a maximum of 9 total semester hours of "approved" transfer credit may be counted toward the MSCS degree.**

An overall GPA of 3.0 ("B") or better is required over all graduate coursework attempted.

In all graduate programs, a minimum of a 3.0 G.P.A. is required. No grades below 'C' may be applied to a graduate program's requirements, and a maximum of 2 'C' grades at the level of 6000 or above may be applied to a graduate program's requirements.

Transition Courses

The following transition courses may be required for provisional acceptance students. These courses may not be used to satisfy degree requirements.

CS 5003	Accelerated Introduction to Programming	3
CS 5123	Advanced Programming and Data Structures	3
CS 5153	Database Systems	3
CS 5223	Computer Architecture	3
CS 5243	Operating Systems	3
CS 5423	Mathematical Structures for Computer Science	3

NOTE: Some students may be advised to start with the undergraduate CSE 1301 – Programming & Problem Solving I and Calculus course.

Graduate Transition Certificate in Computer Science

The Graduate Transition Certificate in Computer Science prepares individuals for Masters level computer science programs or entry-level positions in the industry. The program is designed for those students holding an accredited bachelor's degree in an area unrelated to computer science who have an interest in computer science. ***This program is available in the traditional face-to-face format as well as fully online.***

The focus is on providing broad-based knowledge and skills. The required courses are:

CS 5003	Accelerated Introduction to Programming	3
CS 5123	Advanced Programming & Data Structures	3
CS 5153	Database Systems	3
CS 5223	Computer Architecture	3
CS 5243	Operating Systems	3
CS 5423	Mathematical Structures for Computer Science	3

Prerequisites include:

- Some knowledge of programming (equivalent to CSE 1301 – Programming & Problem Solving I; may be taken in addition to required courses if needed)
- Calculus

Applicants with satisfactory preparation in some transition topics may be allowed to substitute up to two approved 6000-level courses for the same number of required courses.

Graduate Certificate in Computer Science

The Graduate Certificate in Computer Science is intended for those with a bachelor's degree in Computer Science or a closely related field or with a bachelor's degree in another field with professional competence or knowledge equivalent to the Graduate Transition Certificate in Computer Science. The GRE is not required.

A Graduate Certificate in Computer Science student is required to take 6 courses from those offered in the MSCS, with some constraints. More specifically, the student needs to take three MSCS core (required) courses. The other three courses can be either from the core or those 6000-level electives available to MSCS students. There is no independent study or thesis option. From the 6 courses required for the certificate, at least 4 must have the CS prefix, at most 2 can have the SWE prefix, and at most 1 can have the IT prefix.

Construction Management

Offering:

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

The Master of Science program in Construction Management is designed to offer education in construction and project management to:

- Practicing U.S. and international professionals educated in related disciplines such as engineering, engineering technology, business or architecture, who desire more knowledge in the construction process
- Professionals educated in construction or construction management and who wish to pursue the subject in greater depth
- Persons holding a baccalaureate or higher degree who are actively pursuing a construction industry career but lack education in construction and project management

Program objectives are:

- To offer a degree oriented toward the practice of construction
- To deliver this graduate education in an evening and weekend setting
- To provide a program which will enhance graduates' management skills and advancement opportunities

Admissions

Admission to the Master of Science program with a major in Construction Management is open to persons holding the bachelor or higher degree from a regionally accredited college or university in:

- Engineering
- Engineering Technology
- Construction Management
- Construction Technology
- Architecture
- Management

In many cases, other degrees may be acceptable.

Preference in admission will be given to applicants having professional experience in a construction work environment. The admission procedure is competitive in that students will be admitted only if their academic accomplishments and work experience demonstrate that they can successfully complete the program.

Admission Procedure

Applicants for admission to the Master of Science program in Construction Management must submit the following to the Admissions Office:

- An application for admission to the program
- An official copy of scores from the General Test of the Graduate Record Examination (GRE) or scores from the Graduate Management Admissions Test (GMAT)
- An official transcript from each college the applicant has attended
- A certificate of immunization
- At least three recommendation forms which have been completed by supervisors, professors, or professional colleagues; one of which must be from the current supervisor

Students who are accepted into the CM graduate major must attend the mandatory orientation.

Admission Criteria

Applicants for admission to the Master of Science program in Construction Management must meet the following criteria:

Regular Admission:

- A GRE score of 850 or better on the General Test (verbal and quantitative) or a score of 500 on the GMAT
- An undergraduate GPA of 2.75 or better on a 4.00 scale

Provisional Admission: Applicants not meeting the minimum requirements will be considered for provisional admission based on an evaluation of

- Undergraduate GPA
- Professional industry experience
- GRE/GMAT scores

Commitment to graduate studies

In the event that any aspect of an applicant's application does not meet the required minimum, probationary acceptance may be granted by the Construction Management Department's Graduate Committee.

NOTE: Students who are admitted under provisional admission will be changed to regular admission by obtaining a GPA of 3.0 or better in the first three CM graduate courses.

Foundation Requirements:

In addition to the 36 required hours for the Masters degree, students may be required to demonstrate competency in the following:

- English Communication Skills (TCOM 2010)
- Construction Graphics (CM 2000)
- Construction Methods and Techniques (CM 3110 or CM 3160)
- Structural systems (CM 5030)
- Computer Application Skills in Construction Management (CM 3000)
- Construction Scheduling (CM 4510)
- Construction Estimating (CM 3410)
- Construction Accounting and Finance (CM 3620)

Courses (undergraduate or baccalaureate) taken to show competency in these areas **will not count toward the 36** hours required for the Graduate degree. Competency can be shown by:

- Successfully completing course-work
- Successfully completing competency testing developed by the Program

Required Core Courses (16 Hours)

CM 6000	Information Methods
CM 6100	Construction Law (or CM 61XX)
CM 6200	Strategic Bidding & Estimating
CM 6600	Risk Analysis & Control

Subtotal

Elective Courses (20 Hours)

CM 6110	Commercial Construction Transactions
CM 6120	Dispute Resolution
CM 6130	Case Studies in Construction
CM 6310	Advanced Scheduling & Integrated Controls
CM 6320	Construction Information Systems
CM 6330	Advanced Operations: VE +
CM 6410	Building Failures & Defective Work
CM 6420	Tall Buildings
CM 6430	Automation & Robotics
CM 6510	Marketing of Construction Services
CM 6520	International Construction
CM 6530	Construction Markets
CM 6540	The Construction Company
CM 6800	Construction Elective (Seminar)
CM 6901-4	CM Special Topics
CM 7701-4	Masters Project
CM 7801-4	Masters Thesis

Subtotal

Total

Construction Degree Option (select one of the options listed below)	20
Total For The Program	36

Elective Option

Select five construction elective courses (four credits each), up to two of which may be **approved** courses from another graduate department.

Thesis Option

- 4 Select two 4-hour construction elective courses at the 6000 level
- 4 12 hours of Masters thesis work:
 - 4 CM 7801
 - 4 CM 7802
 - 4 CM 7803

16

Project Option

Select five 4-hour construction elective courses at the 6000 level

- 4 Up to 3 of these courses may be replaced by project courses, CM 7701-7703
- 4 A grade of "C" or better is required for each course applied to the degree program
- 4
- 4 In all graduate programs, a minimum of a 3.0 G.P.A. is required.
- 4 No grades below 'C' may be applied to a graduate program's requirements, and a maximum of 2 'C' grades at the level of 6000 or above may be applied to a graduate program's requirements.
- 4

- 4 A cumulative 3.0 grade point average is required in all courses that apply to the degree.
- 4
- 4
- 4
- 4
- 4

20

36

Master of Science Program in Construction Management Degree Requirements

CM 6000	Information Methods	4
CM 6100	Construction Law: Contracts and Claims	4
CM 6200	Strategic Bidding and Estimating	4
CM 6600	Construction Risk Analysis and Control	4

Engineering Technology--Electrical

Offering the Master of Science Degree

Admission to the Master of Science program with a major in Engineering Technology, Electrical Concentration, is open to persons holding the bachelor or higher degree in engineering, engineering technology, or a related degree from an accredited college.

Preference in admission will be given to applicants having professional experience in a technical work environment. The admission procedure is competitive in that students will be admitted only if their academic accomplishments and work experience demonstrate that they can successfully complete the program.

Admission Procedure

Applicants for admission to the Master of Science program with a major in Engineering Technology, Electrical Concentration must submit the following to the Admissions Office no later than the semester deadline date before the beginning of the semester in which the applicant plans to enroll:

- An application for admission to the program,
- An official copy of scores from the "General Test" of the Graduate Record Examination,
- An official transcript from each college the applicant has attended,
- A certificate of immunization,
- A 1 – 2 page Statement of Purpose describing your career and educational goals,
- At least three recommendation forms which have been completed by former or current supervisors, professors, or professional colleagues.

International students should refer to the International Students sub-section for additional admission requirements.

Admission Criteria

Applicants should have an undergraduate degree in Electrical, Computer, or Telecommunications Engineering Technology or Electrical, Computer, or Telecommunications Engineering from an accredited college or university.

Applicants must have at least a 2.75 (on the 4.00 scale) undergraduate grade point average. Applicants must score a minimum of 500 on either the quantitative or analytic components of the General Test of the Graduate Record Examination (GRE).

Admission Status

The program coordinator in conjunction with the graduate admissions committee determines the student admission status.

Full Graduate Status students have met all the criteria shown above and have been judged acceptable by the graduate programs committee.

Post-Baccalaureate status is available to students who do not meet the admission criteria but who are NOT seeking a degree.

Provisional students are graduate students who have not met all the criteria shown above. They are limited to designated courses, either graduate or undergraduate, during which they will be

evaluated to determine their likelihood of success. Provisional students are not guaranteed full graduate status.

International Students

International applicants who do not possess a bachelor's degree from a college within the United States must submit the following additional information to the Admissions Office:

- An official transcript (translated into English) of college-level education,
- Official Course-by Course Equivalency of transcripts by an approved credentialing agency (such as WES),
- Score on the Test of English as a Foreign Language (TOEFL),
- An affidavit indicating financial security.

A minimum TOEFL score of 213 on the computer version, 550 on the paper version or 79 on the Internet version is required. International students on F-1 and J-1 visas must purchase medical insurance made available through Southern Polytechnic State University or provide proof of alternate coverage through a comparable policy.

International applicants applying from outside of the United States must submit all admissions documents, including Immunization Certificate, at least 60 days prior to the deadline dates.

Transfer Credit

Students may wish to transfer credit from other graduate programs in which they have been enrolled. Transfer credit is limited to one 3 or 4 credit course subject to the discretion of the head of the academic program where the program resides. Students may apply for transfer credit if:

- The student was enrolled as a graduate student,
- The course is completed with a grade of "B" or better,
- The course was not used toward a degree,
- The course is equivalent to one offered in a Master of Science program at Southern Polytechnic State University,
- The course is appropriate to the students program of study,
- The course credit was earned within the last five years.

Post-Baccalaureate Students

Persons holding a recognized bachelor's degree may be admitted as post-baccalaureate students if they are interested in taking additional classes for personal growth or professional development but not involving a new degree objective. Such students must meet all course prerequisites for enrollment in undergraduate or graduate courses.

To apply for post-baccalaureate status, the student must submit to the Admissions office:

- An *undergraduate* application form along with a \$20 non-refundable application processing fee (check made payable to Southern Polytechnic State University),
- Two official transcripts showing completion of a bachelor's degree from a recognized institution of higher education,
- The certificate of immunization.

If a student in this category chooses to later apply for degree-seeking status, the student must follow the regular Master's program admission procedure. Following regular program admission, graduate credit earned in the non-degree-seeking category may be counted only with the

permission of the program where the degree is housed. Ordinarily, no more than 8 hours of graduate course-work completed in this provisional status may be applied to the degree.

Engineering Technology--Electrical Concentration

The scope of electrical engineering technology has become very broad as the knowledge base and applications associated with this discipline continue to expand at an accelerating pace.

The Master of Science degree is offered to meet the needs of individuals who wish to pursue advanced studies in modern electrical, electronic or computer technologies in order to fulfill their personal or career goals.

There are four principal objectives to the graduate program in Engineering Technology:

- To provide continuing in-depth technical education to individuals who hold an ABET-accredited baccalaureate degree in Electrical or Computer Engineering or Engineering Technology.
- To provide advanced studies in electrical, electronic or computer technologies to help individuals advance in their chosen careers. These individuals may work as engineers, engineer/technologists, technical managers, independent consultants, or in similar professions.
- To provide additional technical education to those individuals who desire to teach at the college, technical school, or high school level.
- To provide an opportunity for practicing professionals, who possess an accredited baccalaureate degree in a related discipline, to shift their career path into the electrical, electronic or computer fields.

Each graduate student will pursue an individualized course of study within the guidelines of one of the programs listed below. The student and his/her academic advisor will identify the graduate courses that will comprise that student's course of study. The courses will be chosen to:

- Meet the student's career goals
- Provide a high-quality educational experience for that student
- Satisfy the requirements of one of the programs

Master of Science Program in Engineering Technology – Electrical Concentration Degree Requirements

Project-Based Program

Select a minimum of 34 credit hours of courses including:

- At least 22 credit hours must be graduate-level ECET courses.
- One of the ECET courses must be ECET 6704: Project Proposal (4 credit hours).
- One of the ECET courses must be ECET 7704: Project (4 credit hours).
- Up to two courses and a maximum of 8 credit hours can be free electives. These courses must be at the graduate level and may be from any department, with the exception that one 4000-level mathematics course can be used as a free elective. Transfer credit for a 4000-level mathematics free

elective is not accepted. Advisor consent is required for your selection of free electives.

Research-Based Program

Select a minimum of 34 credit hours of courses including:

- At least 26 credit hours must be graduate-level ECET courses.
- One of the ECET courses must be ECET 7504: Research (4 credit hours).
- Up to two courses and a maximum of 8 credit hours can be free electives. These courses must be at the graduate level and may be from any department, with the exception that one 4000-level mathematics course can be used as a free elective. Transfer credit for a 4000-level mathematics free elective is not accepted. Advisor consent is required for your selection of free electives.

A grade of "C" or better is required for each course within the student's graduate program and it is required that each student maintain a cumulative grade point average of 3.00 or higher in order to graduate.

In all graduate programs, a minimum of a 3.0 G.P.A. is required. No grades below 'C' may be applied to a graduate program's requirements, and a maximum of 2 'C' grades at the level of 6000 or above may be applied to a graduate program's requirements.

Graduate Programs in Information Design and Communication

The MS program in Information Design and Communication has been developed in response to a growing need for professionals in the expanding field of information design, information architecture, content development, communications management, and visual communication.

The basic objectives of the program are

- To educate those persons with diverse academic and work backgrounds who seek to begin their careers in the field of information design and communication, and
- To provide a useful credential for current information designers and technical communicators who need advanced training to move ahead in their careers, either as employees or managers of a company or as independent consultants.

The Information Design and Communication program offers students a MS Degree with the choice of three program options – an Internship Option, a Thesis Option, and an all Course Work Option. A graduate certificate in Technical Communication, and four advanced certificates in User Experience, Communication Management, Visual Communication, and User Experience.

Master of Science Program in Information Design and Communication Requirements

Admission Requirements for the Graduate Certificate in Technical Communication, the Master of Science in Information Design and Communication, and Advanced Certificates in Technical Communication:

Applicants admitted into the MS in Information Design and Communication degree program, the Technical Communication Certificate program, or the Advanced Certificate program must demonstrate strong written communication skills, a solid academic record, a good understanding of how their career goals fit within the field of technical communication, and a clear potential to contribute to the profession. All degree and certificate applicants must complete the following in order to be considered for admission:

- Completed application, including a \$50 non-refundable application fee.
- One official transcript from each college attended. These must be in sealed envelopes sent directly from the school.
- Students with a GPA less than 2.75 will be required to take IDC 5001 and IDC 5002, as preconditions for acceptance into the program. A "B" or better will be required in both courses for full admission to the Graduate Program (MS or Certificate)
- Immunization certification or immunization waiver.
- Professional resume showing current and past work experience.

In addition, students must submit the following materials depending on their program:

Graduate Certificate in Technical Communication

- An application essay focusing on why the applicant has chosen an online learning environment for a graduate certificate in Technical Communication. The essay should also include a list of elective courses the applicant is most interested in taking and why these courses support the applicant's professional/academic goals. The essay should be at least 250 words.
- A timed essay. Contact the Program Assistant, Donna McPherson, tcom@spsu.edu, to schedule a day and time to write the essay. The essay topic and instructions will be sent via email, on the day scheduled. The applicant is responsible for timing the essay and sending an electronic copy back to the Department within two hours of beginning the essay.
- A signed Memorandum of Understanding stipulating that you understand that successful completion of the certificate program is not a guarantee of admission to the master's program.

The Master of Science in Information Design and Communication

- GRE scores (Test scores may be waived, if an applicant has 2 or more years of relevant work experience. An applicant may submit, to the ETCMA Graduate Review Committee, a portfolio of work, along with appropriate descriptions and narrative justification of the relevancy of the work experience to the candidate's suitability for graduate degree study. ie.: explanation of audience, purpose of each of the samples, and the applicant's role in creating them.)
- An essay focusing on why the applicant has chosen an online learning environment for an MS degree in Information Design and Communication, essay should also include which area of study an applicant is interested in pursuing and a list of elective courses the applicant is most interested in taking and why these courses support the applicant's professional/academic goals. (essay should be at least 500 words). NOTE: indicating an area of interest does not lock a student into a commitment for that specific area. The student can change his/her mind.
- A timed essay. Contact the Program Assistant, Donna McPherson, tcom@spsu.edu, to schedule a day and time to write the essay. The essay topic and instructions will be sent via email, on the day scheduled. The applicant is responsible for timing the essay and sending an electronic copy back to the Department within two hours of beginning the essay.

NOTE: GRE scores are used as one of several measures in determining admissions into the MS IDC program. While the department does not set a specific cut-off score, successful candidates would likely score 153 for Verbal Reasoning, 144 for Quantitative Reasoning, and a 4 on the writing component.

Advanced Certificates in Technical Communication Admission requirements:

- A graduate certificate or master's degree in technical communication or related field from SPSU or another university.

- A portfolio reflective of your work with a description of the audience, purpose, and your role in creating each product.
- An application essay focusing on career goals and explaining how the Advanced Certificate program will help the applicant meet these goals.

MSIDC students are required to take the following courses:

IDC 6001	Professional Practices of Communication	3
IDC 6002	Information Design	3
IDC 6030	Visual Design Strategy	3
IDC 6004	Research Methods	3
IDC 6110	Communications Project Management	3
IDC Electives	Select 7 elective courses with an IDC prefix	15
IDC Option	(Select one of the options listed below)	6

Total For The Program 36

Internship Option

Internship (IDC 7601-7603)

While taking the internship, students may enroll in a maximum of 9 hours per semester:

3 hours of internship plus two courses or 6 hours of internship plus one course.

Thesis Option

Thesis (IDC 7801-7803, six-hour minimum)

When taking the thesis, students may enroll in a maximum of 9 hours per semester--to include no more than 3 hours of thesis per semester.

All Coursework Option

Select an additional 2 elective courses (6 hours) with an IDC prefix.

NOTE: Either IDC 6001 or IDC 6030 must be taken the first semester of work in the program. IDC 6002 should be taken as soon as possible after completing IDC 6001 and IDC 6030.

Elective Courses for IDC Options

IDC 6005	Visual Thinking	3
IDC 6010	Writing Across Media	3
IDC 6035	Information Graphics	3
IDC 6042	Applied Digital Graphics	3
IDC 6045	Foundations of Multimedia	3
IDC 6050	Applied Multimedia	3
IDC 6060	International Technical Communication	3
IDC 6071	User Assistance	3
IDC 6080	Professional Oral Presentations	3
IDC 6090	Medical Communication	3
IDC 6120	Usability Testing	3
IDC 6135	Website Design	3
IDC 6140	Instructional Systems Design	3
IDC 6155	Online Instructional Development	3
IDC 6145	Performance Technology	3
IDC 6150	Marketing Communication	3

IDC 6160	Rhetoric: History, Theory, and Practice	3
IDC 6175	Digital Rhetoric	3
IDC 6180	Information Architecture	3
IDC 6210	Business Analysis	3
IDC 6220	Mobile User Experience	3
IDC 6240	Content Strategy	3
IDC 6901-6903	Special Topics	1-3
IDC 7501-7503	Independent Study	1-3

Graduate students may take up to 9 hours outside of the program with prior approval from both the Graduate Coordinator and the Department Chair.

NOTE: A grade of "B" or better is required in all courses that are applied to graduation (with the exception of the internship and thesis, which require an "S").

Online Graduate Certificate in Technical Communication

Graduate Certificate in Technical Communication

The Graduate Certificate in Technical Communication is an online program that prepare students for a variety of positions in technical communication. They also help current technical communicators and information developers update and expand their knowledge and skills, enabling them to move ahead in their profession.

Admissions criteria for the basic online certificate is the same as for the master's degree program, except that certificate applicants are not required to take the GRE. Certificate students take the following three required courses:

IDC 6001	Professional Practices of Communication
IDC 6002	Information Design
IDC 6030	Visual Design Strategy

Certificate students then take 3 other courses offered online in any given semester(s).

Students completing the basic certificate program may apply for admission to the master's program without taking the GRE. They will need to submit a portfolio of work completed in the certificate program, which will be reviewed by the admissions committee. Completing the basic certificate program does not guarantee admission to the program. Graduates of the basic certificate program who are accepted into the master's program may count the six courses they have completed (18 credits) toward the MS degree.

Students in the basic certificate program who decide to apply for admission to the graduate program before completing the basic certificate will need to take the GRE. If they are admitted to the master's program, a maximum of 3 basic certificate courses will be counted toward the degree.

For questions about the certificate program, contact the English, Technical Communication, and Media Arts Department. The number is 678-915-7202; or write to TCOM@spsu.edu. Visit the web site at <http://idc.spsu.edu> for more information.

Online Advanced Certificates (with specializations)

If you have a master's degree in technical/professional communication or if you've already earned our Graduate Certificate in Technical Communication, you may want to increase your knowledge and skills beyond the basics. An Advanced Certificate is the way you can stay current in your field or add another area of specialization to your qualifications.

To earn an Advanced Certificate with a specialization, you'll take 6 courses; the required courses are listed below.

Visual Communication:

IDC 6005—Visual Thinking
IDC 6035—Information Graphics
IDC 6042—Applied Digital Graphics
IDC 6045—Multimedia
IDC 6135—Website Design

The remaining course can be selected from any of our offerings.

Content Strategy:

IDC 6010—Writing Across Media
IDC 6060—Strategies for Global Communication
IDC 6090—Medical Communication
IDC 6150—Marketing Communication
IDC 6175—Digital Rhetoric
IDC 6240—Content Strategy

Certificate can be completed by either taking all 6 courses listed or take 5 of the 6 courses listed and select a course from any of our offerings.

Instructional Design:

IDC 6035—Information Graphics
IDC 6135—Website Design
IDC 6140—Instructional Systems Design
IDC 6145—Performance Technology
IDC 6155—Online Instructional Development

The remaining course can be selected from any of our offerings

Communications Management:

IDC 6110—Communication Project Management
IDC 6210—Business Analysis
MGNT 6001—Managerial Communications
MGNT 6025—Managing Professionals

The remaining courses can be selected from either IDC or MGNT.

User Experience:

IDC 6120—Usability Testing
IDC 6135—Website Design
IDC 6180—Information Architecture
IDC 6220—Mobile User Experience
IDC 6210—Business Analysis

The remaining course can be selected from any of our offerings.

For questions about the advanced certificate programs, contact the English, Technical Communication, and Media Arts Department. The number is 678-915-7202; or write to TCOM@spsu.edu. Visit the web site at <http://idc.spsu.edu> for more information.

Required Technology and Software for Online MSIDC/MSIID Degrees and TCOM Certificates

Desktop publishing software (MS Word, Publisher, Pagemaker, InDesign, Framemaker, etc.) NOTE: MS Word is NOT a fully developed desktop publishing program, and if you choose to use it, please understand the faculty advises you to take this opportunity to learn a "real" desktop publishing program like InDesign. Students needing assistance in learning how to use design tools are encouraged to take IDC 5002 Graphics in Profession.

Raster-based image editing application (PhotoDeluxe, Photoshop Elements, Photoshop, etc.) Software for creating PDF files (Adobe Acrobat) This software allows you to create PDFs. You may already have this software on your computer. If you have Photoshop CS5 or CS6, then you have the capability of creating PDF files from Photoshop. However, you may need to create PDFs from MS Word.

Digital Scanner

D2L

**Access to VISTA (which is available through your student email account)
Internet access with high-speed connection Caution: a dial-up connection is not suitable.**

Your computer (hardware)

Mac or PC, it doesn't matter what your preferred computer is, but it will need to meet our standards as outlined in your admissions materials. You may be wondering why this is so important.

First, working online with D2L will take processing power. You'll have difficulty doing your work if your computer isn't up to par. It's

very frustrating to work in an online environment with an inadequate computer—everything you do will feel like it's taking forever. One way to succeed in your studies is to make sure your computer isn't slowing you down.

Next, some of the software we use in the IDC program can be processor intensive; drawing and design programs, in particular, use a lot of processing power. Even adding recorded narration or special effects to a slide presentation can overwhelm an older computer.

Adding RAM or purchasing a bigger hard drive might be all you need to be ready to start coursework. Please make sure your equipment is up to the task before the semester begins.

Internet connections

You'll need a reliable Internet connection to access D2L and complete your coursework. A dial-up connection is not suitable for the IDC program. You should also be wary of free wireless offered by coffee shops and other retailers. Many free wireless hotspots don't have the network stability or speed to work well with GeorgiaVIEW. That's especially true if you take classes that use live video streaming sessions with Wimba. It's best if you have a high-speed connection setup at home via your cable or phone provider.

Many of our students are able to use their employer's network to access D2L. You should keep in mind that IDC courses are challenging—they'll take a lot of your time. If your office is far from your home or not open on weekends, you'll find it hard to work effectively. We strongly recommend you have good access at home.

Students completing the basic certificate program may apply for admission to the master's program without taking the GRE. They will need to submit a portfolio of work completed in the certificate program, which will be reviewed by the admissions committee. Completing the basic certificate program does not guarantee admission to the program. Graduates of the basic certificate program who are accepted into the master's program may count the six courses they have completed (18 credits) toward the MS degree.

Students in the basic certificate program who decide to apply for admission to the graduate program before completing the basic certificate will need to take the GRE. If they are admitted to the master's program, a maximum of 3 basic certificate courses will be counted toward the degree.

For questions about the certificate program, contact the English, Technical Communication, and Media Arts Department. The number is 678-915-7202; or write to TCOM@spsu.edu. Visit the

web site at <http://idc.spsu.edu> <http://idc.spsu.edu> for more information.

Information Technology

Offering the Master of Science Degree

The Master of Science in Information Technology (MSIT) program is designed for those students interested in pursuing a career as a senior information technology (IT) professional who can apply accepted standards and best practices to effectively plan, design, implement and manage the various aspects of an IT organization. Although no specific undergraduate major is required, applicants must have a baccalaureate degree from an accredited school. Students will be evaluated on an individual basis and will be admitted only if their academic accomplishments, recommendations, and motivation predict the ability to complete the program successfully.

Admission Procedure

Applicants for admission to the Master of Science program in Information Technology should submit the following to the Admissions Office:

- An application for admission to the program
- An official transcript from each college the applicant has attended
- A certificate of immunization
- A statement of purpose in seeking this degree
- Three recommendation letters completed by former or current supervisors, professors, or professional colleagues.

International students should refer to the International Students section for additional admission requirements.

To be fully admitted to the MSIT requires a) a baccalaureate degree from an accredited college or university, b) an overall GPA of at least 2.75 on a 4.0 scale.

If the Undergraduate GPA is less than 2.75 (out of a possible 4.0), the IT Department Chair may waive the requirement for a 2.75 GPA for an individual applicant, and optionally provisionally admit the applicant.

If the Undergraduate degree is outside of IT or a closely related discipline to IT, the student is required to complete six transition courses: IT 5101, IT 5102, IT 5200, IT 5201, IT 5303 and IT 5302. Students may obtain exemption from the transition courses by a qualifying exam before registration. A provisional admission might be offered while these are being completed.

Master of Science Program in Information Technology Degree Requirements

Required Core	All five courses are required	15
IT 6203	IT Design Studio	3
IT 6413	IT Service Delivery	3
IT 6423	IT System Acquisition and Integration	3
	Information Security Concepts and Administration	3
IT 6823		3
IT 7833	IT Strategy, Policy and Governance	3

Elective Courses	ONE of the courses marked with ** is REQUIRED.	21
IT 6103	IT and the Law	3
IT 6473	Multimedia Applications	3
IT 6503	Foundations of HIT	3
IT 6513	EHR Systems	3
IT 6523	Clinical Processes and Workflows	3
IT 6533	Health Info. Security and Privacy	3
IT 6583	Business Cont. Planning & Implem.	3
IT 6643	Issues in Information Management	3
IT 6663	Data Center Management	3
IT 6683	Management of Information Technology	3
** IT 6723	Managing Operating & Network Sys.	3
** IT 6733	Database Administration	3
** IT 6753	Advanced Web Development	3
IT 6763	Electronic Commerce	3
IT 6833	Wireless Security	3
IT 6843	Ethical Hacking: Network Security and Penetration Testing	3
IT 6853	Computer Forensics	3
IT 6863	Database Security and Auditing	3
**IT 6873	Information Security Seminar	3
CSE 6983	CSE Graduate Internship	3
IT 6903	Special Topics in Information Technology	3
IT 7803	Master's Thesis (Term 1)	3
IT 7803	Master's Thesis (Term 2)	3

Total For The Program 36

A maximum of 3 APPROVED electives might be outside of IT.

Transition Courses

The following transition courses might be required if the Undergraduate degree is outside of IT or a closely related discipline to IT, or for provisionally admitted students. Specific assignment of the transition courses is completed during orientation and advisement. Students with no background in IT or computing might benefit from self-study prior to starting this certificate using a reading list available from the IT Department. These courses may not be used to satisfy degree requirements.

IT 5101	Intro. to Database Systems	1.5
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IT 5102	Intro. to Security	1.5
IT 5200	Intro. to Platforms	1.5
IT 5201	Intro. to Networks	1.5
IT 5303	Intro. to Programming and Software Development.	3
IT 5302	Intro. to Web Development	1.5

Graduate Certificate in Health Information Technology

The Graduate Certificate in Health Information Technology prepares individuals who hold an accredited bachelor's degree and have taken the Graduate Transition Certificate in Information Technology (or the equivalent through other course work) to advance their knowledge in the field of health information technology.

There are five required courses.

Required Courses (15 Hours):

IT 6423	IT Systems Acquisition and Integration	3
IT 6503	Foundations of Health Information Technology	3
IT 6513	EHR Systems	3
IT 6523	Clinical Processes and Workflows: Analysis and Design	3
IT 6533	Health Information Security and Privacy	3

Graduate Certificate in Information Technology Fundamentals

The Graduate Transition Certificate in Information Technology prepares individuals who have an accredited bachelor's degree unrelated to information technology and who have an interest in either:

- Transitioning to a Master's program in Information Technology
- Or in obtaining an entry-level position in industry

Students with no background in IT or computing might benefit from self-study prior to starting this certificate using a reading list available from the IT Department. These courses may not be used to satisfy MSIT degree requirements.

Required Courses (10.5 Hours):

IT 5101	Intro to Database Systems	1.5
IT 5102	Intro. to Security	1.5
IT 5200	Intro. to Platforms	1.5
IT 5201	Intro. to Networks	1.5
IT 5303	Intro to Programming and Software Development	3
IT 5302	Intro. to Web Development	1.5

Graduate Certificate in Information Technology

The Graduate Certificate in Information Technology prepares individuals who hold an accredited bachelor's degree and have taken the Graduate Transition Certificate in Information Technology (or the equivalent through other course work) to advance their knowledge in the field of information technology.

Required Courses:		
IT 6203	IT Design Studio	3
IT 6423	IT System Acquisition and Integration	3
IT 6413	IT Service Delivery	3
IT 7833	IT Policy, Strategy and Governance	3
IT Electives		
Select 2 from the following list:		6
IT 6733	Database Administration	3
IT 6753	Advanced Web Development	3
IT 6823	Information Security Concepts and Administration	3
Total For Certificate:		18

Graduate Certificate in Information Security and Assurance

The Graduate Certificate in Information Security and Assurance (ISA) Program is designed for IT professionals who have a bachelor's degree and have taken the Graduate Transition Certificate in Information Technology (or the equivalent through other course work) to advance their knowledge in the field of information security and assurance.

Students graduating with this program will have a strong background in fundamental principles and applications of computer security and information assurance, as well as hands-on experience with security tools commonly used in industry.

Candidates must complete the two core courses in Information Security and Assurance and two elective courses for a total of 12 credits.

Required Courses (6 Hours):

IT 6823	Information Security Concepts and Administration	3
IT 6873	Information Security Seminar	3

Elective Courses (6 Hours, choose 2 from the following list):

IT 6833	Wireless Security	3
IT 6853	Computer Forensics	3
IT 6843	Ethical Hacking: Network Security & Penetration Testing	3
IT 6863	Database Security & Auditing	3
IT 6903	Special Topics in Information Security	3

Quality Assurance

Offering a Master of Science in Quality Assurance

Southern Polytechnic State University has been offering its Master of Science in Quality Assurance Degree since 1992. In 1997, SPSU began offering the same graduate level college degree online using distance learning technology. In 2005, the program converted to 100% online delivery. Many students from around the world have earned a graduate degree from our nationally recognized program using the computer in their home or office.

The Masters Program in Quality Assurance is offered by the Industrial Engineering Technology Department in order to meet an established need in both manufacturing and service industries. The program focuses on total quality management and on analytical methods such as statistics, process, analysis, and problem solving techniques. A primary objective of the degree is to provide graduate level study opportunity to individuals who are currently practicing in the quality and related fields so that they may be aware of recent advances and modern practice.

Our courses deal with Quality topics in depth, stressing theory and the assumptions behind the techniques. That is what separates our education approach from certification training seminars. Our graduates know the details behind techniques, allowing them to know what to do when assumptions are violated (which happens a lot in the real world), and helping them to evaluate the relative merits of "new" quality tools. A lot of what is touted as new is just a repackaging of tried and true methods, with maybe a novel twist.

Admission Requirements for MSQA:

At least a 2.75 (on the 4.00 scale) undergraduate grade point average

An undergraduate degree from an accredited college or university in: Engineering, Engineering Technology, Business, Social Science, Physical Sciences or Education. Other technical and non-technical majors may be acceptable

Admissions Procedure for MSQA:

Applicants for admission to the Master of Science Program with a major in Quality Assurance must submit the following to the Graduate Admissions Office in accordance with the deadlines outlined on the Graduate Admissions Web site.

- An application for admission to the program
- One official transcript from each college the applicant has attended
- A certificate of immunization (distance learning waiver section signed)
- A statement of purpose in seeking this degree
- At least three recommendation forms which have been completed by former or current supervisors, professors, or professional colleagues

International students should refer to the International Students sub-section for additional admission requirements.

*The Faculty:
Thomas R. Ball Department Chair*

Ruston M. Hunt Professor and Dean of Extended University
Kenneth W. Jackson Associate Professor
Christina R. Scherrer Associate Professor
William Bailey Part Time Faculty
Sandra Furterer Part Time Faculty
Diala Gammoh Part Time Faculty
Gamze Tokol-Goldsman Part Time Faculty
Ethling Hernandez Part Time Faculty

Degree Requirements for the Master of Science program in Quality Assurance

Required Core Courses (Six Courses)

QA 6602	Total Quality	3
QA 6610	Statistics for Quality Assurance	3
QA 6611	Statistical Process Control	3
QA 6613	Linear Regression Analysis	3
QA 6650	Quality Systems Design	3
QA 7403	Graduate Seminar	3
SYE 6010	Project Management	3
	Total Required Hours	21

Elective Courses (Students choose 5 courses)

QA 6600	Methods of Analysis	3
QA 6612	Design of Experiments	3
QA 6615	Applied Systems Reliability	3
QA 6620	Inspection Systems Design	3
QA 6640	Quality Cost & Supplier Evaluation	3
QA 6660	Six Sigma Black Belt Concepts	3
QA 6712	Quality Systems Simulation	3
QA 6722	Human Factors in Quality Assurance	3
QA 6725	Quality Assessment-Organization	3
QA 6763	Software Quality	3
	Total Elective Hours	15

Total Degree Program Hours 36

Grades

1. A grade of "C" or better is required for each course.
2. Graduate students must maintain a 3.0 grade point average to be in good standing. Should a student drop below the minimum level of 3.0 for any semester, the student is placed on academic probation. A student whose cumulative grade point average remains below 3.0 for two or more consecutive terms of enrollment, but whose term average is 3.0 or higher, may continue enrollment on probation. However, if a student on probation fails to achieve a term grade point average of at least 3.00 the student will be placed on dismissal.

In all graduate programs, a minimum of a 3.0 G.P.A. is required. No grades below 'C' may be applied to a graduate program's requirements, and a maximum of 2 'C' grades at the level of 6000 or above may be applied to a graduate program's requirements.

Students with an insufficient undergraduate statistics background may be asked to complete QA 5000, Statistical Concepts in Quality Assurance before beginning the statistical requirements.

Graduate Green Belt Certificate

The Department also offers a Graduate Green Belt Certificate for those individuals with an undergraduate degree from an accredited institution. Course work completed in the certificate program will be credited to the student's official transcript as regular academic course work counting for graduate credit. Admission in the Certificate program does not in any way qualify a student for admission to a graduate program. Should a certificate seeking student decide to apply to the MSQA program, that student would need to apply as outlined above. It should be noted that no more than nine semester hours can be transferred into any SPSU graduate program including those taken as a certificate student.

Admission Requirements for the Graduate Green Belt Certificate

At least a 2.75 (on the 4.00 scale) undergraduate grade point average
 Undergraduate degree from an accredited college or university in: Engineering, Engineering Technology, Business, Social Science, Physical Sciences or Education. Other technical and non-technical majors may be acceptable

Admissions Procedure for the Graduate Green Belt Certificate:

Applicants for the Certificate Program must submit the following to the Graduate Admissions Office in accordance with the deadlines outlined on the Graduate Admissions Web site.

- An application for admission to the program
- One official transcript from each college the applicant has attended
- A certificate of immunization (distance learning waiver section signed)
- A statement of purpose in seeking this degree

No letters of recommendation are required for the Certificate Program.

Course work completed in the certificate program will be entered on the student's official transcript as regular academic course work counting for graduate credit.

Students with an insufficient undergraduate statistics background may be asked to complete QA 5000, Statistical Concepts in Quality Assurance before beginning the statistical requirements of the certificate.

Certificate Requirements for the Graduate Green Belt in Quality Assurance

Graduate Degree Programs

QA 6602	Total Quality	3
QA 6610	Statistics for Quality Assurance	3
QA 6611	Statistical Process Control	3
QA 6650	Quality Systems Design	3
	Total Required Hours	12

In addition, students must pass a Green Belt qualifying exam at the end of their course work to earn the Graduate Green Belt Certificate.

Note: A grade of "C" or better is required for each course

Software Engineering

Offering the Master of Science Degree

Software engineering is a strategy for designing and developing high-quality software systems that meet the needs of the user in an efficient and predictable manner. Software engineers apply the principles of computer science and mathematical analysis to solve the problems and complex issues associated with developing and maintaining software systems to meet the needs of business and industry. It uses the life-cycle concept from traditional engineering with an emphasis on requirements, design, testing, development and evaluation but calls on the focused application of computer science concepts rather than those of traditional engineering.

Software engineering represents the fastest growing segment of software professionals, and the U.S. Bureau of Labor Statistics cites in its Occupational Outlook Handbook for 2008-2009 that software engineer is expected to be among the fastest-growing occupations in the decade from 2006 to 2016 with an increase in employment by 38 percent. In a survey taken by Money Magazine in May 2007, software engineer was ranked the best job in America.

The Master of Science in Software Engineering Program is designed both for full-time students and for working professionals who want to earn a professional degree part-time in the evening. We are also offering an increasing number of courses online, and it will be possible to complete the degree fully online. Students must have at least a bachelor's degree to apply.

The program is primarily designed to prepare students for leadership positions in the software and computing related industry in two to five years horizon after graduation. These leadership positions may be in one or more of the following areas

- 1. Project and Process Management***
- 2. Business and Requirements Analysis***
- 3. Applications and Systems Design***
- 4. Applications Implementation and Development***
- 5. Testing and Quality Management***
- 6. Systems Maintenance and Support Services***

At least some of the graduates of the Software Engineering Graduate program are also prepared to further their graduate education. Examples of further degrees that the graduates are prepared for are a doctoral education in a computing related field, an MBA with IT or IS track, or a Law degree with Intellectual Property concentration in software and computing.

In order to prepare students for these careers, students will, at the time that they graduate from the program, be able to

- 1. Apply basic knowledge of discrete mathematics and formal methods in the modeling and analysis of software systems***
- 2. Apply quality principles and quantitative analysis to the definition and evaluation of software systems and processes.***
- 3. Independently explore new topics in software engineering or related application domains and effectively present the research in written and oral reports.***

4. Work effectively as a part of a team, including teams that may be geographically distributed, to develop a software system and to lead in one area of project development, such as project management, requirements analysis, architecture, construction, or quality assurance.

5. Perform the major project and process management activities

If you are interested in finding out more about our MS in Software Engineering, please contact the Chair of the Department of Computer Science and Software Engineering, Dr Venu Dasigi, vdasigi@spsu.edu or the program coordinator for the MSSWE, Dr. Sheryl Duggins, sduggins@spsu.edu.

The Master of Science in Software Engineering program at Southern Polytechnic State University has the primary objective of meeting the high demand for a professional degree in Software Engineering, and our classes are conveniently offered in the evenings and online to accommodate the needs of the working professional. Although no specific undergraduate major is required, applicants must have a baccalaureate degree from an accredited school. A transition path is available for students with backgrounds in areas outside software engineering or computer science.

Thirty-six hours of course work are required for successful completion of the MS in Software Engineering program. Students who do not have a degree in Computer Science, Software Engineering, or a closely related field are accepted provisionally into the program, and must complete a series of prerequisite courses in addition to the 36-hour requirement.

A graduate certificate is also available to students with a bachelor's degree in software engineering, computer science or a closely related field who wish to advance into leadership positions in software engineering. Participants typically enroll in two classes per semester for three semesters. Eighteen hours of course work are required for successful completion of the graduate certificate in software engineering.

In all graduate programs, a minimum of a 3.0 G.P.A. is required. Only grades of 'C' or better may be applied to meet the degree requirements (including transition course work). An overall GPA of 3.0 ("B") or better is required over all graduate course work attempted. A maximum of 2 'C's at the level of 6000 or above may be applied if offset by the same number or more of 'A's at the level of 6000 or above.

Admission Procedure

Applicants for admission to the Master of Science program in Software Engineering should submit the following to the Graduate Admissions Office:

An application for admission to the program

A transcript from each college the applicant has attended

A certificate of immunization

A statement of purpose in seeking this degree,

Three recommendation forms completed by former or current supervisors, professors, or professional colleagues, and

Optionally: An official copy of scores from the "General Test" of the Graduate Record Examination (GRE).

Graduate Degree Programs

Submission of the GRE score is strongly recommended to international applicants and should be considered by all applicants to strengthen the application packet. The applicant may be required to submit the GRE score after an initial review, which could delay the decision process.

International students should refer to the International Students sub-section for additional admission requirements.

Master of Science Program in Software Engineering Degree Requirements

SWE 6633	Software Project Planning and Management	3
SWE 6613	Requirements Engineering	3
SWE 6733	Software Engineering Process	3
SWE 6653	Software Architecture	3
SWE 6743	Object-Oriented Analysis and Design	3
SWE 6673	Software Quality Engineering and Assurance	3
SWE 6883	Formal Methods in Software Engineering	3
Select one of the options listed below:		15
Total For The Program		36

Project Option (15 hours)

12 hours of electives: Choose 6000-level Software Engineering, Computer Science, Information Technology, or

System Engineering courses (at least 2 SWE and at most 2 CS, IT, or SE) **and**

SWE 7903 Software Engineering Capstone

Electives	12 hours of 6000-level SWE, CS, IT or SE courses	12
SWE 7903	Software Engineering Capstone (Project)	3

Thesis Option

9 hours of electives (Choose 600-Level SWE, CS, IT, or SE courses (at least 2 SWE)) and

SWE 7803 Master's Thesis

Electives	9 hours of 6000-level SWE, CS, IT or SE courses	9
SWE 7803	Masters Thesis	6

**** Note that a maximum of 9 total semester hours of "approved" transfer credit may be counted toward the MSSWE degree.**

Transition Courses

Some of the following transition courses may be required for provisional acceptance students. These courses may not be used to satisfy degree requirements.

SWE 6623	Software Engineering	3
CS 5003	Accelerated Introduction to Programming	3
CS 5011	Fundamentals of Computer Architecture	1.5
CS 5021	Fundamentals of Operating Systems	1.5
CS 5031	Fundamentals of Database Systems	1.5
CS 5123	Advanced Programming and Data Structures	3
CS 5423	Discrete Mathematics	3
CSE 1301	Programming and Problem Solving I	4

The required prerequisite courses are listed on the student's provisional acceptance letter and are required to make up deficiencies in the student's academic background. Upon completion of the prerequisite courses **with a grade of "B" or better**, the student will be fully admitted into the MSSWE program and be eligible to register for regular Masters (6000 level) coursework. None of the prerequisite courses (5000 level) will count towards the Masters Program. ***This program is available in the traditional face-to-face format, and most courses are currently available online. The entire program is being developed for fully online delivery.***

Graduate Certificate in Software Engineering

The Graduate Certificate in Software Engineering prepares practitioners for leadership positions in software engineering. The focus is on sharpening capabilities to function effectively in software engineering teams producing higher quality software. ***This program is available in the traditional face-to-face format as well as fully online.***

Applicants should have:

- A bachelor's degree in Software Engineering, Computer Science, or a closely related field (or a bachelor's degree with professional competence and knowledge equivalent to a Computer Science degree)

Graduate Software Engineering Certificate Program Admission Requirements

Applicants must have earned a baccalaureate degree from an accredited college. Students applying for any of the graduate certificate programs must submit the following to the Admissions Office prior to the registration term:

- An application for graduate certificate program admission, along with a \$20 nonrefundable application processing fee (check made payable to Southern Polytechnic State University),
- An official college transcript showing degree earned date, and
- The certificate of immunization

The coursework includes 6 courses: 3 required and 3 electives.

SWE 6623	Software Engineering	3
SWE 6633	Software Project Planning and Management	3
SWE 6743	Object-Oriented Analysis and Design	3

Electives: Select 3 6000-level graduate classes in SWE or CS; at least ONE of them must be in SWE

9

Systems Engineering

Offering the Master of Science Degree

The Systems Engineering program is a multidisciplinary program that blends engineering, systems thinking, and management topics. The increasing complexity of systems, the growth of global competitiveness, the enhanced focus on cost and profitability, and ever more challenging customer expectations have led a number of premiere organizations in the defense and commercial sectors to assume the role of system integrators. These organizations are increasingly adopting an evolving business model that emphasizes the selling of functionality, solutions, or capabilities, instead of focusing on providing systems, system elements, and products.

The System Engineering Program is housed in the Division of Engineering. The program offers a Master of Science degree with a major in Systems Engineering and a Graduate Certificate in Systems Engineering. The curriculum emphasizes the development of large-scale, complex, and multifunctional systems in a number of domains. Core courses in the SyE Program have a strong case study and project orientation to facilitate understanding of the concepts discussed.

All graduate Systems Engineering courses are offered online via several technologies that allow a high degree of interaction with the faculty and fit into today's professional's busy schedule.

Admission Requirements

Applicants to the Master of Science Program with a major in Systems Engineering must submit the following to the Admissions Office no later than the published deadline date for the semester in which the applicant plans to enroll:

- An application for graduate admission to SPSU. You can download a printable application and mail it in along with the \$20 non-refundable application fee. Or, you can set up an online account and apply over the internet,
- Official transcript to be sent from each college or university attended,
- Certificate of Immunization. Download this form and sign the waiver at the bottom for distance only students.
- An official copy of scores from the "General Test" of the Graduate Record Examination (GRE), or a request for a GRE waiver (see Admissions Criteria below),
- At least three (3) recommendation forms completed by former or current supervisors, professors, or professional colleagues,
- A 1 – 2 page Statement of Purpose describing your career and educational goals, and
- A current resume.

International students who do not possess a baccalaureate degree from a college in the United States must submit (1) an official English-translated transcript of college-level education, (2) the TOEFL scores, and (3) an affidavit indicating financial security.

Applicants to a Graduate Certificate Program must submit the following:

- An application for graduate admission to SPSU. You can download a printable application and mail it in along with the

\$20 non-refundable application fee. Or, you can set up an online account and apply over the internet,

- Official transcript to be sent from each college or university attended,
- Certificate of Immunization. Download this form and sign the waiver at the bottom,
- At least three (3) recommendation forms completed by former or current supervisors, professors, or professional colleagues, and
- A current resume.

Admission Criteria

Graduate applicants shall have the following qualifications.

- An undergraduate degree in engineering, engineering technology, computer science, physical science, or other technically oriented major from an accredited college or university. Interested students from other disciplines may be admitted to the program, but may be required to complete additional courses.
- A minimum undergraduate grade point average of 3.0 (on the 4.0 scale). Applicants with a GPA of 2.75 or better may be considered with strong work experience and letters of reference.
- Official GRE scores meeting the current admission profile (450 Verbal and 600 Quantitative). Applicants with lower scores may be accepted provisionally requiring additional preparatory course work. Test scores may be waived, if (1) an applicant has 4 or more years of relevant work experience earned after receiving their first baccalaureate degree or (2) a 3.5 undergraduate GPA or better. To request a GRE waiver, send a letter outlining your work experience or a current resume.
- For international students, a 550 on the TOEFL Written Exam or a 78 on the Internet version is required.

Admission Status

The Systems Engineering Program Director in conjunction with the graduate admissions committee determines the student admission status.

- Full Graduate students have met all the criteria shown above.
- Provisional Graduate students are graduate students who have not fully met the above criteria. They are limited to designated courses, either graduate or undergraduate, during which they will be evaluated to determine their likelihood of success. Provisional students are not guaranteed full graduate status.
- Graduate Certificate students are accepted for any of the certificates offered. Certificate students are limited to certificate courses or preparatory courses approved by the Program Coordinator. Certificate students may apply for Full Graduate status. After being accepted into the Masters Degree Program, all hours earned as a Certificate student can apply toward the Masters Degree.

Transfer Credit

Students may receive up to nine hours of credit for graduate work that is (1) equivalent to Southern Polytechnic courses, (2) taken in the last five years, and (3) completed with an "A" or "B" grade. Contact the department for more information.

For more information

For further information, contact the SyE Program Director, Dr. Renee Butler at 678-915-5414.

Master of Science in Systems Engineering Degree Requirements

The program consists of five core courses and a four course concentration. Additionally, students will either complete a thesis (6 thesis hours) and one Systems Engineering Elective or a project (SYE 6055) and two Systems Engineering Electives.

Thesis Option

SYE 6005	Introduction to Systems Engineering	3
SYE 6010 or MGNT 6050	Project Management Processes Project Management	3
SYE 6020	System Architecture	3
SYE 6025	Economic Decision Analysis	3
QA 6610	Statistics	3
SYE 7803	Thesis Hours	6
	Elective (1 course)	3
	Concentration (4 courses)	12

Program Total 36

Project Option

SYE 6005	Introduction to Systems Engineering	3
SYE 6010 or MGNT 6050	Project Management Processes Project Management	3
SYE 6020	System Architecture	3
SYE 6025	Economic Decision Analysis	3
QA 6610	Statistics	3
SYE 6055	Systems Engineering Project	3
	Electives (2 courses)	6
	Concentration (4 courses)	12

Program Total 36

Electives

A candidate must take one or two elective courses in addition to the required courses listed above. A complete list of all Systems Engineering courses is listed below. Typically the electives will be Systems Engineering courses, but courses from other programs may be taken with approval of the Program Director.

Concentration

A candidate must select four courses in a concentration. The candidate may propose a customized selection of four elective courses with approval of the Program Director. Some potential concentrations include: Software Engineering, Engineering Management, Information Systems, or Transportation Systems. The program offers three suggested concentrations: Manufacturing and Logistics Systems, Integrated Process and Product Development, and Decision Modeling.

For the concentration requirement, students are encouraged to take an integrated four-course sequence leading to a Graduate Certificate. Students should review other departments' sections of the graduate catalog for additional certificate options.

Graduate Certificate in Systems Engineering Requirements

SYE 6005	Introduction to Systems Engineering	3
SYE 6010	Project Management Processes	3
6050	MGNT Project Management	
SYE 6020	System Architecture	3
SYE 6025	Engineering Economic Analysis	3
Total For The Certificate		12

Graduate Course Descriptions

Accounting Course Descriptions

ACCT 6000 Managerial Accounting

Prerequisites: MGNT 5002 and MGNT 5004, or undergraduate financial accounting and managerial accounting courses
3-0-3

This course deals with the procedures and concepts of computing and allocating costs for reporting, pricing, planning and control, and internal decisions making. It will focus mainly on the principles and techniques dealing with merchandise and manufacturing costing, job order and process costing, standard and conventional costing, and make or buy decision-making.

ACCT 6000 Managerial Accounting

Prerequisites: MGNT 5002 and MGNT 5004, or undergraduate financial accounting and managerial accounting courses
3-0-3

This course deals with the procedures and concepts of computing and allocating costs for reporting, pricing, planning and control, and internal decisions making. It will focus mainly on the principles and techniques dealing with merchandise and manufacturing costing, job order and process costing, standard and conventional costing, and make or buy decision-making.

ACCT 6003 Accounting Theory

Prerequisite: Undergraduate degree in Accounting or ACCT 5011
3-0-3

This course is a study of the theoretical structures of accounting, income recognition, and the influence of changing professional standards.

ACCT 6006 Advanced Management Accounting

Prerequisite: Undergraduate degree in accounting or ACCT 5013 or ACCT 6000
3-0-3

An advanced-level discussion of variance analysis, cost allocation, transfer pricing, and the use of modeling to solve business problems.

ACCT 6007 Advanced Accounting Information and Control Systems

Prerequisite: Undergraduate degree in accounting or ACCT 5009
3-0-3

This course focuses on the design, implementation, and evolution of accounting information with emphasis on ERP systems.

ACCT 6012 Auditing

Prerequisites: Undergraduate degree in accounting or ACCT 5009
3-0-3

Auditing processes and concepts involved in performing an examination of the financial statements and internal controls of public and privately held business entities.

ACCT 6013 Emerging Auditing Technologies

Prerequisite: Undergraduate degree in accounting or ACCT 6012
3-0-3

This course focuses on the assurances given to financial statements and other documents by the independent auditor in the context of auditing organizations, their business strategies and comprehensive analysis of data collection. This course also addresses the application of concepts and procedures of auditing computer information systems; analysis, testing, and documentation of computer security and controls for management and financial statement reports.

ACCT 6021 Professional Judgement

Prerequisite: Undergraduate degree in accounting or ACCT 6012
3-0-3

This course reviews the research on moral development and ethical choices, the dilemmas and accepted solutions for accounting professionals.

ACCT 6030 Taxation of Entities

Prerequisite: Undergraduate degree in Accounting or ACCT 5009
3-0-3

This course addresses the fundamental principles and exceptions related to the taxation of various forms for entities.

ACCT 6045 Forensic Accounting

Prerequisite: Undergraduate degree in accounting or ACCT 5009
3-0-3

This course covers the practice of forensic accounting in which the knowledge of advanced accounting is combined with investigative expertise and applied to legal problems.

ACCT 6053 Business Valuation and Performance

Prerequisite: Transitional Courses, if required
3-0-3

This course provides students with the skills necessary to understand, analyze, evaluate, and use the information available in corporate financial reports. It also investigates corporate mergers, acquisitions, and corporate restructuring framework. Consideration is given to issues faced by corporate managers as they design reporting strategy.

ACCT 6058 Financial Statement Analysis

Prerequisite: Transitional Courses, if required
3-0-3

A review of financial statements for fairness and completeness in reporting, with focus on analysis of financial statements and related footnotes from the standpoint of different users of financial reports.

ACCT 6068 International Accounting*Prerequisite: Transitional Courses, if required*

3-0-3

This course focuses on the evolution of the international dimensions of accounting and the national differences in accounting thought, practice, problems, and issues from other accounting systems. There is also a survey of international standards.

ACCT 6075 Tax Research and Planning*Prerequisite: Transitional Courses, if required*

3-0-3

This course uses student's tax research skills to discover new knowledge on advanced tax topics such as passive activity losses, alternative minimum taxes, international taxation, and multi-state taxation. The course also includes gift and estate tax compliance and tax planning as well as deferred compensation.

ACCT 6078 Fund Auditing*Prerequisite: Undergraduate degree in accounting or ACCT 5009*

3-0-3

This is an in-depth exposition of the current standards and specialized accounting practices of state and local government, school systems, universities and hospitals, by use of case studies.

Business Administration**MGNT 6001 Management Communications**

3-0-3

Effective communication skills are essential for managers in high technology environments. This course emphasizes skill building in writing, oral presentations, interpersonal communication, and research.

MGNT 6002 Corporate Finance*Prerequisite: MGNT 5006 or undergraduate accounting and finance courses*

3-0-3

This course includes a review of capital budgeting and ratio analysis, making further extensions in the areas of probability-dependent project analysis, co-varying risks and optimal capital structure. Other topics include working capital management, insurance, and hedging strategies.

MGNT 6004 Service and Production Operations Management*Prerequisite: MGNT 5000 and MGNT 5014 or an undergraduate course in management principles and an undergraduate course in statistics*

3-0-3

A survey of service and production operations management. Topics include productivity, forecasting, competitiveness, operations strategy, product and service design, process design selection, capacity planning, facility layout, design of work systems, and location planning.

MGNT 6005 Managerial Economics*Prerequisite: MGNT 5012 and MGNT 5014 or an undergraduate course in principles of economics and an undergraduate course in statistics*

3-0-3

An analysis of economics that applies microeconomic techniques to business decisions. In particular, it connects economic theory and economics in business practice. Course contents include risk analysis, production analysis, capital budgeting, decision theory, and financial economics.

MGNT 6008 Marketing Management*Prerequisite: MGNT 5008 or an undergraduate course in marketing principles*

3-0-3

This course will present the logic and common sense associated with sound marketing management principles under changing global conditions. The student will be able to apply these principles, not only to specific managerial environments, but also to understanding events occurring on a daily basis in today's dynamic global marketplace. Through cases and projects students examine strategic and tactical planning and decision making for marketing situations.

MGNT 6010 Management of Information Technology

3-0-3

A comprehensive study of the concepts and issues involved in managing information technology within organizations. Includes focus on information technologies, acquiring and applying information technologies and systems, and their utilization in managing and decision-making activities.

MGNT 6015 Technology and Innovation Management*Prerequisite: MGNT 5000 or an undergraduate course in management principles*

3-0-3

This course emphasizes innovation and creativity, and evaluation and analysis of new technology. The objective is to learn how to evaluate new technologies (either hard or soft) in order to be able to determine whether or not to make significant investments in them.

MGNT 6020 R&D Management*Prerequisite: MGNT 6015*

3-0-3

A systematic examination of product innovations ranging from planning and research to development and commercialization or implementation of new product technology. Topics include pertinent business policy and strategic management issues, the process of innovation, concepts and interconnections between product and process creativity management, technology transfer, and relevant marketing issues. Students will analyze cases and complete a project.

MGNT 6022 Sales Management*Prerequisite: MGNT 5008 or an undergraduate course in marketing principles*

3-0-3

Sales management will highlight the differences experienced by a sales manager from those of a manager geographically located with his or her subordinates. The "arms length" supervision requirements of sales management will better equip the student to manage and motivate any group in a business environment.

Emphasis is also placed on hiring skills needed to maintain and expand a sales force.

MGNT 6024 Business-to-Business Marketing

Prerequisite: MGNT 5008 or an undergraduate course in marketing principles

3-0-3

This course focuses on the buying patterns practiced in the industrial marketplace. The course builds a foundation for the student to better understand the underlying conditions that govern an industrial marketing transaction beyond the immediate product or service that is being sought. The role of technology and its importance in the development of industrial products is explored along with the critical role of services to the products with which they are connected.

MGNT 6025 Managing Professionals

Prerequisite: MGNT 5000 or an equivalent undergraduate course in management and organizational behavior

3-0-3

An applied management skills course which covers principles of management using behavioral guidelines grounded in research. Students develop and apply leadership and team-building skills through experimental learning. Topics include communication, creative problem solving, motivation, power and influence, and conflict management.

MGNT 6028 Marketing Research

Prerequisite: MGNT 5008 and MGNT 5014 or an undergraduate course in marketing principles and an undergraduate course in statistics

3-0-3

Marketing Research enables the student to conduct an opinion research project to better understand the underpinnings of a successful marketplace query. "Hand-on" experience in questionnaire design, data gathering and analysis. Student teams prepare both a written and oral presentation of the results to experience the relationship between researcher and management in the gathering and communication of research information. The statistics prerequisite enables the students to effectively utilize SPSS for Windows to manipulate the gathered data and use it to support meaningful decisions.

MGNT 6032 Information System Analysis and Design

Prerequisite: MGNT 6010

3-0-3

Provides an advanced understanding of the system development and modification process in business information systems. Introduces the factors for effective communication with and integration of users and user systems. Emphasis on analyzing, modeling and designing processes that improve business processes through the development of effective and efficient information systems. Covers system analysis, information requirements analysis and process, design and implementation.

MGNT 6034 Database Development and Management

Prerequisite: MGNT 6032

3-0-3

Provides the theory and practice of database development and management, and the application of database software to implement business information systems that support managerial and operational decision making. Special emphasis will be placed

on database applications software to manage resources within the functional areas of business.

MGNT 6038 Advanced Database Development and Management

Prerequisite: MGNT 6032 or MGNT 6034

3-0-3

Covers advanced concepts of the theories and practices of database development and management in various business environments. Includes advanced topics such as data and database administration, distributed databases, object-oriented data modeling and development, and data warehousing and mining.

MGNT 6040 Current Readings in Management of Technology

3-0-3

This course will examine how technology affects public issues. The content of the course will be based on the issues currently of concern and will range from ecology to health care to telecommunications.

MGNT 6046 Quantitative Analysis

Prerequisites: MGNT 5000 and MGNT 5014 or an undergraduate course in management principles and an undergraduate course in statistics

3-0-3

A survey course of the mathematical and analytical techniques available for the managerial decision-making process. The student is introduced to operations research and system analysis techniques. These techniques include linear programming, simulation, waiting line analysis, forecasting, and CPM/PERT.

MGNT 6050 Project Management

Prerequisites: MGNT 5000 and MGNT 5014 or an undergraduate course in management principles and an undergraduate course in statistics

3-0-3

A study of the project planning, organizing, control concepts and techniques. Coverage will include projects and specifications. Work Breakdown Structures (WBS) the Critical Path Method (CPM), the Program Evaluation and Review Technique (PERT), Gantt charting, and time/resource management.

MGNT 6055 Total Quality Management

Prerequisite: MGNT 5000 and MGNT 5014 or undergraduate courses in management principles and an undergraduate course in statistics

3-0-3

The concepts of TQM will develop leadership and interpersonal skills along with an understanding of planning and customer, satisfaction, in addition to process analysis. The discussion will focus on quality and how to use project teams, such as selecting a project and choosing team members. Topics will be covered concerning setting up meetings and guidelines for productive meetings. Team aspects and team building and activities will also be discussed.

MGNT 6060 Entrepreneurship

Prerequisites: MGNT 5000 or an undergraduate course in management principles, MGNT 5006 or an undergraduate course in finance, MGNT 5008 or an undergraduate course in marketing principles, and MGNT 6005 or equivalent

3-0-3

This course addresses the management challenges associated with starting and successfully running a new venture. It provides

students with an opportunity to apply the theories and tools that they have learned elsewhere in the curriculum to the venture creation process.

MGNT 6065 Issues in International Management

Prerequisites: MGNT 5000 or undergraduate management principles, MGNT 5006 or undergraduate finance, MGNT 5008 or undergraduate marketing) and MGNT 6005

3-0-3

This course deals with cultural, institutional, economic, and financial environments characteristic of international markets. It will focus on strategic and operational plans that managers must undertake in formulating international business activities.

MGNT 6070 Issues in Human Resource Management

Prerequisite: MGNT 5000 or an undergraduate course in management principles

3-0-3

This course covers employment practices and employment law in unionized and non-unionized settings. The focus on decision making and administrative issues for managers.

MGNT 6090 Strategic Management CAPSTONE COURSE

Prerequisite: Students should take this course within the last two semesters of the degree program, requires instructor approval.

3-0-3

Exposes the student to the process of strategic decision-making. Emphasis is placed on the use of SWOT analyses in development of the strategic plan and the determination of the long-term character of the enterprise. Cases will be analyzed, and classroom presentations will be made by distinguished industrial executives and leaders.

MBA Elective Courses

MGNT 6091-6903 Special Topics

3-0-3

MGNT 7501-7503 Independent Research

3-0-3

Prerequisite: At least half of the MBA degree completed, requires professor approval

Course covers special topics of interest to the students. Course credit and topic are arranged between instructor and student.

Note: MBA students may take selected electives in other graduate programs subject to prerequisite requirements and faculty approval.

Computer Science Graduate Courses

CS 5011 Fundamentals of Computer Architecture

Prerequisites: CSE 1301 or CS 5003

1.5-0-1.5

Transition course for SWE students only. This course is designed to examine the principles and concepts of computer architecture.

Topics from the principles of computer organization and architecture include fundamentals of computer design, instruction set principles, pipelines, performance, caches and virtual memory.

CS 5013 Computing Fundamentals

Prerequisite: CSE 1301 or equivalent

3-0-3

Transition Course: This course is designed to examine the principles and concepts of computer architecture, operating systems, and database systems. Topics from the principles of computer organization and architecture include fundamentals of computer design, instruction set principles, pipelines, performance, caches and virtual memory. Topics from the principles of operating systems include OS structures and design issues, process model and management, memory management, peripheral device management, and file systems. Topics from the principles of database systems include DB structures and design issues, entity relationship models, relational databases, normalization, and an SQL-based database system such as Oracle.

CS 5021

Prerequisites: CSE 1301 or CS 5003

1.5-0-1.5

Transition course for SWE students only: This course is designed to examine the principles and concepts of operating systems.

Topics from the principles of operating systems include OS structures and design issues, process model and management, memory management, peripheral device management, and file systems.

CS 5031 Fundamentals of Database Systems

Prerequisites: CSE 1301 or CS 5003

1.5-0-1.5

Transition Course for SWE students only: This course is designed to examine the principles and concepts of database systems and their application to real-world software systems. Topics include database structures and design issues, entity relationship models, relational databases, normalization, SQL and practice with an SQL-based database system such as Oracle.

CS 5123 Advanced Programming and Data Structures

Prerequisite: CSE 1302 or CS 5003

3-0-3

Transition course for graduate students with a limited background in programming. Topics include pointers, recursion, data structures such as lists, stacks, queues, trees, etc., sorting and searching, data abstraction, introduction to runtime analysis and the big-oh notation. Appropriate programming projects are also included.

CS 5153 Database Systems

Prerequisite: CSE 1302 or CS 5003 or IT 5113

3-0-3

Transition course. This course provides an overview of various database models including relational, object-oriented, hierarchical, and network. Also covered are various file structures including sequential, indexed sequential, and direct. It covers planning, analysis, design, and implementation of a database. Entity Relationship models and normalization are covered. It covers an SQL-based database system such as Oracle. A major project and/or paper required.

CS 5183 Object-Oriented Programming

Prerequisite: CS 5123 (co-requisite) or CS 3424

3-0-3

Transition course: Topics to be covered include encapsulation and abstraction, objects and classes, inheritance, polymorphism, class

libraries, and messaging. The course includes major project(s) and/or paper(s).

CS 5223 Computer Architecture

Prerequisite: CSE 1301 or CS 5003

3-0-3

Transition Course: Topics from the principles of computer organization and architecture include number systems, digital logic, basic logic design in combinational and sequential circuits, and assembly and machine language.

CS 5243 Operating Systems

Prerequisites: (CSE 1302 or CS 5003) and CS 5223/3223

3-0-3

Transition Course: Topics from the principles of operating systems include management of resources including processes, real and virtual memory, jobs, processes, peripherals, network, and files.

CS 5423 Mathematical Structures for Computer Science

Prerequisites: An undergraduate course in Calculus and a corequisite of CSE 1301 or CS 5003

3-0-3

Transition course: Topics from discrete mathematics include set theory, relations and functions, principles of counting, introductory graph theory, formal logic, recursion, and finite state machines.

CS 6023 Research Methods and Presentations

3-0-3

Materials and methods of scholarly research in computer science. Includes study of standard research paradigms with illustrative cases of each and the use of research methods and presentations in industrial and business settings.

CS 6103 Discrete -Time Signals and Systems

Prerequisite: CS 5423

3-0-3

Underlying principles of discrete-time signals and digital signal processing. Topics include mathematical representation of discrete-time signals and systems, sampling theorem and aliasing, introduction to difference equations, IIR and FIR filters, DTF, FFT, and Z-Transforms.

CS 6123 Theory and Implementation of Programming Languages

Prerequisites: CS 5123/3424 and CS 5423

3-0-3

Comparative study of programming language paradigms with emphasis on design and implementation issues. Covers formal definitions of syntax and semantics, data types, static and dynamic storage allocation, definition of operations, control of program flow, subroutine and function linkages, formal tools for characterizing program execution, and abstraction techniques.

CS 6143 Enterprise Application Development

Prerequisites: CS 5153 and CS 5003

3-0-3

This course covers the basics of enterprise software development. It covers enterprise software architectures, distributed systems, and reliability. It covers technologies commonly used for developing enterprise software, focusing on one enterprise software stack, such as J2EE.

CS 6153 Advanced Database Systems

Prerequisite: CS 5153/3153 and CS 5423

3-0-3

An advanced course in database systems emphasizing design issues and implementation tradeoffs. It covers the theory, algorithms, and methods that underlie distributed databases. Relational algebra is discussed. The client-server architecture and application development are also covered.

CS 6163 Information Retrieval and Search Engines

Prerequisites: CS 5123 and CS 5423

3-0-3

The course covers issues, models, and techniques associated with efficient storage and effective retrieval of large amounts of unstructured text information. It includes a study of classic information retrieval (IR) techniques and exposes students to more recent developments, such as search engines and text mining. Students will be exposed to relevant literature of the discipline and also implement and/or evaluate a simple information retrieval system or search engine.

CS 6223 Advanced Computer System Architecture

Prerequisites: CS 5243/3243

3-0-3

Topics include computer performance issues, instruction set architectures, RISC versus CISC, machine language, microprocessor design and implementation, performance enhancing techniques, cache memory design, and implications to operating system design.

CS 6243 Advanced Concepts in Operating Systems

Prerequisite: CS 5243/3243

3-0-3

Topics from the theory of operating systems include: memory and process management of high-performance architectures that address concurrent, parallel, and distributed processing.

CS 6263 Computer Networks

Prerequisite: CS 5243/3243

3-0-3

Issues involved in computer networks and the Internet are examined based on the layered network architecture model. Objectives and methodologies of each layer are studied with the particular emphasis on the Application, Transport, Network, and Datalink layers. Both the principles in computer networking and practical implementations (via network programming labs) are covered.

CS 6273 Parallel and Distributed Processing

Prerequisites: CS 5123 and CS 5223

3-0-3

This course covers various aspects of parallel and distributed processing and algorithm design with an emphasis on programming. Topics include: Taxonomy of parallel architectures; Shared-memory vs. message-passing architectures; Computation models and Performance metrics; Parallel/distributed algorithm design - basic techniques; Parallel/distributed programming techniques and issues: partitioning, load balancing, synchronization, task scheduling, message overheads, etc.; Parallel/distributed algorithms for sorting, matrices, etc.; Debugging, Profiling, and Performance enhancements of parallel and distributed programs. Students will gain experience in parallel and distributed programming on

state-of-the-art cluster and GPGPU/CUDA machines, including a 700+ CUDA machine.

CS 6283 Real-Time Systems

Prerequisite: CS 5243/3243

3-0-3

The software development life cycle as it applies to real-time systems. Labs involve the use of a real-time operating system and an associated development environment. Related topics such as concurrent task synchronization and communication, sharing of resources, schedulability, reliability, fault tolerance, and system performance are discussed. Project included.

CS 6293 Information Security: Implementation and Application

Prerequisites: CS 5123 and CS 5423

3-0-3

This course covers the fundamentals of computing security, access control technology, cryptographic algorithms, implementations, tools and their applications in communications and computing systems security. Topics include public key infrastructure, operating system security, database security, network security, web security, firewalls, security architecture and models, and ethical and legal issues in information security.

CS 6323 Human Factors

3-0-3

The psychological, social, and technological aspects of interaction between humans and computers. Includes usability engineering, cognitive and perceptual issues, human information processing, user-centered design approaches, and development techniques for producing appropriate systems. Major project included.

CS 6353 Computer Graphics and Multimedia

Prerequisites: CS 5123/3424 and CS 5423

3-0-3

A study of the hardware and software of computer graphics and multimedia systems from the programmer's perspective. Includes a survey of display and other media technologies, algorithms and data structures for manipulation of graphical and other media objects, and consideration of user interface design. Major project included.

CS 6363 Computer Game Design and Development

Prerequisites: CS 5123/3424

3-0-3

Topics include graphics, multimedia, visualization, animation, virtual reality simulation concepts, methods, and tools of game design and development. A team project on a game prototype is required.

CS 6413 Theory of Computation

Prerequisites: CS 5423

3-0-3

A study of topics from theoretical computer science that includes automata and languages, computability theory, and complexity theory.

CS 6423 Algorithmic Processes

Prerequisites: CS 5123/3424 and CS 5423

3-0-3

Design and analysis of algorithms. Covers the major algorithm design techniques (greedy, divide-and-conquer, branch-and-bound,

etc), mathematical techniques for analyzing asymptotic complexity of algorithms, and tractability.

CS 6453 Simulation and Modeling

Prerequisites: CS 5123/3424, Matrix Algebra, and Probability and Statistics

3-0-3

The application of various modeling techniques to the understanding of computer system performance. Includes analytic modeling, queuing theory, continuous and discrete simulation methods, and the use of some simulation software tools to implement a major project.

CS 6533 Artificial Intelligence

Prerequisite: CS 5123/3424 and CS 5423

3-0-3

The primary objective of this course is to provide an introduction to the basic principles and applications of Artificial Intelligence. Covers the basic areas of artificial intelligence including problem solving, knowledge representation, reasoning, decision making, planning, perception and action, and learning -- and their applications. Students will design and implement key components of intelligent agents of modern complexity and evaluate their performance. Students are expected to develop familiarity with current research problems, research methods, and the research literature in AI.

CS 6563 Digital Image Processing and Analysis

Prerequisites: CS 5123 and CS 5423

3-0-3

Theory and application of digital image processing. Topics include sensing, sampling and quantization, image enhancement and restoration, image transforms, geometrical image modifications, edge detection, image segmentation and classification, image coding, feature extraction, image representation, morphological image processing, and parallel image processing. Applications include satellite images and biomedical images.

CS 6593 Selected Topics in Artificial Intelligence

Prerequisites: As determined by the Instructor and Department Chair

3-0-3

In-depth study of specific AI topics. Possible topics include, but are not limited to, Expert Systems, Neural Networks, Genetic Algorithms, Machine Learning, Fuzzy Logic, etc.

CS 6703 Independent Study

Prerequisites: Approval of course director

3-0-3

Independent study/project under the direction of a graduate CS faculty member.

CS 6901-6903 Special Topics

Prerequisite: As determined by the Instructor and Department Chair

1 to 3 hours

Special topics selected by the Department Chair. Offered on a demand basis. A student may repeat this course with special permission.

CS 7803 Masters Thesis

Prerequisite: Consent of the Department Chair and the Thesis Advisor

3-0-3

The thesis is designed for students wanting a research focus to their degree. The student works independently under the supervision of a designated CS faculty member on a thesis of substance in computer science. The student will generate a formal written thesis and give a final defense of the thesis. This course may be repeated, but only 6 hours may be applied toward the degree.

Construction Management Graduate Courses

CM 5030 Descriptive Structural Systems

4-0-4

A descriptive study of structural behavior with an overview of statics, strength of materials, design of beams and columns for concrete, steel and timber structural systems.

CM 6000 Information Methods

4-0-4

A course in communications technique improvement and preparation for functioning in an information based society. Conceptual and methodological issues in construction research will be explored with emphasis on construction specific resources. Data development and analysis will be studied to include the concepts of validity, reliability, and applications of statistics.

CM 6020 Ergonomics Analysis and Productivity

4-0-4

A study of the applications of ergonomic principles to construction related tasks. Work study, task analysis, and Human Factors and Ergonomics (HFE) principles are applied to labor and equipment intensive construction operations to prepare students with analytical skills that enhance safety performance and productivity.

CM 6100 Construction Law: Contracts and Claims

4-0-4

This course focuses on the legal problems and concerns frequently encountered by constructors and others who participate in the construction process. Topics include the formation of contracts and the various contractual relationships; methods of modification and termination of the contracts; exploration of licensure and professional liability of the construction practitioner.

CM 6110 Commercial Construction Transactions

Prerequisite: CM 6100

4-0-4

This course is an extension of CM 6100, with course topic discussion being devoted to commercial construction transactions in relation to the construction contracting process. Discussion is devoted to UCC Article 2, 3, and 9 as applicable to construction vendor contracts. Also, discussion is devoted to the hybrid contracting process and the legal implications of bidding for goods and services that qualify under commercial contract law.

CM 6120 Dispute Resolution

Prerequisite: CNST 6100

4-0-4

This course will survey the growth of the alternate dispute resolution field, giving emphasis to alternative dispute resolution theory and its application to the construction industry. A student will be exposed to different resolution processes relative to the construction industry: namely, negotiations, mediation and arbitration.

CM 6130 Case Studies in Construction

Prerequisite: CM 6100

4-0-4

This course is designed to explore the multiple contractual complications that typically arise within the construction contracting process. Topics will develop and explore the technical aspects of procurement, implementation, construction operations, through to post contractual obligation and liabilities inherent in the construction industry.

CM 6200 Strategic Bidding and Estimating

4-0-4

A review of all normal bid-preparation activities that should take place in a prime contractor's organization from the initial decisions on project selection and receipt of drawings and specifications, through the estimating process and sub-bid research, final bid assembly, markup and submission, to postmortems and necessary follow-up actions. Significant attention will be devoted to bidding techniques, strategies, practices, and methods recommended to handle these functions.

CM 6310 Advanced Scheduling and Integrated Controls

4-0-4

An exploration of current techniques and practices of integrated project control systems for construction. Subjects covered include various methods of project scheduling and monitoring, resource management, time-cost tradeoffs, organizing and managing schedule data, forecasting and trend analysis, and presentation of schedule information. Special emphasis is placed on the use of modern integrated scheduling practices and associated computer tools.

CM 6320 Construction Information Systems

4-0-4

The interaction of information technology with the construction industry. Opportunities and risks for individuals and organizations are examined in the realms of information flow, decision-making and a changing world. Human and ethical issues are considered. Students are introduced through laboratory exercises to construction specific products, to construction applications of conventional database systems and to data transfer technologies.

CM 6330 Advanced Operations: Constructability, Value Engineering, Productivity

4-0-4

An exploration of project processes and organization including procurement, startup, documentation, payment, change order administration and job closeout. Included is project analysis for constructability, value engineering, and productivity analysis/improvement techniques.

CM 6340 Analytical Tools for Construction Managers

4-0-4

Application of computer software for advanced analysis of data encountered in construction practice. Simulation software will be introduced for the creation of data used for analysis of

construction operations. This course will provide masters students with tools that can help them to perform top-level management duties in the construction industry. The complex nature of the construction industry requires construction managers to analyze large amounts of data to manage cost, schedule, and safety issues..

CM 6410 Building Failures and Defective Work

4-0-4

A study of problems, trends and issues related to workmanship and product failures during a time of rapid change in the construction industry. It will discuss concepts, philosophy and technology behind the subject issues and seek the exchange of ideas and views. Students will be expected to gain knowledge in the subject topics and develop skill in researching for facts extended to effective written and verbal presentations of the findings.

CM 6420 Tall Buildings

4-0-4

A study of tall buildings in the society of today and tomorrow. Form giving factors will be identified and problems of planning, design and construction explored. The project manager's role in the tall building process will be related to specific building examples. International differences in the role of tall buildings will become apparent, yet common threads will be found which can be useful in a shrinking world and a more universal construction industry.

CM 6430 Automation and Robotics

4-0-4

A study of the level of application of automation and robots to construction. Techniques and equipment in varying stages of development as well as current applications will be presented for analysis and discussion. Students will be challenged to conceptualize new ways of applying technology to improve industry productivity through automation and robotics.

CM 6510 Marketing of Construction Services

4-0-4

An examination of how construction services are marketed in the various sectors of the construction industry. The relevant characteristics of construction organizations and target clients will be explored with various scenarios structured to highlight critical parameters of search and match. The potential contributions of the media and conventional planning/analysis techniques will be considered.

CM 6520 International Construction

4-0-4

An introduction to the construction industry in the international arena. Projects and processes will be studied. Issues of contract law, industry regulation, currency exchange, payment guarantees and risk management will be examined and related to respective countries of concern. Operations under different cultural norms will be projected in realistic scenarios.

CM 6530 Construction Markets

4-0-4

A study of the dominant factors at work in different construction markets. Geographic, technological, economic, political, organizational, and social influences on construction markets are included. Market groupings by type of construction are identified and paradigms of construction are explored.

CM 6540 The Construction Company

4-0-4

Organization of the construction firm is covered in this course. Financing of the firm, marketing the various construction services of the firm and exploring the economics which are unique to the construction industry are analyzed. Strategic planning and planning for growth of a construction firm are included in the course. Insurance, bonding, employee development, and labor relations are studied. The continuing relationships with clients, bankers, bonding companies and design professionals are explored.

CM 6600 Construction Risk Analysis and Control

4-0-4

This course focuses on the safety practices mandated by government regulation and required by good business practice. The costs of safety and the lack of it is examined. Workers' compensation insurance cost is integrated into the issues of safety. Exposure analysis, risk management, risk transfer and the costs associated with each are examined in this course.

CM 6800 Construction Seminar

2-0-2

Business and management topics pertinent to the construction industry. The course consists of a series of seminar presentations by prominent industry representatives.

CM 6901-6904 Special Topics

Prerequisite: Consent of the department head

1 to 4 hours

Special topics offered by the department. Offered on a demand basis.

CM 7701-7704 Masters Project

Prerequisites: CM 6000 and consent of the department head

4 hours

This course is designed for the students who want to focus their course of study on a particular aspect of construction. The student works independently under the supervision of the course professor on a project or an inquiry that is significant in the construction industry. The topic of the project or inquiry must be approved prior to registration and the student must continue the work in a manner that is satisfactory to the course professor. The student is expected to submit a substantial report and to defend this submittal and the course work taken in the degree program. This course may be repeated with departmental approval but no more than 8 hours may be applied toward the requirements for graduation.

CM 7801-7804 Masters Thesis

Prerequisites: CM 6000, completion of 28 hours of graduate courses

4 hours

Construction degree course work or consent of the department head, approval of thesis proposal intensive research project that results in a formal written thesis. The thesis topic will usually be in an area of interest discovered by the student in early stages of the Construction program or work experience. Students may enroll for a maximum of 4 hours per term for thesis credit. The student works independently under the supervision of the thesis advisor on an inquiry that is significant to the construction industry. The topic must be approved before registration and the student must continue the work in a manner that is satisfactory to

the thesis advisor. The student is expected to submit a substantial body of research work and to defend this submittal and the course work taken in the degree program. This course may be repeated

CSE Courses

CSE 6983 Graduate Internship

Prerequisite: 9 CSE graduate hours and be in good academic standing.

3-0-3

Gives students the opportunity to apply knowledge of computing in a realistic practical project. They are expected to write a research paper based on their experiences.

Engineering Technology—Electrical Graduate Courses

ECET 6001 Circuit and System Modeling with SPICE

Prerequisite: Semiconductor Device Theory and Applications; equivalent to ECET 2210, ECET 2310

3-3-4

A detailed study of circuit modeling using SPICE. The student will learn to model circuits and systems at the device level up to the behavioral level. This includes BJT and MOS transistors, op-amps, communications systems, control systems, etc. The student will also learn how SPICE numerical algorithms function and how to maximize the speed and accuracy of simulations.

ECET 6002 Programmable Devices

Prerequisites: Digital Theory and Applications, C and any AMS language equivalent to ECET 2210, ECET 4710

3-3-4

A study of the programming and applications of programmable devices for rapid time-to-market product development. Devices range from PLDs through MicroControllers through Programmable Analog devices. Practical experience will result from completing projects that develop systems using several of the devices.

ECET 6003 Advanced Test Engineering

Prerequisite: Fundamental Test Engineering equivalent to ECET 3600

3-3-4

An in-depth study of test engineering with emphasis on computer-aided instrumentation utilizing the IEEE-488 bus and protocols. LabVIEW for windows will be used to develop automated test systems and virtual instruments. Component, board, backplane, in-circuit, functional and systems testing will be researched and analyzed in relationship to cost, testability and fault analysis. Surface-mounted device and ASIC testing are also studied. Boundary-scan, VXI/VME, commercially available software and other test strategies will be explored.

ECET 6004 System Engineering

3-3-4

This course provides a knowledge base of those elements comprising good design practices beyond circuit design and analysis. Topics include: concurrent engineering, quality, reliability, maintainability, productivity, life-cycle cost, projectizing, manufacturing and logistic support.

with departmental approval but no more than 8 hours may be applied toward the requirements of graduation.

ECET 6100 Discrete-Time Signals and Systems

3-0-3

Underlying principles of discrete-time signals and digital signal processing. Topics include mathematical representation of discrete-time signals and systems, sampling theorem and aliasing, introduction to difference equations, IIR and FIR filters, Z-Transform, DFT, FFT and Spectral analysis. (Non-MSET majors only)

ECET 6101 Digital Signal Processing

3-3-4

This course is presented in three units. Unit one reviews underlying principles of discrete-time signals and systems, difference equations, and the design of finite impulse response and infinite impulse response filters. Topics of second unit include frequency response, Z-Transform, DTFT, DFT, and FFT with practical applications. The subject of third unit is implementation of digital filters and speech processing examples using popular DSP microprocessors such as TMS320, DSP56000, and ADSP21xxx families.

ECET 6102 Mechatronics

3-3-4

This course is about integrating electronics, mechanical engineering and computer science. It is essential for engineers or engineering technologists who have a need to work across disciplinary boundaries. The main topics covered in the course will be mechatronic system design which involves: 1) Modeling, analysis and control of dynamic physical systems; 2) Control sensors and actuators with special emphasis on brushless, stepper, linear and servo-motors; 3) Electronics for mechatronics with special emphasis on special purpose digital and analog integrated devices; and 4) Analog, digital and hybrid mechatronic systems such as hard-disk drives and robots.

ECET 6201 Advanced Digital Design

Prerequisites: Digital Theory and Application, C and Assembly Language equivalent to ECET 2210, ECET 4710

3-3-4

A detailed study of modern digital design principles and techniques. Topics will be investigated utilizing advanced programmable logic devices such as CPLD's, EPLD's, and FPGA's. Device development using both VHDL and schematic capture tools will be thoroughly explored. Practical experience and additional insight will be gained in the design and development of practical solutions to modern problems.

ECET 6202 Embedded PC Systems

3-3-4

This course will focus on the latest developments in the field of embedded PCs (80186 & 80386ex processors). Emphasis will be on single-board systems used in the control environment. Customizing the ROM BIOS and developing ROM code will be studied. C, assembly language and real-time executive programming tools will be used.

ECET 6203 Topics in Machine Intelligence

3-3-4

The principles, theory and current applications of fuzzy-logic and neural-networks are covered in this course. Discussions will

include how neural network simulations are used to solve decision-making tasks. Other topics included are machine vision and speech analysis. Practical experience and additional insight will result from students using the principles and theories studied in class to develop practical solutions to actual problems.

ECET 6204 Networked Embedded PCs

Prerequisite: ECET 6202

3-3-4

A course covering the basics of embedded PCs and their applications in networks and wireless systems. Covers the 80x86 architecture and C++ programming, then covers network programming using TCP/IP. Emphasizes connecting embedded PCs via Ethernet, wireless systems and the Internet. Also, Win CE development will be introduced.

ECET 6300 Telecommunications Networking

3-0-3

A study of the fundamentals of telecommunications systems, emphasizing the management viewpoint. Course covers voice and data networks, and the regulations and standards affecting them. Laboratory demonstrations will illustrate key concepts. Course cannot be used as credit for ECET majors.

ECET 6301 Telecommunications

Prerequisite: Communications background equivalent to ECET 3400, ECET 4820

3-3-4

The study of technologies and services deployed in today's public and private wide-area networks. Circuit-switched and packet-switched networks for voice and data will be studied. Topics include ISDN, X.25, SONET/SDH, ATM, and more. Students gain practical experience through detailed studies of actual WAN solutions used by various organizations.

ECET 6302 Digital Communication Networks

Prerequisite: Communications background equivalent to ECET 3400, ECET 4820

3-3-4

A detailed study of local area networks emphasizing characteristics, standards, protocols, and performance. Topics include Ethernet, Token Ring, routing, domain and peer networking, and network security. The configuration and interaction of networking devices, operation systems, and applications will be examined. Lab exercises and projects illustrate concepts.

ECET 6303 Wireless Communication Systems

Prerequisite: Communications background equivalent to ECET 3400, ECET 3410

3-3-4

A detailed study of wireless communication networks with special emphasis on applications, access techniques and interconnection with other networks. Topics include cellular telephones, personal communication systems, wireless LANs, and satellite systems. Students will gain practical experience by studying networks used by enterprises to enhance productivity and competitiveness.

ECET 6304 Antenna Design

Prerequisites: Background equivalent to ECET 3410

3-3-4

Course covers antenna measurements, design, and performance analyses. Topics include radiation and propagation; basic

radiators, arrays; reflector and lens antennas, optimized performance parameters, and measurement facilities.

ECET 6305 Radar Systems

Prerequisites: Background equivalent to ECET 3410 and ECET 4420

3-3-4

Course includes introduction to radar principles and applications, radar concept design, and performance analyses using digitally simulated radar signals. Topics include modern radar system concepts; characteristics of target signals, noise, and clutter; target echo extraction; range, velocity and bearing determination; tracking and moving target processing.

ECET 6401 Linear Control System Analysis and Design

3-3-4

This course is a thorough study of Modern Control Systems. Both time-domain and frequency domain methods of analysis, design and compensation of linear feedback control systems are covered. Topics include Laplace Transform methods, State Space analysis, stability analysis using Root Locus and frequency response methods, Nyquist criterion, and practical examples of design and compensation of feedback control systems. This course will make extensive use of computer-aided design packages such as MATLAB.

ECET 6402 Power Flow Studies and Fault Analysis

Prerequisite: Power system analysis background equivalent to ECET 4510

3-3-4

This is a course on modern power system analysis and design. The first part of the course is devoted to the typical topics in Power System analysis. In the second part of the course, emphasis is placed on topics such as power flow solutions, symmetrical faults, symmetrical components and sequence networks, unsymmetrical faults and power system stability.

ECET 6403 Applications of Power Electronics in Electric Drive Systems

Prerequisite: Undergraduate machinery course equivalent to ECET 3500

3-3-4

This course combines electric machinery, control and power electronics. The first part of the course is devoted entirely to Power Electronics. The second part is devoted to the application of power electronics in the speed control of electric machinery. Both dc and ac motor drive systems are covered. MATLAB and Spice will be extensively used for computation and verification purposes. Practical and hands-on experience will be gained using practical electric drive systems in the second part of the course.

ECET 6404 Switching Power Supplies

3-3-4

This course presents the theory and practical skills necessary to design switching power supplies, focusing on DC-to-DC converters. Topics addressed include switching functions, converter topologies, magnetics design and feedback control. Students will design, build and test several power supplies.

ECET 6704 Project Proposal

Prerequisites: At least 24 hours completed toward degree and permission of project advisor
1-8-4

Guided by his/her Project Committee, the student will prepare a Proposal for his/her Masters Project. This proposal must conform to the published guidelines, be approved by the Project Committee and filed with the ECET office. In addition, the student will make substantial progress toward meeting the goals stated in the proposal and file an approved Progress Report. The filing of the Project-Committee approved Proposal and Progress Report will constitute completion of this course.

ECET 6901-6905 Special Topics

1 to 5 hours

The topic election and credit for this course will be by written agreement among the student, the instructor and the department head.

ECET 7504 Research

Prerequisites: At least 28 hours completed toward degree and permission of instructor
2-6-4

A seminar in research and development methods, current industrial practice and application of new technologies. Guided by the instructor, each student will choose a current topic in Electrical or Computer Engineering Technology, become informed about the principles and applications of that topic and ultimately produce a research report which is presented during the ECET Forum.

ECET 7704 Project

Prerequisites: ECET 6704 and permission of project advisor
1-8-4

Guided by his/her Project Committee, the student will complete his/her Masters Project. The student must demonstrate completion of the project to his/her committee and obtain the committee's approval. The student will prepare a final report that completely documents the project and will present this report to the department. Written acceptance by the Committee of the Final Report will constitute the completion of this course.

Information Design and Communication Graduate Courses

IDC 5001 Writing in the Professions

3-0-3

Introduction to the conventions of professional written discourse for graduate-level work. Course reviews grammar, style and writing for students who demonstrate weak writing skills or for students without writing-intensive undergrad degrees. Also introduces writing for areas of information design, content development, visual thinking and instructional design. Taken the first semester of enrollment in the MSIDC, MSIID and certificate in Technical Communication programs.

IDC 5002 Graphics in the Profession

3-0-3

For students without page layout or graphic backgrounds: introduction to the conventions of professional graphics and document layout for graduate-level work. Course reviews industry standard page layout and graphic application skills such as initial setting up of documents, creating styles, adding graphics and graphic elements; creating and manipulating elementary digital graphics in both raster and vector formats, including changing color modes, resolving resolution issues, and choosing correct file formats; understanding different types of graphs and how to create them and when to use them; and identifying copyright issues.

IDC 6002 Information Design

Prerequisite or Co-Requisites: IDC 6001, IDC 6030
3-0-3

Study of the main design elements in information products with an emphasis on rhetorical and theoretical underpinnings for design decisions. Students work on designing and redesigning products in various media. Requirements include a report on document design that demonstrates solid application of theoretical principles. Should be taken as soon as possible after admission.

IDC 6004 Research Methods

Prerequisite or Co-Requisites: IDC 6001, IDC 6030
3-0-3

Introduction to how to make practical use of research to inform information design and communication decisions. Students learn to create and to be critical consumers of research reports by getting hands-on exposure to quantitative and qualitative methods, including interviewing, survey design, and analysis. The course teaches how to use standard software products such as MS Word and MS Excel to perform basic qualitative and quantitative analyses. Although students learn important statistical concepts, formulas and calculations are de-emphasized.

IDC 6005 Visual Thinking

Prerequisite or Co-Requisites: IDC 6001, IDC 6030
3-0-3

Course examines principles of effective visual communication. Students analyze visual artifacts, select visual representations for key concepts, and identify appropriate visual forms for different information structures.

IDC 6010 Writing Across Media

Prerequisite: IDC 6001; Prerequisite or Co-Requisites: IDC 6030
3-0-3

Course examines rhetorical, structural, and stylistic requirements of various communications media. Topics include writing for the Web, narrative design, and document engineering.

IDC 6030 Visual Design Strategy

Prerequisite: IDC 6001 or departmental approval
3-0-3

Application of fundamental elements and principles of graphic design to professional communication. Students without solid background in graphics and page layout applications are encouraged to take IDC 5002 before IDC 6030.

IDC 6035 Information Graphics

Prerequisite: IDC 6001 and IDC 6030; Co-requisite: IDC 6002
3-0-3

Process and product of visual representation and display of information utilizing advanced techniques to produce infographics.

Research and production of data infographics, visual instructions and comics as infographics, dashboards, and news infographics. Must have working knowledge of Photoshop and Illustrator or comparable raster-based and vector-based image applications.

IDC 6040 Applied Graphics

Prerequisite: IDC 6001 and IDC 6030; Co- or Pre-Requisite: IDC 6002

3-0-3

Students develop competency in raster-based digital image editing for information design and technical communication. Students complete practical graphics projects using typography and digital illustrations.

IDC 6042 Applied Digital Graphics

Prerequisite: IDC 6001 and IDC 6030 Co- or Pre-Requisite: TCOM 6002

3-0-3

Students develop competency in complex digital image editing for information design and communication. Students complete practical graphics projects using typography and digital illustrations.

IDC 6045 Foundations of Multimedia

Prerequisite: IDC 6001 Prof. Practices of Comm IDC 6001 and IDC 6030; Co- or Pre-Requisite: IDC 6002

3-0-3

A study of the foundations of multimedia including theory, planning, scripting, storyboarding, and production. Students will submit research work on the theory of multimedia. This course is double-listed for both undergraduate and graduate students. Graduate students will be required to complete additional work that emphasizes theory and research over application. Thus they must demonstrate a higher level of learning than undergraduates. Students who took TCOM 4045 Foundations of Multimedia as undergraduates may not count IDC 6045 for credit toward their graduate degree.

IDC 6050 Applied Multimedia

Prerequisite: IDC 6001 and IDC 6030 and IDC 6045; Co- or Pre-Requisite: IDC 6002

3-0-3

Course introduces and applies the literature, tools, and techniques of professional multimedia. Includes major online course elements. Students will choose a project in technical communication and apply the major phases of multimedia: definition, planning, execution, and closing. Topics of emphasis include communication skills, multimedia software tools, and project team dynamics.

IDC 6060 Strategies for Global Communication

Prerequisite: IDC 6001 and IDC 6030; Co- or Pre-Requisite: IDC 6002

3-0-3

Focuses on issues affecting global communication. Readings in culture and international communication give students the research and theory to make strategic decisions regarding the design of communication products in international contexts.

IDC 6080 Professional Oral Presentations

Prerequisite: IDC 6001 and IDC 6030; Co- or Pre-Requisite: IDC 6002

3-0-3

Course designed to enhance students' presentation skills in a technical and business environment. Students practice various speech types such as briefings, interviews, formal technical presentations, panels, and impromptu presentations. Whenever possible, presentations are videotaped for analysis and review.

IDC 6090 Medical Communication

Prerequisite: IDC 6001 and IDC 6030; Co- or Pre-Requisite: IDC 6002

3-0-3

Course examines the scope of medical communication, with emphasis on opportunities for technical communication professionals. Students will analyze, edit, and revise various medical document types, such as medical research abstracts, patient education materials, professional medical training documents, medical advertisements, and pharmaceutical package inserts. Students will independently study medical terminology and develop a portfolio of medical writing samples.

IDC 6110 Communications Project Management

Prerequisite: IDC 6001 and IDC 6030; Co- or Pre-Requisite: IDC 6002

3-0-3

Reviews the roles and responsibilities of project managers through the project lifecycle. Topics include communication management, risk management, scope management, resource management, and project quality. Assignments provide experience with industry-accepted software, tools, and approaches.

IDC 6120 Usability Testing

Prerequisite: IDC 6001 and IDC 6030; Co- or Pre-Requisite: IDC 6002

3-0-3

Study of the relevant research and practical application of usability testing as part of product development. Includes strategies for planning, conducting, and analyzing a test. Teams will perform tests and report results from an actual test in a usability lab.

IDC 6135 Website Design

Prerequisite: IDC 6001 and IDC 6030; Co- or Pre-Requisite: IDC 6002

3-0-3

Advanced theoretical study and application of best practices for the design and delivery of information on the World Wide Web. Students learn the fundamentals of HTML, use of HTML authoring tools, web content writing and editing, page layout, design of web graphics and multimedia elements, and website architecture and content management. Students work individually and in teams to design and develop websites. Some instruction is provided in basic HTML and XHTML coding, the composition of cascading style sheets, and the use of a current web site development software package.

IDC 6140 Instructional Systems Design

Prerequisite: IDC 6001 and IDC 6030; Co- or Pre-Requisite: IDC 6002

3-0-3

Course introduces and applies the literature, tools, and techniques of systematic instructional design. Includes substantial online course elements. Students will study major models of instructional design and apply them to develop and refine a unit of instruction. The course addresses the literature and theory underlying formal instructional development -- particularly cognitive psychology -- and provides practice in goal analysis, team instructional development, formative evaluation, and evaluation.

IDC 6145 Performance Technology

Prerequisite: IDC 6001 and TCOM 6030; Co- or Pre-Requisite: TCOM 6002

3-0-3

Course introduces and applies the literature, tools, and techniques of performance technology. The performance technologist analyzes and solves human productivity and efficiency problems in the workplace. Students will examine major models of performance improvement, and adapt and apply them to simulated corporate productivity challenges, and to real opportunities in their own work experience. This highly participatory course is a natural complement to graduate courses in instructional design and instructional technology.

IDC 6150 Marketing Communication

Prerequisite: IDC 6001 and IDC 6030; Co- or Pre-Requisite: IDC 6002

3-0-3

Strategies for planning and implementing a marketing plan for a sponsored project. Students also develop individual assignments for self-promotion and white papers.

IDC-6155 Online Instructional Development

3-0-3

Course explores online instructional development and deployment in higher education and corporate arenas, addressing issues of pedagogy, current and emerging technologies, marketing, design, and evaluation. Students will create, deploy and evaluate online instructional modules in a variety of online technologies. Prerequisite IDC 6140 Instructional Systems Design.

IDC 6175 Digital Rhetoric

Prerequisite/Co-requisite: IDC 6001, IDC 6030, and IDC 6002

3-0-3

Course provides students with a foundation in rhetoric as a study of argument, persuasion, and convention. In particular, the course focuses on rhetorical practice within a digital environment. Students will develop strong digital literacy skills to help them analyze both audience and content of new media. They will explore how a medium creates assumptions for its users, and how these media interact with one another in a larger social context. Through case studies and applied projects, students will learn to integrate digital rhetoric into the practices of professional and technical communication.

IDC 6180 Information Architecture

Prerequisite: IDC 6001 and IDC 6030; Co- or Pre-Requisite: IDC 6002

3-0-3

Course examines key concepts involved in communicating information in complex Web environments. Topics include audience analysis, organizational schemas, labeling, and navigation.

IDC 6210 Business Analysis

Prerequisites: IDC 6001, 6030 and 6002 or permission of instructor
3-0-3

This course focuses on problem definition, stakeholder analyses and communication strategies to support development. Business interface analysis fundamentals, requirements planning, analysis and documentation are covered.

IDC 6220 Mobile User Experience

Prerequisites: IDC 6001, 6030, 6002 or permission of instructor

Introduction to how user experience design, evaluation and documentation influence the mobile design lifestyle. Coursework involves case studies and project work to build student portfolios.

IDC 6240 Content Strategy

Prerequisite: IDC 6001 and IDC 6030; Co- or Pre-Requisite: IDC 6002

3-0-3

An introduction to the practices and processes of developing, implementing, assessing, and refining content for strategic and brand marketing purposes.

IDC 6901-6903 Special Topics

Prerequisite: IDC 6001 and IDC 6030; Co- or Pre-Requisite: IDC 6002

1 to 3 hours

A course on a special topic of importance and relevance to the field of technical communication not covered in the graduate curriculum. Offered when needed.

IDC 7503 Independent Study

Prerequisite: IDC 6001 and IDC 6030; Co- or Pre-Requisite: IDC 6002

3-0-3

A directed study for a graduate student who wishes to pursue a special interest in information not covered in the curriculum. The student submits to the IDC graduate program coordinator a proposal that clearly defines the course of study and the benefits to be obtained. The proposal must be submitted at least one semester prior to registration for independent study hours. Once the proposal is approved, the student is assigned a faculty advisor and registers for 3 credit hours.

IDC 7601-7603 Internship

Prerequisites: Completion of 27 hours of IDC coursework or consent of the program coordinator, confirmation of approved internship

1 to 3 hours

Course provides student with hands-on experience in information design and technical communication in a professional environment. Work should be typical of information designers and technical communicators. Work may be either an extended project or a variety of shorter assignments. (Total of 6 hours of Masters Internship required.)

IDC 7801-7803 Thesis

Prerequisites: Completion of 30 hours of IDC coursework or consent of the program coordinator, approval of thesis proposal
1 to 3 hours

Intensive research project that results in a formal written thesis. Usually flows from an area of interest discovered by the student in early stages of the Information Design and Communication program or through work experience. Thesis work will be closely supervised by the student's advisor. Students may enroll for a maximum of 3 hours per term for thesis credit, with exceptions at the discretion of the department chair. (Total of 6 hours of Thesis required.)

Information Technology Graduate Courses

IT 5101 Introduction to Database Systems

Prerequisite: None.
1.5-0-1.5

This course examines aspects of database management systems. Topics include database analysis, design, development, and management.

IT 5102 Introduction to Security

Prerequisite: None.
1.5-0-1.5

This course examines aspects of computer security and assurance. Topics include basic principles, architecture models, disaster recovery models, physical security, and privacy and ethics.

IT 5200 Introduction to Platforms

Prerequisite: None.
1.5-0-1.5

This course examines aspects of computer platforms, operating systems and hardware.

IT 5201 Introduction to Networks

Prerequisite: IT 5200
1.5-0-1.5

This course examines aspects of computer networks and data communications.

IT 5303 Introduction to Programming and Software Development

Prerequisite: None.
3-0-3

This course examines concepts and practices of modern computer programming and software development. Students will learn how to design software to solve business problems by integrating existing solutions and developing new components using an object oriented programming language.

IT 5302 Introduction to Web Development

Prerequisite: IT 5303
1.5-0-1.5

This course examines the fundamental aspects of web development in support of business needs. Web development projects are required.

IT 6103 IT and the Law

Co-requisite: IT 6413 or IT 6423
3-0-3

This elective course will examine aspects of how the law affects an IT operation. Topics such as contract law, internet law, privacy and security will be discussed. Graduates of the MSIT need to know how the law affects IT and understand the basic laws particularly geared toward an IT operation.

IT 6203 IT Design Studio

Prerequisite: IT 5101 and IT 5302
3-0-3

This core course covers technologies and methods of designing and prototyping an IT application from multiple sub-system components. Major projects included, where students will design and prototype two significant IT applications involving n-tiers of sub-system components, where n is greater than 2. The course will require foundational proficiency in all major technical areas of IT including: data management; information assurance and security; networks and communication; servers and platforms; and software and web development.

IT 6413 IT Service Delivery

Prerequisite: IT 5201
3-0-3

This core course covers existing and emerging standards for IT service delivery, including ITIL and EAMM necessary for graduates who will have responsibility for IT service delivery to the organization including attaining and maintaining service level agreements. Major project included.

IT 6423 IT System Acquisition

Prerequisite: IT 5303 or IT 5301
3-0-3

This core course covers methods and best practices of assessing business needs, functional requirements and value for IT system acquisition (including decisions about appropriate sourcing).

IT 6473 Multimedia Applications

Prerequisite: IT 5302
3-0-3

This course introduces students to current practices, technologies, methodologies, and authoring systems in the design and implementation of systems that incorporate text, audio, images, animation and full-motion video. Students will complete multimedia projects using state-of-the-art tools.

IT 6503 Foundations of Health Information Technology

Prerequisite: None
3-0-3

This course provides an overview of the importance of information technology and information systems in the health care industry. It provides an overview of the healthcare IT industry in the U.S. and

clinical terminologies, a review of fundamental characteristics of clinical information, health information exchange standards (HL7); healthcare payment and reimbursement systems, the challenges of IT implementation, and a detailed discussion of the primary clinical and managerial applications of information (including electronic health records - EHR). Group and individual research will be required.

IT 6513 Electronic Health Record Systems

Prerequisite: IT 6503

3-0-3

This course provides an overview of key technical aspects of electronic health records, the overall architecture, features and functions of major EHR systems.

IT 6523 Clinical Processes & Workflows: Analysis and Design

Prerequisite: co-requisite IT 6503

3-0-3

The course reviews aspects of clinical care as a formal activity and addresses the impact of processes and workflows on organizational efficiency and productivity.

IT 6533 Health Information Security and Privacy

Prerequisite: IT 6503

3-0-3

This course covers key technical aspects of electronic health records, the overall architecture, features and functions of major EHR systems.

IT 6583 Business Continuity Planning & Implementation

Prerequisites: None.

3-0-3

This course covers the current practices, technologies, methodologies and tools in the design, exercising and implementation of business continuity plans for the IT environment. Project and individual research required.

IT 6643 Issues in Information Management

Prerequisite: None.

3-0-3

This course addresses current issues relating to computers, ethics, and social values. Topics include computer ethics, computer crime, abuse, social responsibility, risk analysis, computer law and cultural impact. Library and internet research components are included, and a major research paper is required.

IT 6663 Data Center Management

Prerequisite: IT 5201

3-0-3

Issues in setting up and running a multi-user computer or data system. Includes RFP generation, vendor selection, project planning and control methods, backup and disaster recovery plans, site preparation, managing help desks, end user training, IT professional development, contract negotiation, outsourcing relationships and job scheduling.

IT 6683 Management of Information Technology

Prerequisite: None.

3-0-3

A study of the use of computer and information management systems in the management of organizations. Includes formal characterization of management structures, identification of information needs, and integrated tools for providing MIS support. Major project included.

IT 6723 Managing Operating and Network Systems

Prerequisite: IT 5201

3-0-3

This course covers the installation and management of operating systems and telecommunications networks, including cost-benefit analysis, and evaluation of connectivity options. Students learn to evaluate, select and implement different operating and communications options to support an organization.

IT 6733 Database Administration

Prerequisite: IT 5101

3-0-3

This course covers data administration and management, backup/recovery, security, access control, performance monitoring and tuning, data warehousing, data mining, online analytical processing, centralized versus distributed environments, client server and world-wide-web database integration.

IT 6753 Advanced Web Development

Prerequisites: IT 5101 and IT 5302

3-0-3

This course covers web services and content management for advanced web applications. Students will gain familiarity with: advanced business concepts for the web; best practices and development processes for web applications; and a variety of appropriate web tools both in the proprietary and open source domains.

IT 6763 Electronic Commerce

Prerequisite: IT 5101 and IT 5302

3-0-3

This course covers tools, skills, business concepts, and social issues that surround the emergence of electronic commerce. The student will develop an understanding of the current practices and opportunities in EDI, electronic publishing, electronic shopping, electronic distribution, electronic collaboration and database issues. Other issues include standards, security, authentication, privacy, intellectual property, acceptable use, legal liability, and economic analysis.

IT 6823 Information Security Concepts and Administration

Prerequisite: IT 5102

3-0-3

This course covers the fundamentals of computing security, access control technology, cryptographic algorithms, implementations, tools and their applications in communications and computing systems security. Topics include public key infrastructure, operating system security, database security, network security, web security, firewalls, security architecture and models, and ethical and legal issues in information security.

IT 6833 Wireless Security*Prerequisite: IT 6823*

3-0-3

This course covers methods and techniques to secure wireless networks against threats and attacks. Topics include: Encrypt wireless traffic for privacy and authenticity, implement WPA and the 802.11i security standards to protect Wi-Fi networks, wireless network intrusion detection and prevention, and security trouble-shooting WLANs.

IT 6843 Ethical Hacking: Network Security and Penetration Testing*Prerequisite: IT 6823*

3-0-3

This course covers the major issues surrounding the use of penetration testing to secure network security and important skills of a professional hacker and common security challenges that an information security officer will face in his/her work. Topics include the ethics of ethical hacking, laws and regulations, vulnerability discovery and risk analysis, internal and external attacks, how malicious hackers attack and exploit system vulnerabilities, penetration testing methods and tools, latest security countermeasures, and various types of penetration testing and programming skills required to complete successful penetration tests and to secure real systems against real attacks.

IT 6853 Computer Forensics*Prerequisite: IT 6823*

3-0-3

This course studies techniques and tools in computing investigation, digital evidence collection, recovery, and analysis. Topics include: Legal issues relating to digital evidence, recover deleted files and discover hidden information, reconstruct user activity from e-mail, temporary Internet files and cached data, assess the integrity of system memory and process architecture to reveal malicious code.

IT 6863 Database Security and Auditing*Prerequisite: IT 5101 and IT 5102*

3-0-3

This course provides students with an understanding of security concepts and practices in general and those specific to database security in a highly detailed implementation. Students will learn fundamental principles of database security and how to develop database applications embedding from simple to sophisticated security and auditing models using advanced database systems and software tools.

IT 6873 Information Security Seminar*Prerequisite: IT 6823*

3-0-3

This course covers advanced topics in information security and assurance. This course is intended to provide students a solid foundation for further research and development in the area of information security and assurance with the opportunity to develop the skill of critically reading and evaluating research papers. Topics include: Latest development in network security, threat modeling, trustworthy computing, operating system security, program security, database security, and legal and ethical issues

in information security and assurance. The course will consist of a lectures, guided research project, as well as presentations and discussions.

IT 6903 Special Topics in Information Technology*Prerequisite: Varies*

3-0-3

Special topics selected by the Department Chair. Offered on a demand basis.

IT 7803 Masters Thesis*Prerequisite: Consent of the graduate coordinator*

3-0-3

The thesis is designed for students wanting a research focus to their degree. The student works independently under the supervision of a designated faculty member on a thesis of substance in information technology. The student will generate a formal written thesis and give a final defense of the thesis. The course may be repeated, but only 6 hours may be applied toward the degree.

IT 7833 IT Strategy, Policy and Governance*Co-requisite IT 6203*

3-0-3

This is a core course in which students complete a major project which integrates elements and best practices of the field. It should be completed after the other core courses have been completed or begun.

QA 6725 Quality Assessment of the Organization*Prerequisite: QA 6602*

3-0-3

Course covers the history and rationale behind various Quality Assessment systems, with particular emphasis on the National Malcolm Baldrige Quality Award. Students will interpret and apply the criteria and assess organizations through case studies.

QA 5000 Statistical Concepts for Quality Assurance

1.5-0-1.5

Students will learn basic statistical concepts including exploratory data analysis, probability distributions, confidence intervals and hypothesis tests. Analysis using Excel and Minitab will be introduced.

QA 6600 Methods of Analysis

3-0-3

A study of the analytic processes required to identify, document, define, and measure requirements and limitations for any operating system. Class work will focus on identifying, describing, and measuring existing manufacturing and service systems. Methods available for system improvement will be investigated.

QA 6602 Total Quality

3-0-3

This course is a study of the functions and responsibilities of the quality organization. TQM concepts, quality function deployment, and the tools for continuous improvement are analyzed for sequence of use and application. Emphasis is placed on design

and performance aspects of a system-wide quality assurance function.

QA 6610 Statistics for Quality Assurance

3-0-3

Descriptive statistics for discrete and continuous variables, probability distributions, confidence intervals and hypothesis testing, elementary control charts for variables and attributes, the design of acceptance sampling plans, analysis of variance, and regression and correlation analysis.

QA 6611 Statistical Process Control

Prerequisite: A course in statistics, such as MATH 2260, IET 3403 or QA 6610

3-0-3

The application of advanced statistical methodologies to the analysis and solution of quality and management problems, including probability theory, control charts, sampling, regression analysis, and design of experiments. The focus is on statistical process control and related quality technologies.

QA 6612 Design of Experiments

Prerequisite: QA 6610

3-0-3

This is an analysis of statistical experimental design strategies, and planning of experiments for the best strategy and objectives. The use of existing computer application packages will be stressed.

QA 6613 Linear Regression Analysis

Prerequisite: QA 6610

3-0-3

In this course, students will learn linear regression analysis techniques to include first order and polynomial modeling, use of indicator variables, variance stabilizing transformations, multi-collinearity diagnostics and residual analysis. The connections among ANOVA, design of experiments and regression will be emphasized. Statistical software will be used to analyze problems.

QA 6615 Applied Systems Reliability

Prerequisite: QA 6610

3-0-3

Analysis of appropriate probabilistic models for system reliability, including the exponential, Weibull, normal, and lognormal distributions, life prediction techniques, reliability test program plans, failure mode and effect analysis, Markov models, and maintainability concepts.

QA 6620 Inspection Systems Design

Prerequisite: QA 6610

3-0-3

This course deals with understanding inspection systems, measurement principles, and limitations. Included are acceptance sampling plans such as ANSI Z1.4, ANSI Z1.9, Dodge Romig, and stipulated risk, chain, sequential, and continuous plans.

QA 6630

3-0-3

Adult learning theory, the development and management of training programs, presentation techniques, instructional aids, and assessment will be investigated.

QA 6640 Quality Cost and Supplier Evaluation

Prerequisite: QA 6602

3-0-3

A detailed analysis of cost reductions involved in continuous improvement. Supplier evaluation, including quality audits, is reviewed to establish capability. The concept of partnerships is explored.

QA 6650 Quality Systems Design

Prerequisite: QA 6602

3-0-3

Quality Systems Design prepares students for the development of the quality organization, systems, and procedures necessary for effective participation in world markets. Creating and documenting methods and procedures are stressed.

QA 6660 Six Sigma Black Belt Concepts

Prerequisite: QA 6611 and QA 6612 and QA 6650

3-0-3

A study and review of the Six Sigma Black Belt body of knowledge, including the DMAIC Methodology, Enterprise – wide deployment, project management, the lean enterprise and design for Six Sigma.

QA 6712 Quality Systems Simulation

Prerequisite: QA 6610

3-0-3

This course addresses the application of simulation to quality systems. Topics covered include fundamental simulation modeling techniques, random sampling procedures and methods of estimating performance measures from simulation outputs. Emphasis will be upon hands-on simulation of various quality systems using PC-based simulation languages.

QA 6722 Human Factors in Quality Assurance

3-0-3

Human Factors in QA is a comprehensive survey of human factors theory, research, and applications which are of particular relevance to quality assurance. Emphasis will be placed on operator constraints in the design of work processes, workplaces, and instrumentation.

QA 6763 Software Quality

3-0-3

The Personal Software Process (PSP) is a technology that brings discipline to the practices of individual software engineers, dramatically improving the quality, predictability, and cycle time for software-intensive systems. PSP makes engineers aware of the processes they use to do their work and the performance of those processes. The course covers quality assessment, cost estimation, configuration management, software performance measures, proof of correctness, validation and verification, and management of the total quality environment for software.

QA 6901-6903 Special Topics in Quality

1 to 3 hours

Students may arrange to study and perform independent research on a topic approved by a graduate faculty member. An appropriate research paper will be required and the student may be required to make an oral presentation to faculty, graduate students, and/or quality professionals.

QA 7403 Graduate Seminar*Prerequisites: QA 6602, and QA 6611*

3-0-3

The course is designed to cover various topics within the field of quality assurance which are not taught in other courses. These topics might include acceptance sampling, risk analysis, regression analysis, SPC training methods, and others.

QA 7503 Research in Quality*Prerequisites: QA 6602, and QA 6611 or consent of the department chair*

3-0-3

This course is designed to guide the student in a thorough and in-depth written examination of one or more topics relevant to the application of quality assurance. Emphasis is placed upon students using both traditional and electronic means to perform the research.

QA 7603 Applications in Quality

3-0-3

This course is designed to guide the students through a thorough and in-depth application of quality principles in the workplace environment. Emphasis will be on the application of the principles and measurable outcomes.

Software Engineering Graduate Courses

SWE 6343 User Interface Design and Implementation*Prerequisite: SWE 6623*

3-0-3 This course covers the major frameworks, methods, and approaches to designing, engineering, implementing, and testing user interfaces. It covers user and usability requirements gathering, task analysis, user-interface design, implementation of the user interface, and evaluation with respect to requirements and the users' tasks. Illustrative design and implementation projects are completed throughout the term.

SWE 6673 Software Quality Engineering and Assurance*Prerequisite: SWE 6613, CS 5011, CS 5021, CS 5031*

3-0-3

Various definitions and metrics related to quality are introduced, along with the concept of total quality management (TQM). Development of quality/test plan and the cost/value trade-off throughout the software development cycle is demonstrated. As a crucial component of quality engineering, the notion of validation and verification is explained in the context of different testing techniques, which include black box testing, white box testing, and formal verification. The emphasis of the course is on testing techniques for both non-executable and executable software artifacts as applied to different levels of testing, ranging from inspection, formal verification, unit testing to regression testing.

SWE 6613 Requirements Engineering*Prerequisite: SWE 6623*

3-0-3

Requirements engineering (RE) plays a critical role in the software development process. This course is a thorough treatment of the engineering and definition of software requirements processes. Methods, tools, notations, and techniques for eliciting, analyzing, modeling, negotiating, validating, specifying, testing, and maintaining requirements will be examined with a focus on

software-intensive systems. The course will include a major group project on the analysis and specification of software requirements.

SWE 6653 Software Architecture*Prerequisite: SWE 6623, CS 5011, CS 5021, CS 5031*

3-0-3

This course examines the principles and methods of the architectural design of complex, large-scale software systems. Macro-level system architecture with an emphasis on approaches to interconnection and distribution of both current and emerging architectural systems (e.g., Model-View-Controller (MVC), service-oriented, agent-oriented) as well as micro-level architecture including patterns, frameworks, and component-based software engineering are covered in detail.

SWE 6733 Software Engineering Processes*Prerequisite: SWE 6623, SWE 6633*

3-0-3

This course gives students an in-depth introduction to the essentials of software engineering processes, methods, and tools for the engineering and evolution of complex real-world software. Emphasis is on the role of process in the various software life-cycles from requirements engineering through operation and maintenance. Topics such as personal and team software processes, organizational maturity, theory and applications of CMMI and ISO 9001, process management, process assessment, and process improvement are included.

SWE 6853 Design Patterns*Prerequisite: SWE 6623 and CS 5003; SWE 6743 Recommended*

3-0-3

This course builds upon basic object-oriented concepts to discover principles of good object-oriented design through the application of design patterns. The focus is on the issues and means of designing software systems for reuse, extension, and maintainability including how to leverage the powers of object-orientation embodied in well-known heuristics, principles and patterns in the design and construction of reusable systems. This course will emphasize that designing reusable systems requires anticipating requirements changes and the application of design patterns will help ensure system mutability. The course includes a major project in which the students will gain hands-on experience with design patterns.

SWE 6623 Software Engineering*Prerequisite: CS 5003 or CSE 1302 or equivalent*

3-0-3

Transition: This course provides an overview of software engineering and explores both the theoretical principles and their application in the engineering of software-intensive systems. Topics cover the entire software development life-cycle and include software engineering process models, project management and planning, requirements engineering, software architecture and design, prototyping, verification and validation, usability and human factors, quality assurance, and professionalism and ethics. The course includes a real-world team project in which students are given hands-on experience utilizing state-of-the-art tools to analyze and design a software system.

SWE 6633 Software Project Planning and Management

Prerequisites: SWE 6623

3-0-3

The main phases of project management life cycle (initiation, planning, execution, monitoring/control and closeout) are covered. The emphasis is on project planning phase and on project monitoring/control phase. Various software size, cost/effort, and schedule estimation and planning techniques, including COCOMO, Function Point, and critical path analysis, are introduced as part of work breakdown structure. Project risk management is included as an integral part of project planning and project monitoring/control. Project status monitoring/control activities are discussed and practiced with a prototype team project, using the Earned Value metric.

SWE 6723 Software Engineering II

Prerequisite: SWE 6623

3-0-3

This course covers the entire software development life-cycle. Emphasis is placed on advanced topics including prototyping, verification and validation, formal methods, and quality management. A major component is a group project that utilizes a Computer Assisted Software Engineering (CASE) tool to assist in the analysis, design, and implementation of a system.

SWE 6743 Object-Oriented Analysis and Design

Prerequisites: SWE 6623, CS 5123

3-0-3

This course focuses on object-oriented modeling techniques necessary to solve complex, real-world software engineering problems. Topics include the use of information hiding, object design methods, basic design patterns, abstraction and abstract data type formalisms. Object-oriented iterative development methodologies such as the Unified Process will be utilized. Techniques for transforming software requirements into high-quality language independent object-oriented design are presented. The course includes a major iterative project in which the students will gain hands-on experience modeling a real-time system using use case analysis, responsibility-driven design, UML and RealTime UML.

SWE 6753 Computer Game Design and Development

Prerequisite: CS 5123

3-0-3

Topics include graphics, multimedia, visualization, animation, virtual reality simulation concepts, methods, and tools of game design and developments using the software engineering life cycle are emphasized. A team project on a game prototype is required.

SWE 6763 Software Metrics and QA

Prerequisite: SWE 6623, CS 5123

3-0-3

This course covers the principles of software measurement such as scaling, validity, and reliability. The various software metrics on volume, effort, quality, and cost estimation are explored. The theory and principles of software verification and validation effectiveness, and reliability models are studied. The application of these measurements to software customer satisfaction and total quality management is explored.

SWE 6783 User Interaction Engineering

Prerequisites: CS 5003 and SWE 6623

3-0-3

This course follows a complete software-engineering cycle to produce software objects (classes and/or components) 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 proto-typing; embedded systems in support of ubiquitous computing; and function-behavior analysis.

SWE 6813 Component-Based Development

Prerequisites: CS 5003

3-0-3

This course covers the concepts, foundations, and architectures of component-based software development (CBSD) and its related technologies. Component-based tools and languages, approaches for implementation of CBSD, including designing, building, assembling, and deploying reusable COTS and in-house software components are discussed in depth. The current concrete realizations of component technologies will be explored. Students will do projects focused on the life cycle of software components.

SWE 6823 Embedded Systems Analysis and Design

Prerequisite: SWE 6623

3-0-3

This project-oriented course focuses on using modern methods, techniques, and tools for specification and design of embedded systems. Topics include analytical methods, design/development methods, and notations. Performance evaluation based on modeling and simulation techniques is also covered.

SWE 6843 Embedded Systems Design and Construction

Prerequisite: SWE 6623, CS 5021

3-0-3

This project-oriented course focuses on the use of current software building technology, testing, reliability analysis, and benchmarking. Topics include component-based development (CBD), implementation technologies, and real-time operating systems (RTOS), with emphasis on the use of measurement tools, and domain libraries. The course also covers issues in hardware/software co-design.

SWE 6883 Formal Methods in Software Engineering

Prerequisites: CS 5123, CS 5423, SWE 6623, SWE 6613

3-0-3

The course is concerned with formal representation of the specification of software. Formal mechanisms for specifying, validating, and verifying software systems will be introduced to check for completeness and correctness as well as to discover ambiguities in the specifications. Both Propositional and Predicate Calculus will be reviewed and utilized to represent and reason about software specifications. Proof techniques and formal specification languages Z and the Object Constraint Language (OCL) will be explored.

SWE 6863 Software Engineering Ethics and Legal Issues

Prerequisite: Co-requisite CS 5003 or equivalent

3-0-3

This course covers ethical and legal issues related to software development. Professional ethics and responsibilities of software engineers are discussed in detail. Topics include computing and

civil liberties, encryption, intellectual property and licensing, software patents and copyrights, professional codes of ethics and professional licensing, software reliability, liabilities, and hacking. Software engineering/computing case studies will be used.

SWE 6901-6903 Special Topics

Prerequisite: As determined by the Instructor and Department Chair

1 to 3 hours

Special topics selected by the Department Chair. Offered on a demand basis. A student may repeat this course with special permission.

SWE 7903 Software Engineering Capstone

Prerequisite: SWE 6613, SWE 6653, SWE 6673, SWE 6633

3-0-3

This course is designed for students to give a professional focus to their degree. The students work in designated teams under the supervision of the course instructor (a CSE faculty member), on a project of practical significance in software engineering. Each of the teams will deliver a final working product, generate a substantial final report, and give a final presentation on the project.

SWE 7803 Masters Thesis

3-0-3

The thesis is designed for students wanting a research focus to their degree. The student works independently under the supervision of a designated SWE graduate faculty member on a thesis of substance in software engineering. The student will generate a formal written thesis and give a final defense of the thesis. This course may be repeated, but only 6 hours may be applied toward the degree. This course will be an alternative to SWE 7903 Software Engineering Capstone.

SWE 6901-6903 Independent Study

Prerequisites: Approval of course director

3-0-3

Independent study/project under the direction of a graduate SWE faculty member.

Systems Engineering Graduate Courses

SYE 5000 Quantitative Foundations for Systems Engineering

3-0-3

This course provides the quantitative foundations necessary for core courses in the Systems Engineering and Certificate programs. Topics include calculus, vectors and matrices, linear systems, and probability theory. Engineering applications of the topics will be emphasized. Cannot be taken for credit for the MS SyE.

SYE 6005 Introduction to Systems Engineering

3-0-3

The goal is to introduce the student to the essential principles, processes, and practices associated with the application of Systems Engineering. The applicability and use of Process Standards will be examined. Emphasis will focus on defining the problem to be solved, establishing the initial system architecture, understanding the role of system life-cycles, requirements

development, and verification and validation of the realized system.

SYE 6010 Managing the Technical Effort Associated with System Creation

3-0-3

Integrated framework for project organization, planning and control focusing on project management processes for large, complex programs to ensure cost-effective and quality outcomes for investments.

SYE 6015 Systems Analysis and Design

Prerequisite: SYE 6005

3-0-3

Methods used to analyze and design complex systems that meet the needs of multiple stakeholders over the system life cycle. Apply systems engineering design and analysis principles to the virtual design of a contemporary complex system.

SYE 6020 System Architecture

Prerequisite: SYE 6005 and SYE 6010 or MGNT 6050

3-0-3

Examination of concepts and techniques for architecting systems, the establishment of a bounded and integrated structure that provides a framework for system creation, work breakdown structures, cost analysis, and subcontractor control and interface will be reviewed. A structured approach to system architecture that proceeds from a topmost "system" to an aggregation and integration of systems created in lower level development layers, both internal and external to the developer as described in the standard ANSI/EIA-632 (Processes for Engineering a System) will be explored.

SYE 6025 Engineering Economic Analysis

Prerequisite: SYE 5000 or equivalent

3-0-3

Examination of the principles and methods used in evaluating costs associated with development and realization of engineering programs. This includes engineering cost estimating for determining engineering development and total life-cycle costs, application of cost-benefit analyses and cost-effectiveness analyses in the comparison of alternative design approaches, and an examination of various engineering costing concepts such as "design-to-cost", "should cost", and "cost as an independent variable".

SYE 6035 Modeling and Simulation

Prerequisite: QA 6610

3-0-3

The use of models and simulations to validate or predict expected performance, behavior, and interaction of selected design elements in a controlled environment will be examined. This course will also present guidelines for selecting and using models and simulations on projects. Various modeling and simulation methods and tools will be examined and their value and applications probed for differing engineering development needs.

SYE 6045 Process Assessment and Improvement

3-0-3

This course provides an operational understanding of the differences between process standards and assessment standards where the latter provide a formal and structured means of examining a specific process or focus area to determine

process capability or process maturity in an enterprise. Both EIA/IS-731-1, "Systems Engineering Capability Model", and Capability Maturity Model® Integration (CMMISM) will be examined and the strengths and weaknesses reviewed with respect to consideration of use on projects.

SYE 6050 Reliability and Sustainability

Prerequisite: QA 6610

3-0-3

Concepts for reliability and sustainability (maintainability) engineering and their integration into system development will be examined. In addition, techniques for ensuring the integration of these factors into core design decisions through specified requirements will be explored.

SYE 6055 System Engineering Project

Prerequisite: Consent of instructor

3-0-3

In this capstone class, students will be presented with an engineering problem statement constituting acquirer needs and expectations. Multi-disciplinary teamwork will be required to achieve a solution to the presented problem statement.

SYE 6065 System Optimization

Prerequisite: SYE 5000 or equivalent

3-0-3

This course focuses on methods of operations research and their applications. Operations Research methods include linear programs, network models, queuing models, markov chains, and heuristics. Applications in inventory & production planning, transportation & logistics, and finance will be covered.

SYE 6070 Logistics and Supply Chain Management

3-0-3

This course focuses on decisions vital to success in typical business environments characterized by competition and scarce resources. Students will develop skills in applying a variety of techniques to solve logistics and supply chain management problems. Topics covered will include information sharing and aligning incentives along the supply chain; demand forecasting; inventory decisions; transportation mode and route selection; and pricing and revenue management.

SYE 6075 Manufacturing Systems Planning and Design

3-0-3

This course focuses on decisions important in production and warehousing environments. Production topics include analysis of flows, bottlenecks and queuing, types of manufacturing operations, aggregate production planning, lot sizes and lead times, and pull production systems. Warehouse topics include design and analysis of warehouse layout, order picking strategies, warehousing inventories, and integration of production and distribution systems.

SYE 6901-3 Special Topics in Systems Engineering

3-0-3

Topics not covered in the department's regular systems engineering offerings. Course content may vary each semester depending on instructor and the perception of students' needs. Course may be repeated for credit.

SYE 7801-3 Masters Thesis Hours

Prerequisite: Consent of the Program Director and the Thesis Advisor

3-0-3

The thesis is designed for students wanting a research focus to their degree. The student works independently under the supervision of a designated SyE faculty member on a thesis, generates a formal written thesis, and gives a final defense of the thesis. This course may be repeated, but only 6 hours may be applied toward the degree.

Accounting and Business Transition Courses (Common Professional Core)

ACCT 5002 Survey of Financial Accounting

1.5-0-1.5

This course is a study of the application of accounting principles and the accounting cycle used in business of corporations to record historical economic transactions reported in financial statements to be used by decision makers internally and externally.

ACCT 5002 Survey of Financial Accounting

1.5-0-1.5

This course is a study of the application of accounting principles and the accounting cycle used in business of corporations to record historical economic transactions reported in financial statements to be used by decision makers internally and externally.

ACCT 5004 Survey of Managerial Accounting

Prerequisite: MGNT 5002 or an undergraduate financial accounting course

1.5-0-1.5

This course is a study of the application of accounting principles to specialized problems in business of corporations, special reports, and analyses of accounting information, fundamentals of management accounting, information and analysis for planning and controlling, decision analyses, cost management, and continuous improvement.

ACCT 5004 Survey of Managerial Accounting

Prerequisite: MGNT 5002 or an undergraduate financial accounting course

1.5-0-1.5

This course is a study of the application of accounting principles to specialized problems in business of corporations, special reports, and analyses of accounting information, fundamentals of management accounting, information and analysis for planning and controlling, decision analyses, cost management, and continuous improvement.

ACCT 5007 Intermediate Accounting I

Prerequisites: MGNT 5002 and MGNT 5004, or undergraduate financial accounting and managerial accounting courses

3-0-3

This course covers a review of the accounting process, detailed analysis of financial statements, time value of money concepts, and current and operational assets.

ACCT 5009 Intermediate Accounting II

Prerequisites: ACCT 5007

3-0-3

This course covers a review of the financial statements with respect to investments, current liabilities and contingencies, bonds and other long term debt, leases and tax.

MGNT 5000 Survey of Management

1.5-0-1.5

Overview of management includes managing people and production, planning and control, strategy, global business, ethics, and management careers.

MGNT 5006 Survey of Finance

1.5-0-1.5

This course provides an introduction to financial analysis, budgeting, sources and uses of funds, management of assets, short and long run financial strategy and interpretation of financial data as these relate to the process of business decision-making.

MGNT 5008 Survey of Marketing

1.5-0-1.5

A study of the theory and principles of marketing. Emphasis will be placed upon the concept of customer satisfaction. Topics to be covered include total quality management (TQM), innovation, product distribution, cooperative associations, advertising and salesmanship, and the development of brands and trademarks.

MGNT 5010 Survey of Business Law

1.5-0-1.5

An overview of the legal area survey of the areas of law-ethics, contract, partnership, corporation.

MGNT 5012 Survey of Economics

1.5-0-1.5

Applies economic theories that assist in explaining and understanding macro and micro economic policies. Particular emphasis is given to the study of unemployment, national income, fiscal and monetary policies, etc., and to the study of the impact of government upon the functioning of industry.

MGNT 5014 Survey of Statistics

1.5-0-1.5

An introduction to the application of statistics to business. Provides statistical techniques needed for managerial decision making. Course content includes descriptive statistics, statistical distribution, probability theory, and hypothesis testing.

Required MBA Courses

Graduate Faculty Listings

Business Administration Faculty

Richardson, Ronny

Professor
Ph.D., Georgia State University
M.S., Georgia State University
M.B.A., Georgia State University
B.S., University of Southern Mississippi
A.S. Community College of the Air Force

Kelani, Zeynep

Lecturer
M.S., Southern Polytechnic State University
M.S., Marmara University
B.S., Mimar Sinan University

Khayati Amine

Assistant Professor
Ph.D., in Finance, Southern Illinois University, 2010
M.S., in Finance, The University of Memphis, 2003
B.A., in Accounting, University of Tunis, 2000

Melnick, Mikhail

Associate Professor
Ph.D. Georgia State University, Economics
MA Boston University, Economics
BS Georgia State University, Economics and Physics

Tsay, Bor-Yi

Assistant Professor
Ph.D. University of Houston, Accounting
MBA, Eastern Washington University
BS National Taiwan University, Agricultural Economics

Vasa-Sideris, Sandra

Professor
Ph.D., Georgia State University
M.B.A., Georgia State University
M.A., University of Tennessee
B.A., University of Tennessee

Department of Business Administration Faculty Emeriti

Davis, Sidney, Professor Emeritus

Warsi, T.A, Professor Emeritus

Yancy, Robert, Professor Emeritus

Computer Science Faculty

Bobbie, Patrick O.

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

Chastine, Jeffrey W.

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

Dasigi, Venu G.

Professor and Department Chair
Ph.D., University of Maryland
M.S., University of Maryland
M.E.E., Philips International Institute of Technological
Studies
B.E., Andhra University

Harbort, Robert A., Jr.

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

Hung, Chih-Cheng

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

Jung, Edward

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

Karam, Orlando A.

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

Lo, Chia-Tien Dan

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

Preston, Jon A.

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

Qian, Kai*Professor*

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

Construction Management Faculty**Abaza, Hussein***Assistant Professor*

Ph.D., Virginia Polytechnic and State University
 MA.Sc., Virginia Polytechnic and State University
 B.A., Virginia Polytechnic State University

Banik, Gouranga C.*Professor*

Ph.D., Iowa State University
 M.S., University of Manchester (UK)
 M.S., Bangladesh University of Engineering and Technology
 B.S., Bangladesh University of Engineering and Technology

El-Itr, Zuhair*Associate Professor*

Ph.D., Georgia Institute of Technology
 M.S.C.E., Georgia Institute of Technology
 B.S.C.E., American University-Beirut

Irizarry, Javier*Assistant Professor*

Ph.D., Purdue University
 M.E.M., Polytechnic University of Puerto Rico
 B.S.C.E., University of Puerto Rico – Mayaguez

Meadati, Pavan*Assistant Professor*

Ph.D., University of Nebraska, Lincoln
 M.S., Indian Institute of Technology, Madras
 B.S., Osmania University (India)

Makarechi, Shariar*Assistant Professor*

Ph.D., Georgia Institute of Technology (Expected 2006)
 M.S., George Washington University
 B.S., Aryamehr University of Technology, Iran
 P.E., California, D.C., Georgia, Maryland, Virginia, West Virginia

Siddiqi, Khalid M.*Department Chair and Professor*

Ph.D., Georgia Institute of Technology
 M.S., Asian Institute of Technology, Bangkok Thailand
 B.S., University of Engineering and Technology, Karachi, Pakistan

Engineering Technology—Electrical Faculty**Asgill, Austin B.***Professor*

Ph.D., University of South Florida
 MSEE, University of Aston in Birmingham
 MBA, Florida State University
 BEngr, University of Sierra Leone
 PE, Florida

Chin, Craig A.*Assistant Professor*

Ph.D., Florida International University
 MSEE, Florida International University
 BSEE, University of the West Indies

Fallon, Thomas J.*Associate Professor*

Ph.D., Georgia State University
 MSEE, Georgia Institute of Technology
 BSEE, Georgia Institute of Technology

Misoc, Florian*Associate Professor*

Ph.D., Kansas State University,
 MSET, Pittsburg State University
 B.Sc., University of Budapest, Romania

Preethy, Adimathara P.*Assistant Professor*

Ph.D., Nanyang Technological University, Singapore
 MTech., Cochin University of Science and Technology, India
 BSEE, Cochin University of Science and Technology, India

Thain, Walter E. Jr*Associate Professor*

Ph.D., Georgia Institute of Technology
 MSEE, Georgia Institute of Technology
 BSEE, Georgia Institute of Technology

Tippens, Scott J.*Professor*

MSEE, Georgia Institute of Technology
 BSEE, Georgia Institute of Technology

Wilcox, Daren R.*Assistant Professor*

MSEE, University of Central Florida
 BSEE, University of Central Florida

Zia, Omar*Professor*

Ph.D., Warsaw Technical University
 MSEE, Warsaw Technical University
 BSEE, Warsaw Technical University
 PE, Georgia, California, Oregon

Information Design and Communication Faculty**Barnum, Carol M.***Professor*

Ph.D., Georgia State University
 M.A., Georgia State University
 B.A., University of North Carolina

Hopper, Keith B.*Associate Professor*

Ph.D. Georgia State University
 M.A., Boise State University
 B.S., Boise State University

Nunes, Mark*Department Chair and Associate Professor*

Ph.D., Emory University

M.A., University of Virginia
M.A., Columbia University
B.A., Columbia University

Oliver, Betty

Professor

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

Palmer, Laura

Assistant Professor

Ph.D., Texas Tech University
MA. TC., Texas Tech University
B.A., University of British Columbia

Information Technology Faculty

Brown, Robert L.

Lecturer

M.S., Southern Polytechnic State University
B.S., State University of New York Regents College

Halstead-Nussloch, Richard

Professor

Ph.D., University of Michigan
B.A., Macalester College

Peltsverger, Svetlana

Assistant Professor

Ph.D., Russian Academy of Science, Moscow
M.S., Chelyabinsk Polytechnic Institute, Russia
B.S., Chelyabinsk Polytechnic Institute, Russia

Reichgelt, Han

Professor and Dean, School of Computing and Software Engineering

Ph.D., University of Edinburgh (UK)
M.S., University of Nijmegen (Netherlands)
B.A., University of Nijmegen (Netherlands)

Rutherford, Rebecca

Professor

Ed.D., Indiana State University
M.S., Southern Polytechnic State University
M.S., Indiana State University
B.S., Indiana State University.
CDP

Vande-Ven, Susan

Instructor

M.S., Georgia Institute of Technology
M.B.A., University of Akron
B.S., Purdue University

Wang, Ju An

Department Chair and Professor

Ph.D., Beijing University of Aeronautics and Astronautics
M.S., Changsha Institute of Technology
B.S., Zhengzhou Institute of Technology

Yang, Ming

Assistant Professor

Ph.D., Wright State University
M.S., Tianjin University

B.S., Tianjin University

Zhang, Chi

Assistant Professor

Ph.D., University of Nebraska, Omaha
M.S., University of Nebraska, Omaha
M.S. Ed., University of Nebraska, Kearney
B.S., Beijing Normal University

Zheng, Guangzhi (Jack)

Assistant Professor

Ph.D., Georgia State University
M.S., San Francisco State University
B.S., Southwestern University

Quality Assurance Faculty

Hunt, Russ

Associate Professor

Ph.D. University of Illinois
M.S. University of Illinois
B.S. University of Illinois

Jackson, Ken

Assistant Professor

Ph.D., Georgia Institute of Technology
M.S.I.E., Georgia Institute of Technology
M.S.M.E., Georgia Institute of Technology
B.S.M.E., Auburn University

Vaughn, Mary

Assistant Professor

Ph.D., Georgia Institute of Technology
M.S., Georgia Institute of Technology
BSIE, General Motors Institute

Scherrer, Christina

Assistant Professor

Ph.D., Georgia Institute of Technology
M.S., Georgia Institute of Technology
B.S., Georgia Institute of Technology

Software Engineering Faculty

Dasigi, Venu G.

Professor and Department Chair

Ph.D., University of Maryland
M.S., University of Maryland
M.E.E., Philips International Institute of Technological Studies
B.E., Andhra University

Duggins, Sheryl L.

Professor

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

Pournaghshband, Hassan

Professor

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

Salimi, Abi

Associate Professor

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

Tsui, Frank

Associate Professor

Ph.D., Georgia Institute of Technology
 M.S., Indiana State University
 B.S., Purdue University

**Southern Polytechnic State University
 Senior Administration**

Dr. LISA A. ROSSBACHER

President

Ph.D., Princeton University
 M. A., Princeton University
 M. A., State University of New York at Binghamton
 B. S., Dickinson College

Mr. RON DEMPSEY

Executive Director of Advancement

Ph.D., Southern Baptist Theological Seminary
 M.A., University of Louisville
 M. Div., Southern Baptist Theological Seminary

Mr. WILLIAM GRUSZKA

Chief Information Officer

M. S., Cleveland State University
 B.I.E, Cleveland State University

Dr. RON R. KOGER

Vice President for Student and Enrollment Services

Ed.D., University of Kansas
 M.Ed., University of Kansas
 B.S.Ed., Pittsburg State University

Mr. PATRICK B. MCCORD

Vice President for Business and Finance

M. S., Georgia College
 B. A., West Georgia College

Ms. MARY T. PHILLIPS

Executive Assistant to the President

M.B.A, Samford University
 B. A., Howard College (Samford University)

Dr. ZVI SZAFRAN

Vice President for Academic Affairs

Ph.D., University of South Carolina
 B. S., Worcester Polytechnic Institute

President Emeritus

Dr. Steve R. Cheshier

Institutions of the University System of Georgia

Research Universities

Georgia Institute of Technology	Atlanta
Georgia State University	Atlanta
Medical College of Georgia	August
University of Georgia	Athens

Regional Universities

Georgia Southern University	Statesboro
Valdosta State University	Valdosta

State Universities

Albany State University	Albany
Armstrong Atlantic State University	Savannah
Augusta State University	August
Clayton State University	Morrow
Columbus State University	Columbus
Fort Valley State University	Fort Valley
Georgia College & State University	Milledgeville
Georgia Southwestern State University	Americus
Kennesaw State University	Kennesaw
North Georgia College & State University	Dahlonega
Savannah State University	Savannah
Southern Polytechnic State University	Marietta
University of West Georgia	Carrollton

State Colleges

Abraham Baldwin Agricultural College	Tifton
Dalton State College	Dalton
Gainesville State College	Gainesville
Georgia Gwinnett College	Lawrenceville
Gordon College	Barnesville
Macon State College	Macon
Middle Georgia College	Cochran

Two-Year Colleges

Atlanta Metropolitan College	Atlanta
Bainbridge College	Bainbridge
Coastal Georgia Community College	Brunswick
Darton College	Albany
East Georgia College	Swainsboro
Georgia Highlands College	Rome
Georgia Perimeter College	Decatur
South Georgia College	Douglas
Waycross College	Waycross

Index

A

About This Catalog • 5
 Academic Credit by Examination • 12
 Academic Regulations • 20
 Academic Standing • 21
 Accounting • 30
 Accounting and Business Transition Courses
 (Common Professional Core) • 76
 Accounting Course Descriptions • 56
 Accreditation • 5
 Admission Procedures and Deadlines • 9
 Appeals Procedure • 21
 Athletic Facilities • 16
 Athletics and Recreational Sports • 16
 Auditing Classes • 21

B

Bookstore • 15
 Business Administration • 32, 57
 Business Administration Faculty • 78

C

Cancellation of Registration • 12
 Career and Counseling Center • 15
 Catalog and Curriculum Appeals • 21
 Center for Teaching Excellence (CTE) • 19
 Certificate Programs • 22
 Certificates • 6
 Changing Your Student Record • 22
 Classification of Students • 22
 Classroom Attendance • 22
 Computer Science • 35
 Computer Science Faculty • 78
 Computer Science Graduate Courses • 59
 Computing and Software Engineering -
 Industry Liaison • 18
 Construction Management • 38
 Construction Management Faculty • 79
 Construction Management Graduate Courses •
 62
 Continuous Enrollment • 22
 Credit by Examination • 22
 Credit for Courses Completed More than Eight
 Years Prior to Graduation • 22
 Credit for Duplicate Courses or Dual Credit •
 22
 Cross Registration • 22
 CSE Courses • 64
 Cumulative Grade Point Average • 23

D

Definitions • 20
 Degree Requirements (Course Sequence) • 30
 Delinquent Accounts • 12

Department of Business Administration
 Faculty Emeriti • 78
 Disruptive Behavior and Academic Dishonesty
 • 23

E

Emergency Locator Service • 14
 Engineering Technology--Electrical • 40
 Engineering Technology—Electrical Faculty •
 79
 Engineering Technology—Electrical Graduate
 Courses • 64
 English Language Services (ELS) • 18
 Enrollment Verification and Student Status •
 23
 Exceptions to Academic Regulations • 23
 Experiential Education (Internship and
 Cooperative Education) • 15
 Extended University • 17

F

Fee Payment • 12
 Financial Aid Information • 10
 Financial Information • 12

G

General Information • 5, 20
 Grade Appeals • 23
 Grade Changes • 23
 Grade Reports • 23
 Grading System • 24
 Graduate Academic Catalog 2012-2013 • 1
 Graduate Admissions • 8
 Graduate Certificate in Health Information
 Technology • 47
 Graduate Certificate in Information Security
 and Assurance • 48
 Graduate Certificate in Information Technology
 • 48
 Graduate Certificate in Information Technology
 Fundamentals • 47
 Graduate Certificate in Systems Engineering
 Requirements • 55
 Graduate Course Descriptions • 56
 Graduate Degree Programs • 28
 Graduate Faculty Listings • 78
 Graduate Green Belt Certificate • 49
 Graduate Programs in Information Design and
 Communication • 42
 Graduate Software Engineering Certificate
 Program Admission Requirements • 52
 Graduation Fee • 12
 Graduation Requirements • 24
 Grant Development Center (GDC) • 18

I

ICAPP Program Development • 18

IDC 5001 Writing in the Professions • 66
 IDC 5002 Graphics in the Profession • 42, 66
 IDC 6004 Research Methods • 43
 IDC 6005 Visual Thinking • 44
 IDC 6010 Writing Across Media • 44
 IDC 6030 Visual Design Strategy • 43
 IDC 6035 Information Graphics • 44
 IDC 6042 Applied Digital Graphics • 43, 44
 IDC 6045 Foundations of Multimedia • 44
 IDC 6060 Strategies for Global Communication
 • 44
 IDC 6090 Medical Communication • 44
 IDC 6110 Communications Project
 Management • 43, 44
 IDC 6120 Usability Testing • 44
 IDC 6135 Website Design • 44
 IDC 6140 Instructional Systems Design • 44
 IDC 6145 Performance Technology • 44
 IDC 6150 Marketing Communication • 44
 IDC 6175 Digital Rhetoric • 43, 44, 68
 IDC 6180 Information Architecture • 44, 68
 IDC 6210 Business Analysis • 43, 44
 IDC 6220 Mobile User Experience • 44
 IDC 6240 Content Strategy • 43, 44
 Information Design and Communication
 Faculty • 79
 Information Design and Communication
 Graduate Courses • 66
 Information Technology • 46
 Information Technology Faculty • 80
 Information Technology Graduate Courses • 69
 Institutions of the University System of Georgia
 • 81
 International Student Health Insurance • 12
 International Students • 8

L

Late Instructor • 25
 Library • 16
 Licensure of Professional Engineers • 17

M

Master of Business Administration Program
 Degree Requirements • 32, 33
 Master of Science in Accounting • 28
 Master of Science in Accounting Program
 Degree Requirements • 30
 Master of Science in Systems Engineering
 Degree Requirements • 55
 Master of Science Program in Computer
 Science Degree Requirements • 36
 Master of Science Program in Construction
 Management Degree Requirements • 39
 Master of Science Program in Engineering
 Technology – Electrical Concentration
 Degree Requirements • 41

Master of Science Program in Information Design and Communication Requirements • 42

Master of Science Program in Information Technology Degree Requirements • 47

Master of Science Program in Software Engineering Degree Requirements • 52

Maximum Credit Hours • 25

MGNT 6001 Management Communications • 44

MGNT 6025 Managing Professionals • 44

O

Office of Continuing Education • 18

Office of Distance Learning (ODL) • 18

Online Advanced Certificates (with specializations) • 44

Online Graduate Certificate in Technical Communication • 43

P

Post Office • 15

Programs of Study • 2

Progress Reports • 25

Q

QA 6613 Linear Regression Analysis • 72

QA 6725 Quality Assessment of the Organization • 71

Quality Assurance • 48

Quality Assurance Faculty • 80

Quick Facts for Prospective Students • 6

R

Readmission • 8

Recreational Facilities • 16

Refund of Fees and Charges • 12

Removal of Previous Major Courses • 25

Required Technology and Software for Online MSIDC/MSIID Degrees and TCOM Certificates • 44

Responsibility for Notices • 5

S

Satisfactory Academic Progress • 10

Software Center • 18

Software Engineering • 51

Software Engineering Faculty • 80

Software Engineering Graduate Courses • 73

Southern Polytechnic State University Senior Administration • 81

Steps to Apply for Financial Aid • 10

Student Activity Absence • 25

Student Center • 15

Student Fees • 12

Student Health Services • 14

Student Housing • 14

Student Life • 14

Student Records • 25

Student Responsibility • 20

Student Rules and Regulations • 5

Students Sixty-two Years of Age or Older • 13

Systems Engineering • 54

Systems Engineering Graduate Courses • 75

T

The ATTIC • 17

The Usability Center (UC) • 18

Transcript Request • 26

Transfer Credit, Policy for Acceptance of • 26

Transient Authorization • 27

Types of Financial Aid • 10

U

University Police • 17

University Police and Crime Statistics • 5

V

Vehicle Parking Fee • 12

W

Withdrawal from Classes • 27

Withdrawals After the Deadline • 27