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Welcome to Harrisburg University of Science and Technology

An adventure in learning and the creation of a rewarding career await the student at Harrisburg University of Science and Technology. This young and innovative university provides the best of both worlds – high quality classroom education and practical, experiential learning in business and industry. At the University, the student will learn to succeed in today's most important fields – the sciences and technology -- and will learn in new and exciting ways, taking the best from many areas of study. Applied learning that the student can put to use is at the core of the University's efforts.

To prepare a student for success after graduation, the University emphasizes team-based learning, collaboration, and strong workplace ethics. Direct business and industry experience, learning through problem-solving, and frequent feedback from teachers and mentors give a student an advantage – the power of knowing how to do the work that people actually do. Being engaged in real-world projects and tasks prepares the student to consider multiple viewpoints and to connect new input to existing information. Learning here a student becomes prepared for the challenging and exciting careers of the future. Learning at the University takes place in the classroom, on campus, in the business setting, and within organizations in the community.

The University welcomes and appreciates diverse perspectives. Its urban locale and diverse student body and faculty make different ways of thinking about things an exciting part of the learning environment. Just imagine how new ideas grow from multiple viewpoints and how encouraging the exchange of those ideas among various individuals, groups, organizations, cultural traditions and schools of thought inspires learning! A student learns to make reasoned decisions based on tested convictions, while also demonstrating an appreciation for the needs and views of others.

This University Catalog is updated annually and made available in electronic form from the Harrisburg University website. Paper copies can be obtained on request from the Office of Student Services at 717-901-5157. Please refer to the website at www.HarrisburgU.edu for updated lists of courses and descriptions and other important information.

Harrisburg University has made every effort to make this catalog accurate; however, all policies, procedures, fees and charges are subject to change at any time by appropriate action of the faculty, administration, or Board of Trustees. Each edition of the University's catalog is archived in the library.

Student Responsibility Statement

A student has the responsibility to engage fully in assigned work, make connections, and develop professional competencies. The University is new in both thought and ideas. The student should be a partner in this endeavor, now and in the future. It is the student's responsibility to become engaged in the University's community of learners and develop a strong professional and ethical foundation as an individual.

Statement of Community Values

Underlying the University's mission are the following basic values:

- the importance of personal integrity, honesty, and ethical decision making;
- the right of every individual to be treated with respect and dignity as a member of a learning organization;
- freedom of intellectual inquiry in the pursuit of truth- even if it defies commonly understood theories;
- acceptance and appreciation of human diversity regarding race, gender, religion, sexual orientation, age, ability, ethnicity, and political views;
- freedom from violence aimed at limiting the freedom of, interfering with, or disrupting university activities; and
- recognition that civic engagement is a component of the intellectual development of a student and provides a path for knowledge in the service of the community.

History

The University was incorporated in the Commonwealth of Pennsylvania on December 12, 2001, making it the first science and technology-focused, non-profit, comprehensive university to be established in Pennsylvania in more than 100 years. Founded to address the Capital Region's need for increased educational opportunities in science, technology, engineering and mathematics (STEM) careers, Harrisburg University represents a major step to attract, educate, and retain Pennsylvania's diverse 21st century knowledge-based workforce.

A grand concept that was championed for more than a decade by business leaders, government officials, and the regional news media, Harrisburg University was built from concept to reality in less than a decade. The Pennsylvania Department of Education granted the University its charter in 2005, and the inaugural class of 113 students arrived in August of that same year to begin their educational journey in the new, high-tech environment.

An independent institution, the University offers academic and research programs designed to meet the needs of the region's youth, workforce and businesses. By aligning traditional undergraduate and graduate degrees with science and technology-based economic development and experiential learning, the University serves as a catalyst for regional economic prosperity and is expanding, attracting and creating economic opportunities in Central Pennsylvania.

Recognized as fulfilling a significant need, the University is a model public-private partnership, having received external support from the corporate sector, private individuals, and the state and federal government. Companies such as AT&T; Burt, Hill; Cleveland Brothers Equipment Co., Inc; Gannett Fleming, LLC; Gunn-Mowery, LLC; Harristown Development Corporation; The Hershey Company; Hollywood Casino at Penn National Race Course; McNees, Wallace and Nurick, LLC; Penn National Insurance; PPL Corporation; The Phillips Group; Property Management, Inc; PSECU; Select Medical Corporation; and Versatile Systems have supported the University with funding and opportunities for our students.

Early public- and private-sector investments have made it possible for Harrisburg University to offer a student-centered and technologically-advanced education. The physical facilities of the University include a $73-million state-of-the-art Academic Center located at 326 Market Street in Harrisburg.

The 16-story technology-laden facility accommodates up to 1,600 students and features 24 classrooms, 6 scientific teaching labs, 12 student team meeting areas, 6 seminar rooms and a 125-seat auditorium with audio-conferencing capabilities.

The University's experiential learning model, coupled with career preparation and development, has led to partnerships aligned with the University's mission and vision. The National Science Foundation, for example, funds the Science Education for New Civic Engagements and Responsibilities (SENCER) program housed within the National Center for Science and Civic Engagement at the University. Partners from across industry, academia and government provide students on-site internships, mentoring, and advanced learning opportunities connected to the latest trends, discoveries, and developments in biotechnology through the Department of Community Economic Development funded Capital Area Biotechnology Partnership. Carnegie Mellon University in Pittsburgh is a partner in the Advanced Center for Learning and Entertainment Technology at the University.

Mission Statement

The Harrisburg University of Science and Technology is an independent educational institution that offers academic and research programs in mathematics, science and technology designed to meet the needs of the region's youth, workforce, and businesses, and to expand, attract, and create economic opportunities in the region.

Approved by the Board of Trustees on November 12, 2002.
Re-affirmed by the Board of Trustees on March 6, 2006.

Accreditation and Approvals

Harrisburg University of Science and Technology is accredited by the Middle States Commission on Higher Education, 3624 Market Street, Philadelphia, PA 19104. The Middle States Commission on Higher Education is an institutional accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation.

Program offerings are authorized by the Pennsylvania Department of Education.

Approved to participate in the federal Title IV, HEA student assistance programs by the U.S. Department of Education.

Approved by the Department of Homeland Security – U.S. Immigration and Customs Enforcement (DHS-USICE) as an eligible institution for the Student and Exchange Visitor Information System (SEVIS) to enroll foreign students.

Academic Calendar

2009-2010

Harrisburg University operates on a semester calendar with intense summer sessions for selected offerings. Changes to the calendar are at http://www.HarrisburgU.edu/academics/calendar.php

SEMESTER I (Fall), 2009

Graduate Student Orientation	Thursday, August 27, 2009
New Student Orientation (a.m.)	Friday, August 28, 2009
Opening Day (p.m.)	Friday, August 28, 2009
Check-in for all Students	Monday, August 31, 2009
First Day of Classes – Add/Drop Period Begins	Monday, August 31, 2009
Last Day to Withdraw with 75% Tuition Refund	Saturday, September 5, 2009
Labor Day Holiday (University Closed)	Monday, September 7, 2009
Add/Drop Period Ends	Saturday, September 12, 2009
Last Day to Withdraw with 50% Tuition Refund	Saturday, September 12, 2009
Census Date	Tuesday, September 15, 2009
Last Day to Withdraw with 25% Tuition Refund	Saturday, September 19, 2009
Mid-Semester Deficiencies Due to Office of Records & Registration	Monday, October 19, 2009
Mid-Semester Warning Letters Mailed	Wednesday, October 21, 2009
Academic Advising Week	Monday-Friday, November 2-6, 2009
Registration begins for Semester II, 2009-2010	Monday, November 2, 2009
Last Day to Withdraw from a Course with a Grade of "W"	Saturday, November 7, 2009
Thanksgiving Holiday (No classes 11/25, University Closed 11/26–29)	Wednesday-Sunday, November 25-29, 2009
Classes Resume	Monday, November 30, 2009
Last Day of Classes	Saturday, December 12, 2009
Final Examinations	Monday-Saturday, December 14-19, 2009
Final Grades Due to Office of Records & Registration	Tuesday, December 22, 2009

SUBTERM A

Graduate Student Orientation	Thursday, August 27, 2009
New Student Orientation (a.m.)	Friday, August 28, 2009
Opening Day (p.m.)	Friday, August 28, 2009
Check-in for all Students	Monday, August 31, 2009
First Day of Classes – Add/Drop Period Begins	Monday, August 31, 2009
Add/Drop Period Ends – Census Date	Saturday, September 5, 2009
Mid-term Deficiencies Due to Office of Records & Registration	Wednesday, September 23, 2009
Mid-term Warning Letters Mailed	Friday, September 25, 2009
Last Day to Withdraw from a Course with a Grade of "W"	Saturday, October 3, 2009
Subterm A Ends	Tuesday, October 20, 2009
Final Grades Due to Office of Records & Registration	Friday, October 23, 2009

SUBTERM B

New Student Orientation	Tuesday, October 20, 2009
Check-in for all Students	Wednesday, October 21, 2009
First Day of Classes – Add/Drop Period Begins	Wednesday, October 21, 2009
Add/Drop Period Ends – Census Date	Tuesday, October 27, 2009
Last Day to Withdraw from a Course with a Grade of "W"	Tuesday, November 23, 2009
Mid-term Deficiencies Due to Office of Records & Registration	Monday, November 30, 2009
Mid-term Warning Letters Mailed	Wednesday, December 2, 2009

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SEMESTER I (Fall), 2009

SUBTERM B *(continued)*

Subterm B Ends	Saturday, December 19, 2009
Final Grades Due to Office of Records & Registration	Tuesday, December 22, 2009

SEMESTER II (Spring), 2010

New Student Orientation	Thursday, January 7, 2010
Check-in for all Students	Monday, January 11, 2010
First Day of Classes – Add/Drop Period Begins	Monday, January 11, 2010
Last Day to Withdraw with 75% Tuition Refund	Saturday, January 16, 2010
Martin Luther King, Jr. Birthday (University Closed)	Monday, January 18, 2010
Add/Drop Period Ends	Saturday, January 23, 2010
Last Day to Withdraw with 50% Tuition Refund	Saturday, January 23, 2010
Census Date	Tuesday, January 26, 2010
Last Day to Withdraw with 25% Tuition Refund	Saturday, January 30, 2010
Mid-Semester Deficiencies Due to Office of Records & Registration	Friday, February 26, 2010
Spring Recess	Monday-Saturday, March 1-6, 2010
Mid-Semester Warning Letters Mailed	Wednesday, March 3, 2010
Classes Resume	Monday, March 8, 2010
Academic Advising Week	Monday - Thursday, March 22 – 26, 2010
Registration Begins for Semester III, 2009- 2010 and Semester I, 2010-2011	Monday, March 22, 2010
Last Day to Withdraw from a Course with a Grade of "W"	Thursday, March 27, 2010
Reading Days (No Classes)	Thursday-Sunday, April 1-4, 2010
Classes Resume	Monday, April 5, 2010
Last Day of Classes	Saturday, April 30, 2010
Final Examinations	Monday-Saturday, May 3-8, 2010
Final Grades Due to Office of Records & Registration	Tuesday, May 11, 2010
Commencement	Thursday, May 20, 2010

SUBTERM A

New Student Orientation	Thursday, January 7, 2010
Check-in for all Students	Monday, January 11, 2010
First Day of Classes – Add/Drop Period Begins	Monday, January 11, 2010
Add/Drop Period Ends – Census Date	Saturday, January 16, 2010
Mid-term Deficiencies Due to Office of Records & Registration	Wednesday, February 3, 2010
Mid-term Warning Letters Mailed	Friday, February 12, 2010
Last Day to Withdraw from a Course with a Grade of "W"	Saturday, February 13, 2010
Subterm A Ends	Tuesday, March 9, 2010
Final Grades Due to Office of Records & Registration	Friday, March 12, 2010

SUBTERM B

New Student Orientation	Thursday, March 9, 2010
Check-in for all Students	Wednesday, March 10, 2010
First Day of Classes – Add/Drop Period Begins	Wednesday, March 10, 2010
Add/Drop Period Ends – Census Date	Tuesday, March 16, 2010
Mid-term Deficiencies Due to Office of Records & Registration	Monday, April 5, 2010
Mid-term Warning Letters Mailed	Wednesday, April 7, 2010
Last Day to Withdraw from a Course with a Grade of "W"	Tuesday, April 13, 2010
Subterm B Ends	Saturday, May 8, 2010
Final Grades Due to Office of Records & Registration	Tuesday, May 11, 2010

SEMESTER III (Summer), 2010

New Student Orientation	Thursday, May 6, 2010
Check-in for all Students	Monday, May 10, 2010
First Day of Classes – Add/Drop Period Begins	Monday, May 10, 2010
Last Day to Withdraw with 75% Tuition Refund	Saturday, May 15, 2010
Add/Drop Period Ends	Saturday, May 22, 2010
Last Day to Withdraw with 50% Tuition Refund	Saturday, May 22, 2010
Census Date	Tuesday, May 25, 2010
Last Day to Withdraw with 25% Tuition Refund	Saturday, May 29, 2010
Memorial Day Holiday (University Closed)	Monday, May 31, 2010
Mid-Semester Deficiencies Due to Office of Records & Registration	Monday, June 28, 2010
Mid-Semester Warning Letters Mailed	Wednesday, June 30, 2010
Independence Day Holiday (No classes; University Closed)	Monday, July 5, 2010
Classes Resume	Tuesday, July 6, 2010
Last Day to Withdraw from a Course with a Grade of "W"	Saturday, July 17, 2010
Last Day of Classes	Saturday, August 14, 2010
Final Examinations	Monday-Saturday, August 16-21, 2010
Final Grades Due to Office of Records & Registration	Tuesday, August 24, 2010

SUBTERM A

New Student Orientation	Thursday, May 6, 2010
Check-in for all Students	Monday, May 10, 2010
First Day of Classes – Add/Drop Period Begins	Monday, May 10, 2010
Add/Drop Period Ends – Census Date	Saturday, May 15, 2010
Mid-term Deficiencies Due to Office of Records & Registration	Wednesday, June 9, 2010
Mid-term Warning Letters Mailed	Friday, June 11, 2010
Last Day to Withdraw from a Course with a Grade of "W"	Saturday, June 12, 2010
Subterm A Ends	Tuesday, June 29, 2010
Final Grades Due to Office of Records & Registration	Friday, July 2, 2010

SUBTERM B

New Student Orientation	Tuesday, June 29, 2010
Check-in for all Students	Wednesday, June 30, 2010
First Day of Classes – Add/Drop Period Begins	Wednesday, June 30, 2010
Add/Drop Period Ends – Census Date	Saturday, July 3, 2010
Mid-term Deficiencies Due to Office of Records & Registration	Wednesday, July 21, 2010
Mid-term Warning Letters Mailed	Friday, July 23, 2010
Last Day to Withdraw from a Course with a Grade of "W"	Saturday, July 24, 2010
Subterm B Ends	Saturday, August 21, 2010
Final Grades Due to Office of Records & Registration	Tuesday, August 24, 2010

Undergraduate Education

Admission

The University has a centralized Admissions Office to serve all prospective student applicants – undergraduate, graduate and non-degree. This centralized structure is intended to honor the University's commitment to lifelong learning and to offer a more fluid and comprehensive service for those seeking access to a quality educational experience.

Undergraduate Admission

Philosophy

Harrisburg University of Science and Technology seeks to admit students from a variety of backgrounds. The University considers many factors in the review of applicant files. The student's motivation and interest in science or technology and academic potential, which is generally assessed by the courses completed and grades earned in secondary school, are the key elements in considering the applicant for acceptance. The University evaluates the applicant's interest in science and technology by reviewing educational records and reading a goal statement that each applicant must submit as part of the application process.

Undergraduate Admission Process

There is no application deadline. A high school student is encouraged to apply during the fall or early spring of the senior year in high school. An adult learner is encouraged to apply at least two months prior to the start of any semester. This application process allows ample time to be accepted, develop an academic schedule, and to process financial aid applications (if applicable).

Undergraduate Admission Requirements

The University will evaluate each student's candidacy once all admissions materials have been received. Offers of admission are made to qualified candidates on a rolling basis. The undergraduate admissions process requires a candidate to:

- complete the application online at www.HarrisburgU.edu/Apply or a paper application.
- submit an official high school transcript or equivalent (required of applicants transferring less than 30 semester hours; encouraged of applicants transferring more than 30 semester hours). A student who has successfully completed the General Educational Development Test (GED) may submit an official copy of the scores in lieu of the high school transcript. Documentation of successful completion of high school must be received prior to the end of the first semester of enrollment.
- submit official college transcript(s), if applicable, for any and all college, university or career/trade schools attended (whether or not academic credit was earned).
- submit a personal goal statement: "I am interested in science and technology because…" This statement may be handwritten, emailed or typed, and should be two to four paragraphs in length, or approximately one full page.

Optional materials:

- be interviewed - preferably in person during a campus visit or by telephone.

- submit results of standardized test scores from the SAT or ACT (optional, but recommended for those in high school).
- submit a letter of recommendation (preferably from someone who can attest to the student's work ethic, motivation and strengths, or from a teacher in a subject area tied to the student's academic field of interest).

Non-Degree Admission

Philosophy

The University offers various non-degree programs at both the undergraduate and graduate levels, in the form of individual courses, a specialized series of courses, and certificates. Semester hours earned will become part of the student's academic record and can be applied to a degree as defined by the appropriate policy and program requirements.

The University also offers professional development experiences in the form of certificate options, workshops, and seminars which can be taken on a non-credit or audit basis.

In some cases, courses may have prerequisites which must be met prior to registration.

Undergraduate Non-Degree Admission Process

There is no application deadline. A student is encouraged to apply at least two months prior to the start of a session or course to allow ample time to develop a finalized course registration. The University will evaluate each student's candidacy once all admissions materials have been received.

The undergraduate non-degree admissions process requires candidates to:

- complete the non-degree application online at www.HarrisburgU.edu/Apply or a paper application.
- an applicant whose native language is not English must submit his or her scores from the Test of English as a Foreign Language (TOEFL). Information on the TOEFL can be found at www.toefl.org. A minimum score of 80 must be earned on the Web-based version of the TOEFL.

If required by a specific certificate or non-degree program, submit official college transcript(s) for any college, university or career/trade schools attended (whether or not academic credit was earned). Some non-degree programs may require evidence of completion of an associate or bachelor degree program. A student who has not yet earned at least an associate degree may be asked to take and successfully pass required placement tests in lieu of the degree.

Undergraduate Non-Degree Policies

A student may enroll in up to 21 semester hours under the non-degree status when just taking individual courses. Beyond 21 semester hours, a student must apply for full degree status. Non-degree admission does not guarantee admission into a degree-seeking program.

A non-degree student must maintain a 2.00 grade point average to continue from semester to semester.

College in High School Program (Dual Enrollment)

A student may enroll in courses at the University to earn college credit while still in high school. This program provides a student the opportunity to be introduced to the college environment, explore majors and get a head start on a Bachelor of Science degree at the University.

Application Timeline

An application for acceptance into the Dual Enrollment Program is required. The application must be signed by the high school counselor or other high school official and any recommendations or other materials must be complete at the time of application. There is no application deadline. Application files are reviewed within two weeks of submission. A student is encouraged to apply as soon as possible and coordinate their application with the appropriate high school personnel (often the Guidance Office) prior to high school course selection for the appropriate semester.

Administration of the COMPASS placement examination must be completed prior to acceptance into the Dual Enrollment Program. After the results are reviewed, a determination is made to place the student into course offerings suitable to their abilities. A student may choose one or more of these offerings with their guidance counselor and then complete the registration process.

Dual Enrollment Admissions Requirements for a Student from a Sponsoring School District

The Dual Enrollment admissions process requires candidates to:

- complete the application online at www.HarrisburgU.edu/Apply or via a paper application.
- submit an official high school transcript showing a minimum cumulative GPA of 2.75 on a 4.00 scale.
- successfully complete the placement examination administered by the University.
- submit consent forms from high school guidance department and parent or legal guardian.
- an applicant whose native language is not English must submit scores from the Test of English as a Foreign Language (TOEFL). Information on the TOEFL can be found at www.toefl.org. A minimum score of 80 must be earned on the Web-based version of the TOEFL.

Dual Enrollment Policies for a Student from a Sponsoring School District

Participation in the Dual Enrollment program is contingent on results of the placement exam and the availability of the course(s) in which the applicant desires to enroll.

A dual enrollment agreement with the sending school district is required. A dual-enrolled student may enroll in as many courses as the sending district approves; however, only 6 semester hours may be taken at the agreed upon dual-enrolled price. Semester hours greater than 6 will be charged at the prevailing semester hour rate.

A maximum of 6 semester hours may be billed at the dual enrollment rate each semester. Semester hours in excess of six will be charged at a semester hour rate. For 2009-2010, the semester hour rate is $550 for dual enrollment students. Under the terms of the formal agreement with the School District, the District must agree to assume the additional semester hour cost when the student enrolls in more than 6 semester hours.

A laptop computer is required for dual enrollment study and the student must also obtain any required textbooks and supplies, if any, prior to the start of the semester.

A Parent Consent Form must be signed by the student and a parent or guardian, which provides various required releases protecting the University's interests.

An applicant wishing to enroll full-time, 12 or more semester hours, must apply under the Early College Program policy.

Dual Enrollment Admissions Requirements for a Student without a Sponsoring School District

The Dual Enrollment admissions process requires candidates to:

- complete the application online at www.HarrisburgU.edu/Apply or a paper application.
- submit an official high school transcript or equivalent showing a minimum cumulative GPA of 2.75 on a 4.00 scale.
- successfully complete the placement examination administered by the University.
- submit consent forms signed by a parent or legal guardian.
- an applicant whose native language is not English must submit scores from the Test of English as a Foreign Language (TOEFL). Information on the TOEFL can be found at www.toefl.org. A minimum score of 80 must be earned on the Web-based version of the TOEFL.

Dual Enrollment Policies for a Student without a Sponsoring School District

Participation in the Dual Enrollment program is contingent on results of the placement exam and the availability of the course(s) in which the applicant desires to enroll.

A dual enrollment agreement with the parent or guardian is required. A dual-enrolled student may enroll in as many courses as the parent or guardian approves; however, only 6 semester hours may be billed at the agreed upon reduced dual-enrolled price. Semester hours greater than 6 will be charged at a semester hour rate. For 2009-2010, the semester hour rate is $550 for dual enrollment students.

A maximum of 6 semester hours may be billed at the dual enrollment rate each semester. Semester hours in excess of 6 will be charged at the prevailing semester hour rate for all students. Under the terms of the formal agreement, the parent or guardian must agree to assume the additional semester hour cost when the student enrolls in more than 6 semester hours.

A laptop computer is required for dual enrollment study and the student must also obtain any required textbooks and supplies, if any, prior to the start of the semester.

A Parent Consent Form must be signed by the student and a parent or guardian, which provides various required releases protecting the University's interests.

Upon acceptance, a $150 tuition deposit will be required and must be received prior to enrollment.

An applicant wishing to enroll full-time, 12 or more semester hours, must apply under the Early College Program policy.

Early College Program (ECP)

A high school student who wishes to attend college on a full-time basis prior to receiving a high school diploma must be admitted under the Early College Program policy. To qualify for the Early College Program, an applicant must show strong academic preparation and personal maturity as exhibited by the high school transcript, placement examination scores, and a personal interview.

Application Timeline

There is no application deadline. Application files are reviewed within two weeks of completion. A student is encouraged to apply as soon as possible and coordinate the application with the appropriate high school personnel, often the guidance counselor.

Early College Program Requirements

The Early College Program admission process requires a candidate to:

- complete the full-time undergraduate application.
- submit an official high school transcript showing a minimum cumulative grade point average of 3.30 on a 4.00 scale.
- successfully complete the placement examination administered by the University.
- submit written approval from the school district or diploma program describing the required plan of study necessary to complete the high school curriculum by the conclusion of the first two semesters of study at the University.
- schedule an interview for admission.
- submit a consent form from the high school guidance department endorsed by the parent or legal guardian.

Early College Program Policies

Participation in the Early College Program is contingent upon results of the placement examination and the availability of the course(s) in which the applicant plans to enroll.

A student admitted to the Early College Program without a high school diploma is not eligible for Federal and State financial assistance.

Tuition funding for the Early College Program may come from a sponsoring school district. In which case, a dual enrollment contract must be completed with the district. The traditional dual enrollment policies and rates apply.

An independent student who is not from a sponsoring school district will be billed for 6 semester hours at the dual enrollment rate and a prevailing semester rate for semester hours in excess of 6. For 2009-2010, the semester hour rate is $550 for the Early College Program student.

International Students

Harrisburg University of Science and Technology is approved by the Department of Homeland Security – U.S. Immigration and Customs Enforcement (DHS-USICE) as an eligible institution for the Student and Exchange Visitor Information System (SEVIS).

This approval allows an international student to apply for entry into the United States for study on an F-1 visa only after: the SEVIS application fee of $200 is paid by the student to SEVIS; a USICE Form I-20 is certified and accepted by SEVIS; a "Statement of Financial Support" is deemed sufficient by the university and the Consulate granting the visa; and payment of the first semester's tuition has been received.

Following entry into the United States and arrival at the university, the student will be required to provide a copy of their passport, I-20 Certificate of Eligibility, and the Form I-94 departure record to confirm all identification information in SEVIS.

An international student planning to study at the University with a student (F-1) visa must satisfy the appropriate admissions requirements and procedures, demonstrate proficiency in the English language, and provide an affidavit of financial responsibility. Academic records should include courses studied, grades earned, diplomas, certificates, and results of comprehensive national examinations. A certified translation of previous education records is required if the records are in a language other than English.

An applicant whose native language is not English must submit his or her scores from the Test of English as a Foreign Language (TOEFL). Information on the TOEFL can be found at www.toefl.org. A minimum score of 80 on the Web-based version, or the equivalent, must be earned on the TOEFL.

An international student does not qualify for Federal and State financial aid but may be considered for institutional merit awards or private education loans through participating lenders. See the Director of Financial Aid for assistance.

Tuition Charges, Refund Policies and Business Office Policies

All undergraduate tuition, charges and policies listed in this publication are effective as of July 1, 2009 and are subject to change, without notice, by the University's Board of Trustees.

Admission Application Charge

There is no charge for application for admission to the University.

Tuition – Semester Schedule

Tuition payment or satisfactory arrangement to pay tuition due is required before the first day of class. Tuition is charged at the per semester hour rate shown below. Full-time tuition charges are for 12 to 16 semester hours. A student who registers for more than 16 semester hours is subject to additional tuition costs at the per-semester hour rate (for example, tuition charged for 17 semester hours will be $9,000 + $800 or $9,800). A student who registers for 11 semester hours or fewer is charged the per semester hour rate multiplied by the number of registered semester hours.

Registration Schedule per Semester

	Full-Time Tuition (12–16 Semester Hours)	Per Semester Hour Rate (1 to 11 semester hours or 17 or more
Undergraduate	$9,000	$800

Tuition Deposit

A non-refundable tuition deposit of $150 must be paid in advance of final course registration for the initial semester of attendance. A tuition deposit made for Semester I (Fall) is non-refundable after May 1, 2009. A deposit for Semester II (Spring) is non-refundable after November 1, 2009.

Laptop Computer and Textbooks

A laptop computer with wireless capability is required for attendance in all programs of study and should be obtained prior to the first day of class. Minimum requirements are listed on the University's website: http://www.HarrisburgU.edu/campuslife/technology/laptop.php. The cost is approximately $1,200.

Textbooks and other supplies (if specified for a course) must be purchased by the student prior to the first day of class. Textbooks may include both hard- and soft-bound books, journals, CDs, or software. Supplies may include a laboratory coat, goggles, gloves or any other required item specified. The estimated cost for textbooks and other supplies per course is $180.

Optional Services Costs

Parking Charge – A student may park a vehicle on campus according to the following rate schedule: Semester I (Fall), 2009-2010 - $120; Semester II (Spring), 2009-2010 - $140.

Fitness U Charge – A student may use the Fitness U facility according to the following rate schedule: Semester I (Fall), 2009-2010 - $50; Semester II (Spring), 2009-2010 - $60. Please see the Student Handbook for more detail.

Other Costs

Tuition Payment Late Charge - A late payment charge of $150 will be assessed if the student fails to make payment arrangements or pay tuition on or before the first day of the semester or term.

OneCard Replacement Charge - Upon enrollment, a student receives, at no cost, a photo-imprinted OneCard to be used as an identification badge, as a library card, and for building and elevator access. A student is required to wear the OneCard badge when on campus. If a OneCard is lost or stolen, a charge of $50 is assessed to replace the card.

Late Registration Charge – A charge of $50 will be assessed if the student registers for a course after the Add/Drop Period has ended.

Payment Plans

A student may meet tuition expenses by enrolling in a convenient interest-free monthly payment plan. Interested persons may contact the Business Office at 717.901.5135 for more information.

Enrollment Status Determination and Financial Aid Payments

A student's enrollment status is determined at the end of the Add/Drop Period (week 2). The student is charged the applicable tuition rate for the number of semester hours in which the student is enrolled. Federal and state student financial aid program assistance for which the student may be eligible is then calculated and paid during week 4 or thereafter, in accordance with regulations, based on the student's enrollment status. Stafford student loans and PLUS Loans are scheduled for disbursement on or after the 31st calendar day from the first day of the semester. University merit and need-based grants and scholarships are credited to the student's account in week 5 of the semester. Advance payment of an estimated credit balance resulting from anticipated institutional financial aid awards is prohibited.

Refund Policy for Traditional Semesters

A student who withdraws from the University prior to the end of the third week of the semester may be due a credit for the unearned portion of the tuition charge.

The rate of tuition refund for withdrawal from the University is as follows:

- prior to the first day of a semester 100%
- during the first week 75%
- during the second week 50%
- during the third week 25%
- after the third week 0%

Tuition Refund Policy

Tuition for the semester is considered fully-earned at the end of the third week of classes. For refund purposes, the semester begins on the first day of class for that semester, regardless of the student's first class day of attendance during week one. The period of time used to calculate the tuition refund is the first day of class of the semester to the University's determination date of official or unofficial withdrawal.

There will be no refund or additional charges for a student who adds and drops an equal number of semester hours within the same semester prior to the end of the Add/Drop Period (week 2).

If a student reduces the number of courses and/or semester hours during the published Add/Drop Period, a tuition adjustment for that course or semester hour reduction will be made, except the student maintains full-time enrollment status with 12 semester hours or more.

There is no tuition refund when a student withdraws from one or more courses after the Add/Drop Period but remains enrolled in one or more other scheduled courses.

Scholarship payments received from a company or organization are treated as cash payments by the student. The refund policy does not apply separately to the various types of payments credited to the student's account.

Official Withdrawal

A student is encouraged to contact the Financial Aid and Business Offices in advance of any decision to withdraw from the University to obtain an explanation of the tuition and financial aid adjustments that will occur, if any, as the result of withdrawal from the program of study.

A student who decides to officially withdraw from the University must contact the Office of Records and Registration by telephone (717.901.5136), e-mail (Registrar@HarrisburgU.edu), or in person. It is recommended that a Withdrawal Form be completed or one will be completed for you.

The determination date for withdrawal purposes shall either be the actual date of formal notification by the student or some future date specified by the student as the intended last date of attendance. The determination date is used to calculate the tuition refund, if any, and the student financial assistance program refund, if applicable.

Unofficial Withdrawal

A student who discontinues attendance in all courses during a semester and who do not officially withdraw from the University are considered to have unofficially withdrawn. The determination date for unofficial withdrawals shall be the end of the semester, unless other evidence is provided to the Office of Records and Registration. There are serious federal student financial aid program implications for a student who unofficially withdraws, as explained below.

Dismissal

The University reserves the right to exclude at any time a student whose academic record is unsatisfactory or whose behavior or conduct is found to be detrimental to the orderly functioning of the University.

When misconduct may constitute a threat to person or property within the University community or under other circumstances, it may result in disciplinary review and/or action. The University assumes the responsibility to regulate the private conduct of its students when such conduct could constitute a hazard to or an infringement on the rights of others, a violation of the law, or a disruption of the legitimate academic and administrative processes of the University.

Federal Student Financial Aid Program Refund Calculation

Refunds are calculated upon official withdrawal from all classes and, if the student was deemed eligible for Title IV, HEA student financial assistance program funds, any refund due will be paid within 45 days from the date the student is determined to have withdrawn.

A student who officially withdraws before the 60 percent point in time of the semester (week 9) - will incur an adjustment to the amount of financial aid program funds awarded and/or disbursed for the term based on the percentage of time attended from the first day of class to the University's determination date of withdrawal. If a student officially withdraws during or after week 10 of the 15-week semester, 100 percent of the student's financial assistance program awards are considered earned and will be applied to the total amount of institutional charges due for the term.

For a student who unofficially withdraws during a semester, the withdrawal date shall be the end of the semester. Federal regulations require that only fifty percent (50%) of the student's financial assistance program awards may be paid for that semester. The student is then responsible for all tuition charges due resulting from this reduction in awards and/or payments previously credited to the student's account.

Institutional Financial Assistance Awards, Payments and Refunds

Merit- and need-based financial aid assistance awarded by the University for a semester are earned ratably through week 9 of the 15-week academic term, similar to the federal student assistance program refund calculation described above.

While payments of institutional aid may be credited to the student's account on or after week 4 of a semester, the student must remain enrolled through week 9 of the semester to fully earn the award.

For example, a student with a merit award of $2,000 who officially withdraws in week 6 of the 15-week semester would only have $800 of institutional financial aid assistance applied toward tuition due for the term [$2,000 x 6/15 = $800]. The difference of $1,200 is rescinded and the student is responsible for any remaining tuition balance due.

Refunds for Non-Standard Terms – Course Charge

Various programs are offered in 7- or 8-week modules and the student is charged for only the number of credit hours enrolled for a single course. Where applicable, a student who withdraws from the University prior to the first day of the non-standard term may be due a refund of money paid to the University.

The rate of refund for withdrawal from the University is based on the amount charged for registered credit hours and is as follows:

- prior to the first day of a module 100%

- after the first day of class of a module 0%

Refunds for Non-Standard Terms – Program Charge

Various programs are offered in 7- or 8-week modules and the student is charged for the total number of credit hours enrolled for the entire program. Where applicable, a student who withdraws from the University prior to the first day of the non-standard term may be due a refund of money paid to the university. Tuition for each module will be earned ratably for the assigned number of credit hours and, should a student withdraw from the program, a refund will be made for all modules not yet attempted in the program.

The rate of refund for withdrawal from the University is based on the amount charged for the Program and is as follows:

- prior to the first day of class of a module 100%
- after the first day of class of a module 0%
- remaining modules not attempted 100%

Student Financial Aid Programs & Policies

The Office of Financial Aid Services assists qualified applicants who, without assistance, would otherwise be unable to pursue a college education. The Free Application for Federal Student Aid (FAFSA) and resulting need analysis is used to apply for federal, state and institutional award consideration.

A student must apply each year to renew financial aid eligibility. The amount of financial aid awarded will reflect changes in University costs as well as changes in the financial profile of the student and family.

Financial aid awards are based on the enrollment status of the student, defined as:

Full-time	12 or more semester hours
Three-quarter time	9 to 11 semester hours
Half-time	6 to 8 semester hours
Less than half-time	1 to 5 semester hours

A non-degree student is not eligible for financial aid.

Aid Sources

Federal Pell Grant - The Federal Pell Grant is awarded based on a federal formula using the information provided on the Free Application for Federal Student Aid (FAFSA). Awards for a full-time student vary from $976 - $5,350 for a 2009-2010 academic year, depending on financial need. For the first time beginning in 2009-1020, a student may receive more than one maximum Pell Grant during the award year if an eligible student enrolls in consecutive semesters: Semester I (Fall 2009), Semester II (Spring 2010), and Semester III (Summer 2010).

Federal Supplemental Educational Opportunity Grant (SEOG) - A limited amount of funds from the SEOG program are available to supplement Pell-eligible a student with exceptional need. Awards vary depending on need and fund availability.

Federal Academic Competitiveness Grant (ACG) - The Academic Competitiveness Grant provides up to $750 for the first year of undergraduate study and up to $1,300 for the second year of undergraduate study. The Academic Competitiveness Grant award is in addition to a student's Pell Grant award for those U.S. citizen applicants who completed a rigorous high school program of study, as specified in U.S. Department of Education regulations, and are attending college for the first time in a degree program as a full-time student. An official high school transcript, or equivalent, is required to evaluate an applicant's eligibility for an ACG Grant.

Federal Science & Mathematics Access to Retain Talent Grant (SMART) - A SMART Grant is available during the third and fourth years of undergraduate study to a full-time student who is Pell-eligible and are majoring in physical, life or computer science, mathematics, technology, engineering or in a foreign language determined critical to national security. The student must also have maintained a cumulative grade point average of at least 3.00 in coursework required for the eligible major. The SMART grant award is $4,000 per academic year.

Federal Stafford Loan - The Federal Stafford Loan is available for a student through participating lenders and credit unions. There are two types of Federal Stafford Loans: subsidized and

unsubsidized. The subsidized loan is interest-free while the student is in school, and is awarded based on financial need. Interest accrues on the unsubsidized loan while the student is enrolled in school. The borrower may opt to pay it as it accrues, or allow it to accrue and capitalize. The unsubsidized loan is a non-need based loan program.

The maximum subsidized Federal Stafford Loan per academic year is $3,500 for freshmen, $4,500 for sophomores, and $5,500 for juniors and beyond. A dependent student may borrow an additional $2,000 unsubsidized per year. An independent student may borrow an additional $6,000 per year as a freshman and sophomore, and an additional $7,000 per year as a junior and beyond.

Federal Parent Loan for Undergraduate Students (PLUS) Loan - The PLUS is available for parents of an undergraduate student through participating lenders and credit unions. A parent may borrow up to the cost of attendance less any other financial aid received. Repayment begins 60 days after this loan is fully disbursed.

Federal Work-Study – An eligible student can seek part-time employment either on-campus or in community service positions off-campus. A student may work up to 20 hours per week during a semester and up to 35 hours per week when classes are not in session.

Pennsylvania Higher Education Assistance Agency (PHEAA) State Grants & Special Programs – PHEAA State Grants are awarded to eligible Pennsylvania residents based on need. Estimated awards will vary from $200 to $3,770 for the 2009-2010 academic year. A student applies for the State Grant by completing the FAFSA. Renewal applicants must apply before PHEAA's May 1 deadline. Information from the FAFSA is automatically submitted to PHEAA. After the initial application is filed, students and parents should respond directly to the PHEAA Grant Division if additional information is required to process the state grant award.

Other special programs are offered to eligible applicants as determined by PHEAA. An official high school transcript, or equivalent, may be required to evaluate an applicant's eligibility for these programs.

Other Programs – The following federal, state or private financial aid sources are available to a student based upon the individual's affiliations or experiences.

Veterans Administration Education Benefits
Pennsylvania Office of Vocational Rehabilitation
Job Training Agencies
Employer Sponsorship

Institutional Grant and Scholarship Programs – The University offers a variety of merit- and need-based grant assistance programs. First-year student merit awards are determined using the record of high school achievement. An official high school transcript, or equivalent, is required to evaluate an applicant's eligibility for these programs. Renewal provisions apply to certain merit-based awards.

Need-based grants are awarded to a student who has remaining need after receiving available federal and state grant sources of aid and borrow a Stafford and/or PLUS loan for the academic year. Award amounts are discretionary and may change from year to year. Although a student may meet the criteria for multiple gift aid grant awards, receiving any particular award is not assured.

Several scholarship awards are made through funded programs coordinated by the Office of Financial Aid Services.

Satisfactory Academic Progress

Satisfactory academic progress (SAP) is defined as the minimum progress required toward the completion of a degree, and must be maintained in order to receive federal and institutional financial aid. The Pennsylvania State Grant Program, administered through PHEAA, may have different criteria to determine academic progress.

Federal regulations require the University to establish standards of academic progress in each of the following areas:

- the student's cumulative grade point average or qualitative measure; and,
- the maximum time limit for completing the program of study, the quantitative measure.

Financial aid recipients must maintain the standards in both areas, regardless of whether aid was received in the past. A student who is not in compliance with one or more of the standards are ineligible for further financial aid until all standards are met. In order to receive financial aid, a student enrolled in non-degree or certificate programs must meet the same standards of academic progress as a degree-seeking student.

A student who is academically eligible to continue their enrollment at the University, but does not meet the standards of academic progress, may attend classes at their own expense until they regain eligibility to receive financial aid. A student should contact the Office of Financial Aid Services to discuss strategies for meeting the standards, as well as to inquire about options for financial assistance that do not require satisfactory academic progress.

Academic Standing and Financial Aid Eligibility (qualitative) - A student with a cumulative grade point average of 2.00 or higher is in satisfactory academic standing. A student who is not in satisfactory academic standing is subject to probation and dismissal according to the following policy:

First Occurrence
If a student has a cumulative grade point average below 2.00 at the end of the semester, a letter shall be issued placing the student on probation for the subsequent semester. Conditions may be imposed at this time.

Second Consecutive Occurrence
If a student after two consecutive semesters has a cumulative grade point average that remains below 2.00, a letter of dismissal will be issued. The University reserves the right to retain a student on probation for one additional semester if the student's cumulative grade point average has significantly improved.

If at any time the cumulative grade point average falls below a 1.00 the University reserves the right to dismiss the student.

Maximum Time Limit for Completing the Program of Study (quantitative) - A full-time student must successfully complete a program of study within one- and one-half times the normal time frame in credit hours attempted. A student who is enrolled less than full-time will have the policy applied on a pro-rata basis in accordance with enrollment status.

Normal Time Frame	Number of Semesters	Avg. # of Sem. Hrs. Per Semester	Maximum Attempted Sem. Hrs.	Maximum Number of Semesters	Avg. # of Sem. Hrs. Must Be Completed Per Semester
Degree Programs:					
120 semester hours	8	15	180	12	10

Academic Standing and Satisfactory Academic Progress Review and Notification – The University evaluates academic standing and satisfactory academic progress at the end of each semester. All students who receive federal and state financial aid must meet the standards for satisfactory academic progress in order to establish and retain student financial aid program eligibility. The University may establish academic policies that may be different than the policies governing academic warning, probation, and dismissal for federal and state student assistance program purposes. Written notification of financial aid ineligibility is mailed to a student at the most recent permanent address.

Appeals – A student who becomes ineligible to participate in financial aid programs as a result of failure to meet satisfactory academic progress, as defined above, may file an appeal by submitting a letter outlining the nature of their appeal to the Director of Financial Aid Services. An appeal will be considered only if the student's failure to meet the standards of academic progress is determined to be due to events beyond the student's control. Written documentation of the circumstances and updated financial information (if any) must be submitted with the appeal and should reference the student's name and student ID number. Appeals submitted without documentation will not be considered. Examples of circumstances for which an appeal may be considered include:

- employment or military obligations
- medical emergencies
- unusual personal hardship

A timely determination will then be made and documented in the student's file.

Student Affairs

New Student Orientation

Orientation is an important and required one-day program scheduled for all newly admitted students. This program helps the first-time student bridge the gap between high school and college. For an adult student returning to college or an adult attending college for the first time, orientation is intended to ease the transition from the working world to university life. The goal is to provide critical information to the entering student regarding all the University has to offer. During orientation, the student is informed of available support services such as advising, tutoring, mentoring, library services, technology support, campus security and other campus resources. The student is introduced to the academic advisor at this time. Activities also familiarize the student with the Academic Center.

Three orientation sessions are offered each summer (two undergraduate, one graduate) and one mid-year session for all students entering in Semester II (Spring) and at the beginning of each subterm.

Housing Partners

A student who desires housing has several attractive options which are located close to the university. These are independently owned and operated.

> International House - This facility has several rooms, suites, and apartment-style housing arrangements for University students which include laundry facilities, kitchen areas, private rooms, and group living spaces. A listing and tours of the rooms are available.
>
> Pennsylvania Place - This apartment complex offers fully furnished and unfurnished units which support two students in a modern, shared-living environment.

Information about these housing partners and other options may be obtained at the Office of Admissions.

Health Referral Services

The University does not offer health services on campus. Health care services are located within minutes of the University. A student who needs additional assistance with accessing health care should refer to the Student Handbook or contact the Office of Student Services.

Disability Support Services

Harrisburg University of Science and Technology welcomes diversity among its students and, in accordance to the Americans with Disabilities Act of 1990, seeks to provide reasonable and effective support services to all students.

The Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973 prohibit discrimination on the basis of disability and require the university to make reasonable accommodations for those otherwise qualified individuals with a disability who request accommodations. A reasonable academic accommodation is a modification or adjustment that allows an individual to gain equal access and have equal opportunity to participate in the university's courses, services, activities, and use of the facilities. The university is not obligated to provide an

accommodation that requires a substantial change in the curriculum or alteration of any essential elements or functions of a program.

Disability support services are aimed at assisting with academic adjustments and accommodations. Services include test proctoring, library research, note taking, and reader services. Information on mobility, wheelchair storage, adaptive computing, small equipment loans, specialized scholarships, and career/internship resources will also be available.

To ensure appropriate accommodations, a student needs to provide current documentation of the disability by a licensed professional. Please use the space provided in the Student Health and Immunization Record to notify the University of any special needs. Additionally, all requests for accommodations should be made to the Office of the Vice President for Student Services.

Textbook Services

Textbooks are made available for student purchase through the services of Validis (formerly The Nebraska Book Company). Three times during the school year, Validis establishes a physical presence on campus to sell and buy back textbooks. The bookstore opens for approximately two weeks at a time to facilitate purchases and returns. Student schedules are provided to Validis to assist with accurate purchasing. The hours of operation will be posted on Moodle.

University Library

The mission of the University Library is to enhance learning in all academic programs and to support student development in all University competencies, especially information literacy skills in finding, evaluating, and using information. Library services include:

- collaboration between the University Librarian and faculty to integrate information literacy skill development and use of library resources into the University curriculum.
- access to a wide range of information sources selected to enhance course-based and independent learning, such as
    - online databases of full-text articles from newspapers, magazines, and scholarly academic journals;
    - streaming multimedia such as documentaries and feature films;
    - electronic books; and
    - a self-service print library located in the Learning Commons.
- research guidance for a student by phone, chat, e-mail or in person.
- partnership with other regional libraries to provide access to their information sources, free of charge to our students and faculty.

For more information, visit the library's website. Electronic content is available on the website 24 hours a day from on- or off-campus. Off-campus use requires authentication with a valid University network ID and password.

Technology Services

Information Technology Services, based in the Learning Commons, is responsible for connecting students, faculty, and staff to technology resources in support of the university's mission. Technology services include:

- a robust and reliable infrastructure to enable excellence in learning.
- a required laptop program and an entirely wireless campus to facilitate mobile computing and access to content.
- high-end classroom technologies to enhance interactivity and the capture and distribution of classroom content.
- access to enterprise software applications such as our course management system
- Moodle; our ePortfolio platform built on MS SharePoint; and many other course related software programs.
- the Harrisburg University OneCard services which enables building access, pay-for-print, vending, and book check-out from the library while serving as official university identification.
- training, orientation, and support for all university technology services.

For more information, contact Helpdesk at helpdesk@HarrisburgU.edu or 717.901.5177 with questions.

First-Year Experience

A student attending Harrisburg University will find First-Year Experience programs designed to help the incoming student maximize the first year by becoming comfortable on campus, connecting with the university and the local community, and meeting and developing new friendships with other students and faculty. The first-year student follows a curriculum that provides a learning community designed to insure that the student obtains the needed academic skills to be a successful student at the University. In the first-year courses, the student is also encouraged to become aware of the learning and communication styles in order to promote more authentic learning and improved communication in addition to learning effective techniques for stress and time management, self-motivation and goal setting. The learning community design allows all first year students to have virtually the same schedule in order to encourage community building and educational persistence.

Academic Advising

Academic advising is a critical component of a student's education. Successful advising is a significant contributor to student progress and therefore every undergraduate student is assigned to an academic advisor who is a faculty member. The advisor assists the student to explore academic and personal goals and to discuss upcoming course selections and curriculum issues. Advisors also assist students in learning how to access resources and opportunities that the University has to offer. Academic support programs and services offered to students include:

One-on-One Advising

Individual student advising is provided for the student throughout the period of enrollment. This advising is focused on academic success strategies such as time management, study skills, career aptitude, decision making and goal setting. This is done by faculty advisors and also through the Office of Student Services.

Group Study Sessions
The Learning Commons provides group study rooms for students to study in groups for specific classes and to complete group projects. Regularly scheduled group sessions occur weekly or bi-weekly and students interact with an assigned tutor or model student.

Tutoring Program
Individual tutors are available in all subjects and are scheduled upon request or at the request of faculty members. A student does not need a referral to receive tutoring. Many of the best students will request tutoring in order to ensure their mastery of course material or to prepare for tests.

Smarthinking™
Smarthinking is an online tutoring service that is free to students. A student can take advantage of live one-on-one sessions with a professional tutor in the subject in which the student needs help. A student may also submit questions or essays for feedback from a tutor and may receive immediate responses.

Academic Enrichment Program
A student who wishes to enhance basic academic skills such as mathematics, reading, writing and time-management may complete tutorials monitored by the Academic and Student Life Advisor.

Technology Literacy Program
A student who wishes to improve technology skills can choose from an array of computer literacy tutorials provided by individual tutors and partnerships with local organizations.

Model Student Program
A student in specified introductory level courses will have the opportunity to study with a model student who has mastered the course material and is trained as a student tutor. The model student accompanies the student being tutored in all aspects of the course. The model student also guides study groups through the reviewing of class notes, managing study time, using proper study skills, and planning for the timely completion of assigned coursework.

These services are accessed through the Office of Student Services and options are individually tailored to meet each student's needs.

Business Mentors Program

The student has the opportunity to be paired with a Business Mentor. These individuals are successful professionals in the local community who guide a student through the student's university career while helping the student to build a network of professional contacts in the program of study. This program seeks to link student learning in the classroom with learning in the disciplines of science and technology in the field.

Career Advising

Career advising begins for the student early in the educational experience. The student is exposed to this counseling in SEMR 100 Cornerstone, with the academic advisor, through the internship process, and in the Business Mentor program. All of these efforts are geared to encourage the student to begin planning early for eventual entry into the workplace. The University also partners

with a nationally recognized search firm, Arcus, to assist the student in the job search process upon graduation.

Academic Policies – Undergraduate Programs

Calendar and Credit System

The University operates on a semester calendar and uses the semester hour credit system. There are three semesters per twelve-month period: Semester I (Fall), Semester II (Spring), and Semester III (Summer).

Enrollment Status

Student enrollment status is defined as either full-time or part-time. The minimum full-time undergraduate student enrollment is 12 semester hours in a semester. Part-time status is any number of credits fewer than 12 semester hours. The standard full-time course load is 12 through 16 semester hours. A course load greater than 16 semester hours constitutes an overload and requires the approval of the Vice President for Student Services.

Part-time status is sometimes defined further using one of the following terms:

Three-quarter time	fewer than 12 semester hours but greater than or equal to 9 semester hours
Half-time	fewer than 9 semester hours but greater than or equal to 6 semester hours

Class Attendance

Attendance is a critical part of a student's education. The student is expected to attend class regularly and participate fully in the activities of that course. The instructor is responsible to set forth the attendance requirements for each course in the syllabus.

Attendance will be taken by instructors during the first two weeks of the semester for enrollment status determination by the Office of Records and Registration. Following that period, instructors may or may not regularly take attendance but instructors are encouraged to engage the student with class participation assignments.

If, in the judgment of the instructor, a student is excessively absent from class or fails to complete the requested participatory assignments:

1. the instructor will notify the student of this determination;
2. the student will have one week to meet with the instructor to address the situation;
3. if the student fails to do so, the instructor will notify the Office of Records and Registration to withdraw the student from the course;
4. The Office of Records and Registration will notify the student of this action and record a grade of "W."

Progress toward a Degree

A student is classified based upon the number of semester hours completed and reported to the Director of Records and Registration. The classification is based on credits completed, not attempted, and does not include courses for which one of the following grades has been assigned: "I", "IP", "NR" or "F".

Freshman	fewer than 30 semester hours earned
Sophomore	greater than or equal to 30 semester hours earned but fewer than 60
Junior	greater than or equal to 60 semester hours earned but fewer than 90
Senior	greater than or equal to 90 semester hours earned

A transfer student without a degree is classified on the basis of total semester hours accepted by the University.

A student who has earned a baccalaureate degree and is working toward a second one is classified as a senior.

Catalog in Effect

A new student entering the University during the 2009-2010 academic year will be subject to this Catalog edition unless the student elects to complete a revised set of program requirements printed in a future edition of the Catalog.

A student who left the University and returns from an absence of one year or more will be subject to the Catalog edition in effect during the year of return.

A student who elects to complete a revised set of program requirements released by the University must notify the Office of Records and Registration of this decision by completing a Declaration of Major/Catalog Option Form available in that office.

Advanced Standing

A student may earn advanced standing at the University in a variety of ways: transfer of credit from another institution, the awarding of credit for military training, successful prior learning assessment, successful performance on an Advanced Placement (AP) examination, and successful performance on a College Level Examination Program (CLEP) examination. A student is limited to earning no more than 18 semester hours of credit via standardized tests.

Advanced Placement (AP) – a student who participates in the College Entrance Examination Board's program in association with secondary schools may earn college credit for this work by: 1) completing the course offered in the secondary school, 2) sitting for the Advanced Placement examination offered in May of each year, and 3) arranging for an official AP score report from College Entrance Examination Board (CEEB) to be forwarded to the Office of Records and Registration at the University. The required minimum score for each discipline and the University's course equivalencies for which credit may be awarded appear below and on the following pages.

Subject Examinations	Minimum Score	HU Course Granted 2009 - 2010 Curriculum	Semester Hours
Art History	3	Art portion of GEND 300 The Cultured Mind	3
Biology	3	BIOL 101 General Biology	4
Biology	5	BIOL 101 General Biology & biology elective	7
Calculus AB	3	MATH 120 Calculus I	3
Calculus BC	3	Calculus II	3
Chemistry	3	CHEM 150 General Chemistry I	4
Chemistry	5	CHEM 150 & 160 General Chemistry I & II	8
Chinese Language and Culture	4	elective	9
Computer Science A	3	CISC 120 Programming Fundamentals I	4
Computer Science AB	3	CISC 160 Programming Fundamentals II	4
Economics – Macro	3	Macroeconomics portion of GEND 201 The Civic Mind	3
Economics – Micro	3	Microeconomics portion of GEND 351 The Organizational Mind or elective	3
Chinese Language and Culture	4	elective	9
Computer Science A	3	CISC 120 Programming Fundamentals I	4
Computer Science AB	3	CISC 160 Programming Fundamentals II	4
Economics – Macro	3	Macroeconomics portion of GEND 201 The Civic Mind	3
Economics – Micro	3	Microeconomics portion of GEND 351 The Organizational Mind or elective	3
Chinese Language and Culture	4	elective	9
English Language & Composition w/ essay	3	ENGL 105 College Composition	3
English Literature & Composition w/ essay	3	ENGL 105 College Composition	3
Environmental Science	3	Natural science component of GEND 111 The Scientific Mind	3
French Language	4	elective	9
French Language	5	elective	12
French Literature	3	elective	3
Geography – Human	3	GGSI 130 Geography of the World	4
German Language	4	elective	9
German Language	5	elective	12
Government & Politics-Comparative	3	Political Science/Policy portion of GEND 201 The Civic Mind or elective	3

Subject Examinations	Minimum Score	HU Course Granted 2009 - 2010 Curriculum	Semester Hours
Government & Politics-US	3	Political Science/Policy portion of GEND 201 The Civic Mind or elective	3
History – European	3	History portion of GEND 201 The Civic Mind or elective	3
History – US	3	History portion of GEND 201 The Civic Mind and elective	6
History – World	3	History portion of GEND 201 The Civic Mind and elective	6
Italian Language and Culture	4	elective	9
Japanese Language and Culture	4	elective	9
Latin Literature	3	elective	3
Latin: Virgil	3	elective	3
Music Theory	3	elective	3
Physics B	3	PHYS 210 General Physics I	4
Psychology	3	PSYC 101 Introduction to Psychology portion of GEND 101 The Creative Mind	3
Spanish Language	4	elective	9
Spanish Language	5	elective	12
Spanish Literature	3	elective	3
Statistics	3	Math 280 Introductory Statistics	3
Studio Art	3	elective	3

Armed Services Training Programs – A student who is a veteran of or on active duty in the U. S. Armed Services may receive academic credit for service training programs completed during the time of service under the following conditions: 1) the student must present a copy of the discharge notice (completed DD-214 form); 2) the veteran's military occupational specialty (MOS) designation appears on the discharge; and, 3) the student's MOS as described in the American Council on Education's Educational Experiences in The Armed Services volumes 1–3 . Credit is awarded based upon the ACE recommendation and the closeness of the match between the training program and a University course.

Prior Learning Assessment – The University may award undergraduate academic credit for prior knowledge, skills and abilities acquired through non-accredited and work-related learning experiences and equivalent to:

- the outcomes of an undergraduate major offered by the University, or
- the outcomes of a specific course.

The experience and evidence provided should have a direct relation to the material taught in a course in the University's curriculum and should extend over a sufficient period to provide substantive knowledge in the relevant area. A baccalaureate degree-seeking student who is in good academic standing, has completed a minimum of 6 semester hours in a program of study at Harrisburg University, and demonstrates the qualities to receive such credit may petition the Provost through the academic advisor. The petition must include the following:

- a detailed description of the relevant experience

- appropriate supporting evidence
- equivalent University program, course number, and title
- number of semester hours sought. The student may not receive more than 6 semester hours related to core courses in the program of study and no more than 12 semester hours based upon prior learning assessment.

The appropriate faculty member will consult with the academic advisor to determine the best means (interview, examination, portfolio, etc) for evaluating the experience. Credit will be awarded based upon demonstration of college-level learning and not on experience alone.

Approval of prior learning credit must be made in writing from of the academic advisor, the appropriate faculty member, and the Provost.

Transfer Credit – Unofficial or student copies of transcripts may be used to initiate the transfer credit evaluation process. However, official final transcripts from the institution of origin are required before the transfer evaluation process can be finalized by the Director of Records and Registration and academic credit is posted to the student's permanent record. For transfer credit limits see Graduation Requirements, Residency Requirement section on page 34.

Domestic – In lieu of articulation agreements, academic credit earned for college-level work, not developmental course work, completed for a minimum grade of "C" or higher is considered for possible transfer of credit. The Director of Records and Registration reviews the course description, reviews the program of study at the institution of origin, and may consult Harrisburg University faculty member whose academic discipline is most closely aligned with the course(s) being reviewed. Academic credit is awarded when: 1) the course is a reasonable substitute of a University course, 2) the course is a reasonable substitute for a competency associated with one of the general education (GEND) requirements, or 3) the course is considered college-level work worthy of elective credit in the student's intended program of study and the student has sufficient unsatisfied elective credits to which this course may be applied.

International – a World Education Services (WES) transcript or American Association of Collegiate Registrars and Admissions Officers (AACRAO) international transcript evaluation is required. If the original evaluation received by the Office of Records and Registration from one of these evaluators deems the student's prior work to be at the college-level and the quality of the completed work is assessed to be at the "C" or higher level, credit is awarded for the courses that apply to the student's intended program of study at Harrisburg University as indicated above for domestic transfer credit. If the prior work was earned under an educational system that did not assign credit values, the Harrisburg University semester hour value is assigned for each course being accepted. If the student completed courses which are evaluated to be at the college level, but Harrisburg University has no comparable course(s), the student is granted elective credit unless all required elective credit hours have been satisfied.

Coursework at Other Institutions – A student may study at other institutions and transfer the credit to the student's record at Harrisburg University.

Process for Approval - The student must complete an Off-campus Coursework form at the Office of Records and Registration notifying the University of the student's intention to enroll on a visiting basis at another higher educational institution. The request will be reviewed by the Director of Records and Registration who may consult with an appropriate member of the University's faculty. Prior to enrollment, a written

response will be sent to the student stating whether or not the proposed course is acceptable.

Process for Awarding of Credit – The student must arrange for an official transcript from the other college or university to be sent to Harrisburg University's Office of Records and Registration. If the approved course was completed with a final grade of "C" or higher, the semester hours earned from the course will be posted to the student's record at the University.

Off-Campus Study Program

Pennsylvania Nanofabrication Manufacturing Technology Partnership Capstone Semester – This program is comprised of a 6 course, 18 semester hour, one-semester experience at The Pennsylvania State University's Center for Nanotechnology Education and Utilization on the University Park Campus focusing on nanofabrication manufacturing technology.

Policy - Any science student who is a Pennsylvania resident may choose to participate but must have earned a minimum of 60 semester hours, have earned a minimum 2.50 cumulative grade point average, and be in satisfactory financial standing. The student will be enrolled at The Pennsylvania State University during the Capstone Semester so all registration, financial aid awards, and tuition payments will be done by the student with The Pennsylvania State University. If final grades of "C" or higher are the academic credit earned at Penn State will be posted to the student's academic record at Harrisburg University.

Procedure – The student must express an interest to participate in this program at least one semester in advance of the desired semester of attendance by completing the application form available in the Office of Records and Registration. The permission of the student's advisor is required. Upon receipt of the student's completed application, the Office of Records and Registration will review the student's record in order to confirm the student's eligibility for success in the program.

Graduation Requirements

To receive a Bachelor of Science degree, a student must satisfy all of the following requirements. Verification that the student has met these requirements is made by the Director of Records and Registration. The Provost has the authority to waive a requirement under extenuating circumstances.

1. At least 120 semester hours must be accumulated.

2. A student must complete all of the requirements of the declared program of study in which the degree is to be awarded.

3. A cumulative grade point average of at least 2.00 in all course work completed at the University is required for graduation from an undergraduate certificate program or a baccalaureate degree program.

4. The program required course must be completed with a minimum grade point average of 2.00.

5. A student must earn a minimum of 33 semester hours in residence toward a baccalaureate degree from Harrisburg University of Science and Technology: 9 semester hours must be

completed in experiential courses, 18 semester hours must be completed in required courses, and 6 other semester hours. No more than 70 semester hours earned at a two-year institution may be applied toward a baccalaureate degree from Harrisburg University. The number of semester hours that may be transferred from a four-year institution is limited to 87.

6. A student may receive two baccalaureate degrees if the requirements of each curriculum have been completed and the student has earned at least 30 semester hours beyond the required curriculum requiring the greater number of semester hours – minimum of 150 semester hours.

A candidate must apply for graduation two semesters before the student intends to graduate. The University expects each graduating student to attend Commencement.

A candidate may participate in Commencement who is within one semester of completion of all graduation requirements if the student has a reasonable and executable plan to complete all unsatisfied requirements by the conclusion of the subsequent semester.

Grades and Grading

Grades are awarded to each student for academic credit completed at the University. A grade is assigned by the instructor responsible for the course in which the student is enrolled, using the following grading scale to indicate the quality of the student's academic work.

Grade	Description	Numerical Value
A	Superior achievement	4.00
A-		3.67
B+		3.33
B	Above average achievement	3.00
B-		2.67
C+		2.33
C	Average achievement	2.00
C-		1.67
D+		1.33
D	Minimum achievement	1.00
F	Fail	0.00
AU	Audit	Not applicable
I	Incomplete	Not applicable
IP	In progress	Not applicable
LB	Laboratory	Not applicable
NR	Not reported	Not applicable
P	Pass	Not applicable
TR	Transfer credit	Not applicable
W	Withdrawal	Not applicable
WA	Administrative withdrawal	Not applicable
WM	Medical withdrawal	Not applicable

Grades of "AU", "I", "IP", "NR", "P", "TR", "W", "WA" or "WM" are not included in the calculation of a student's grade point average (GPA). They are used by the University in circumstances when grades of "A" through "F" are not appropriate.

Audit (AU) – The audit grade is assigned by the instructor when the student has properly registered to audit the course, and has met all requirements of the University's course audit policy.

Incomplete (I) – Inability to complete course work due to documented circumstances beyond the student's control (such as severe illness) may, at the discretion of the instructor, result in a grade of incomplete (I). However, all work must be completed by the end of the Add/Drop Period of the subsequent semester. If all work is not completed by that time, the "I" grade will convert automatically to a grade of "F". It is the responsibility of the student to contact the instructor to make the necessary arrangements for makeup work. A student with 6 semester hours or more of incomplete work will not be permitted to register for future courses.

In Progress (IP) – This is a deferred grade assigned by the instructor to be used for research projects, internships, directed study, etc., when it is understood that the course will extend over more than one semester. An "IP" grade should be accompanied by a written plan and a schedule for completing the course within a specified time period to be no longer than 12 months.

Laboratory (LB) – This grade is assigned by the Director of Records and Registration at the conclusion of a semester to a student who is enrolled in a non-credit developmental recitation section of a course. This grade and such a course does not appear on the student's transcript.

Withdrawal (W) – This grade is recorded by the Director of Records and Registration when the student has withdrawn from the course according the policy set forth by the University for withdrawing from a course.

Administrative Withdrawal (WA) – The "WA" grade can be assigned only by the Provost or other designated official. It is used when it is necessary for a student to leave the University under extenuating circumstances and when the normal withdrawal process is not available to the student. A request for administrative withdrawal with accompanying documentation will be submitted to the Director of Records and Registration. The "WA" grade can be submitted at any time during the semester.

Medical Withdrawal (WM) – This grade can be assigned at any time during the semester when a student requests to leave the University for medical reasons and when the normal withdrawal processes are not available to the student. This grade is assigned by the Director of Records and Registration with the approval of the Provost. The student must submit well-documented evidence of the medical condition to be eligible for a medical withdrawal from the University.

Transfer (TR) – A grade of "TR" is used to indicate on the student's transcript those credits that have been earned at another institution and that will count toward the degree at Harrisburg University. While courses with a "TR" grade are counted toward the student's degree requirements, there are no quality points associated with this grade so this grade has no impact upon the calculation of the student's grade point average.

Not Reported (NR) – The temporary grade of "NR" is recorded by the Director of Records and Registration when the instructor does not report a grade for the student for the course. The Director of Records and Registration will advise the Provost when an "NR"

grade has been recorded for the student, and will work with the student and the instructor to determine why a grade was not reported.

Pass (P) - The "P" grade is assigned by instructors for a student who successfully completes a course that is designated as a course that will be graded on a Pass/Fail basis.

Grade Point Average

A grade point average (GPA) is a statistical calculation of a student's performance in a semester. The semester grade point average summarizes the student's performance during that academic term and the cumulative grade point average (CUM GPA) summarizes the student's performance during semesters completed at the University.

Calculation of the Grade Point Average

Course	Sem. Hrs. Attempted	Grade	Numerical Value	Quality Points
Course A	3	B	3.00	9.00
Course B	4	B-	2.67	10.68
Course C	2	A-	3.67	7.34
Course D	3	C	2.00	6.00
Total	**12**			**33.02**

Total Quality Points = 33.02 / 12 = **2.75**

1. Compute the quality points earned for each course by multiplying the semester hours earned for the course by the numerical value of the grade earned in the course. *Example: A student registered for a course worth 4 semester hours who earns a final grade of "B-" in that course will earn 10.6 quality points for that course (4 semester hour x 2.67).*
2. Add the quality points earned for each course in which the student is registered in the semester.
3. Add the number of semester hours attempted for all courses in which a grade of "A" through "F" was earned.
4. Divide the total number of quality points earned by the total number of semester hours attempted. The result is the grade point average.

Mid-Semester Deficiency Letters

Each instructor notifies the Office of Records and Registration of a student's poor academic performance in a course by submitting mid-semester deficiencies of "C-", "D+", "D", "F" or "I" at the end of the seventh week of classes as indicated on the Academic Calendar. These submissions are forwarded to the Vice President of Student Services who sends a letter to each student with a deficiency, and a copy to the student's academic advisor. A student who receives such a letter is encouraged to consult both the instructor and academic advisor and utilize the services of the Academic Success Center.

Final Grading Process

After the conclusion of a semester, each instructor notifies the Office of Records and Registration of a student's academic performance in a course by submitting grades. The Office of Records and Registration posts these grades to the student's permanent record at the University and releases grade reports to each student as indicated on the Academic Calendar.

Repeated Courses

A student may repeat courses in which they have received a grade of C- or below. The original grade will remain on the student's transcript as part of the permanent academic record. Once a course is repeated, the most recent grade will be used in the calculation of the student's cumulative grade point average. Courses may only be attempted twice for credit.

Academic Standing

A student with a cumulative grade point average of 2.00 or higher is in satisfactory academic standing. A student who is not in satisfactory academic standing are subject to probation and dismissal according to the following policy:

First Occurrence
If a student has a cumulative grade point average below 2.00 at the end of the semester, a letter shall be issued placing the student on probation for the subsequent semester. Additional academic requirements may be imposed at this time.

Second Consecutive Occurrence
If a student after two consecutive semesters has a cumulative grade point average that remains below 2.00, a letter of dismissal will be issued. The University reserves the right to retain a student on probation for one additional semester if the student's cumulative grade point average has significantly improved.

If at any time the cumulative grade point average falls below a 1.00 the University reserves the right to dismiss the student.

Academic Honors

Dean's List - A student is eligible for the Dean's List at the conclusion of a semester when:

1. the semester grade point average is 3.50 or higher; and,
2. a minimum of 9 semester hours of course work was completed, excluding those courses in which final grades were earned that are not included in the calculation of the grade point average.

Graduation Honors – A student who has earned consistently superior grades will be recognized for this achievement at graduation with the designation listed below representing the student's level of achievement. Both the student's diploma and university record will carry the appropriate honors designation as follows:

Summa Cum Laude for a cumulative grade point average between 3.95 and 4.00
Magna Cum Laude for a cumulative grade point average between 3.75 and 3.94
Cum Laude for a cumulative grade point average between 3.50 and 3.74

Release of Grades

In accordance with the requirements of the Family Educational Rights and Privacy Act (FERPA), reports of the student's grades are not routinely sent to the student's parents or guardians. Parents or guardians of a student under 18 years of age may obtain grades by writing to the Office of the Records and Registration. The grades of a student over 18 years of age will be sent to the parents only with the written consent of the student.

Final Grade Appeal

A punitive final grade is required to be assigned by the instructor upon completion of coursework to earn credit during a semester or other term. A student may dispute and disagree with the final grade assigned by the instructor and may seek remedy using an evidence-based argument. A final grade appeal must be initiated on or **before the tenth (10th) business day** following the end of a semester or other term as specified in the Academic Calendar.

A student who chooses to appeal a grade must obtain a **Final Grade Appeal Form** from the Office of Records and Registration. The form must be completed with an explanation of the disagreement and attached to it any and all tests, grades, essays or project summaries supporting the student's position as evidence. The student's academic record will be placed in a "hold" status during the grade appeal process.

The student is then required to meet with the course instructor to discuss the appeal request. The instructor must sign the form to either change the final grade or reaffirm the original grade assigned. If the final grade is changed, the instructor shall submit the form to the Office of Records and Registration, the grade will be posted, and the academic record **hold** status will be released.

If the instructor denies the appeal, the student may choose to further pursue a final grade appeal by submitting the completed and endorsed form, with evidence, to the Office of Records and Registration. That office will place a hold on the student's academic records until the formal appeal is resolved. The form and evidence-based argument is then sent to the Office of Student Services for review and final determination, with a copy to the Office of the Provost. Additional information may be requested from the student and/or instructor during this time. Following consultation with the Office of the Provost, a decision shall be rendered by the Vice President of Student Services within five (5) days of receipt. This decision is final and is not subject to further appeal. The student and instructor will then receive a final determination letter to change the grade or reaffirm the original grade assigned. The Office of Records and Registration will then post the grade and release the records **hold** status.

Withholding of Records

Student records may be withheld by the Office of Records and Registration when directed by the appropriate University officials. The release of academic transcripts or a diploma may be held for a period of time. The Vice President for Student Services determines when a student's record must be on hold for disciplinary reasons and the Business Office determines when a student's record must be on hold for financial reasons.

Deferred Examination Policy

This section applies to all examinations, including mid-term and take-home examinations, whether or not administered during the final examination period.

No Right to Defer

No student has a right to defer an examination. A student who fails to take an examination when scheduled will receive a failing grade of "F" on the examination unless the examination has been deferred according to the procedure outlined in this policy.

Policy on Deferral of Examinations

Examinations will be deferred only for "good cause." "Good cause" will be determined by the Vice President for Student Services in conjunction with the instructor of that course. The decision of the Vice

President for Student Services is final. In the event of a lack of consensus between the Vice President and the instructor, a decision will be made by the Provost. Examples of "good cause" include:

- serious personal injury or illness with appropriate documentation;
- serious injury, illness or death in the immediate family that can be documented; or,
- other extenuating mitigating circumstances beyond the student's control.

Procedure for Requesting Deferred Examination
If a student desires to request deferral of an examination, the student should file a request with the Vice President for Student Services and the instructor requesting deferral of the examination in a timely manner. Every student requesting a deferral of an examination must provide evidence of the event or situation which the student believes is justification for the request for deferral.

Emergency Deferral of Examination
The student must make the request in person or by telephone. If a student is unable to take an examination for good cause (as defined previously) that arises within 24 hours immediately prior to the exam time, the student may appear in person or telephone the Office of the Vice President of Student Services to obtain permission to defer an examination.

If a student cannot appear in person or by telephone, the student may miss the examination and apply for a deferral after the examination date. Such application for deferral must be made within 48 hours of the administration of the exam for which the student seeks the deferral, and in no event later than the last day of the exam period for that semester.

Timing of Make-up Examination
The deferred examination will be taken at a time determined by the Vice President of Student Services in conjunction with the instructor of the course. The make-up examination must be completed no more than five business days after the original test date.

Illness During an Examination
If a student becomes ill during an examination and is unable to continue, the student shall notify the proctor and leave all examination materials with the proctor. The student shall seek medical attention immediately and obtain a letter in support of the illness that prevented the student from completing the examination.

Leave of Absence Policy

A student may initiate a leave of absence request for extenuating mitigating circumstances or short-term active-duty military service. A student choosing to take a leave of absence should contact the Vice President of Student Services to initiate the request and coordinate expectations to ensure a smooth return to the University. Only a student with a reasonable expectation of returning to the University and with the ability to complete the coursework should apply for a leave of absence.

A Leave of Absence Form must be submitted in writing, signed, and dated in advance of the onset of the leave. This form can be found in the Student Services Office and the Office of Records and Registration. Information regarding the request for the leave must be provided and may require additional supporting documents. The documents will then be forwarded to the Office of Records and Registration for processing. The recording of student enrollment and grades during a leave is as follows:

- withdrawal (W) grades will be assigned after the Add/Drop Period and one week prior to the end of classes.

- final grades may be assigned by the instructor if the leave begins after the final week of classes have commenced.

The Business and Financial Aid Offices will determine any tuition and financial aid implications of a leave.

Official Withdrawal Procedure

A student considering withdrawal from the University should meet with the Vice President for Student Services for evaluation of options. A student who wishes to officially withdraw from the University must complete and sign a withdrawal form, have a conference with the Financial Accounts Manager and Financial Aid Director regarding possible financial consequences of withdrawing from the University, and submit the form to the Office of Records and Registration. The last date of attendance will be determined by the official withdrawal date or the unofficial withdrawal process described on page 17.

A student who unofficially withdraws by ceasing attendance and failing to notify the Office of Records and Registration may incur substantial penalties due to stringent federal and state regulations for the student financial assistance grant and loan programs.

Dismissal

The University reserves the right to exclude at any time a student whose academic record is unsatisfactory or whose behavior or conduct is found to be detrimental to the orderly functioning of the University.

When misconduct may constitute a threat to person or property within the University community or under other circumstances, it may result in disciplinary action. The University assumes the responsibility to regulate the private conduct of its students when such conduct could constitute a hazard to or an infringement on the rights of others, a violation of the law, or a disruption of the legitimate academic and administrative processes of the University.

Readmission

The Readmission Application form is available at the Office of Records and Registration and must be completed and submitted to that office. A student who was in good academic standing, had satisfied all financial obligations to the University at the time of withdrawal, and has the approval of the Vice President of Student Services will be readmitted. The application of a student who left the University on academic probation will also be reviewed by the Provost who will make the readmission decision.

Reinstatement

A student with a cumulative grade point average of 1.00-2.00, dismissed for poor scholarship pursuant to this Catalog, may petition the Vice President for Student Services for reinstatement. A student may not be reinstated fewer than twelve months from the date of the original dismissal. A student with a cumulative grade point average below 1.00 may not petition for reinstatement.

Filing Petition for Reinstatement

A petition for reinstatement must be filed during the fifteen-day period beginning with the day on which notice of dismissal is deemed effective. The petition shall be delivered to the Office of Student Services.

Requirements of the Petition
The student must allege and prove that the student possesses the requisite ability to perform satisfactorily and that the student's current grade point average does not indicate a lack of capacity. The student must rebut the presumption of lack of capacity by proving the following:

- demonstration of ability to do college-level work.
- extenuating or mitigating circumstances beyond the student's control. The student must prove that the academic failure was the result of extraordinary circumstances beyond the student's control. If these circumstances claimed by the student were a result of physical or psychological incapacity suffered during a semester or before or during an examination, convincing medical proof of the condition must accompany the petition.
- significant increase in grade point average. If a student's grade point average significantly improves over the course of the semesters under review, the Provost may conclude that the student's most recent grades are a more accurate reflection of the student's capacity to succeed. The Provost's decision is discretionary and a petition for reinstatement may be denied regardless of the student's increase in semester grade point average.

Dismissal Following Reinstatement
A student who has been dismissed and later reinstated is ineligible to petition if dismissed again.

Consideration of Petition for Reinstatement

Review of Petition
Petitions shall be reviewed by the Provost and Vice President for Student Services. A committee may also be convened if the Provost so chooses.

Reinstatement on Conditions
A readmitted student may be required to fulfill certain conditions such as, but not limited to, the repetition of courses.

Academic Programs – Undergraduate

Learning at Harrisburg University

The goal of learning at Harrisburg University is to ensure that the student gains the relevant knowledge, competence, and experiences to best be prepared for self-fulfilling and enriching careers. Learning is, therefore, a multi-faceted activity that occurs throughout and across the college experience; it integrates both academic learning (acquiring and applying new knowledge) and student development (learning about oneself). Harrisburg University emphasizes competency-based learning outcomes with programs that are intentionally designed to be engaging, integrative, and experiential. There are four interdependent program characteristics that help define the Harrisburg University experience:

- **Highly Available:** The University frames learning experiences to meet the student's needs. This is demonstrated through the team-taught general education program, the use of technology inside and outside of the classroom, and the non-curricular or co-curricular learning opportunities available through the Office of Student Services and Office of Strategic Markets.
- **Highly Collaborative:** The student develops knowledge and skills through shared experience as opposed to learning in isolation or in competition with each other. Faculty are responsible for creating facilitative learning environments under the premise that knowledge can be gained from everyone. The student has the advantage of learning from the minds and experiences of classmates, business mentors, or future employers.
- **Highly Experiential:** The University deliberately ensures that learning is highly linked to both practical and professional experience. This represents a shift from one-way (faculty to student), text-heavy content delivery to a more robust learning model that deliberately values experience, both inside and outside the classroom. Experience is emphasized through the Junior and Senior Projects for undergraduates and industry-related internships and experiences for the student.
- **Highly Applied:** The learning conversation focuses on the practical application of knowledge. The intention is to shift the question from "How do I remember this information?" to "How can I act on this information in order to create knowledge that is both useful and actionable?" In this way, learning at the University becomes an exercise in both preparation for career and readiness for life.

Learning Assessment at Harrisburg University

Harrisburg University's model for the assessment of student learning is structured to support learning goals. While attempting to be innovative, the goals of the University, programs, and courses are clearly defined and are relevant to the mission of the University. Course syllabi establish specific learning objectives, articulate the instructor's expectation of the student, and outline the standards against which the student's learning will be measured. Learning assessment of coursework and experiential learning is creative, in that it goes beyond instructor-driven evaluation through examinations and papers in most cases, and is done both inside and outside the classroom by faculty, business and academic professionals. Further, student learning around each of the University competencies is a focus of assessment activities. Student learning assessment is anchored in the use of ePortfolios throughout the student's program. The University is also committed to constantly

improving learning and program offerings by comparing student assessment outcomes with University, program, and course goals.

Competencies and ePortfolio

Competency-Driven and Across-the-Curricula: A hallmark of the Harrisburg University experience is competency-driven education. That is, the student will be expected to demonstrate mastery of eight university-wide competencies:

- Critical Thinking
- Communication
- Teamwork and Collaboration
- Entrepreneurship
- Information Literacy
- Ethical Decision Making
- Global Awareness
- Civic Engagement

Regardless of the student's program of study, employers and community leaders desire these competencies; they also serve the broader purpose of preparation for life and citizenship.

ePortfolio Requirement: Harrisburg University defines an ePortfolio as *an organized, media-rich collection of documents that allows the student to demonstrate competence to a multitude of audiences.* The ePortfolio will be central in how the student organizes, develops, and reflects on their learning. It will also be a lever for assisting the way in which faculty develop curricula, view teaching, and deliver content. Ultimately, the ePortfolio will be a coalescing force for making tangible and visible the university-wide competency program while serving as a key tool in evaluating student success.

Structure of the Program

The undergraduate program structure at Harrisburg University is designed to provide the student with basic foundation knowledge, program specific knowledge, opportunities to apply new knowledge, and the flexibility to explore interesting topics. All undergraduate degree programs at Harrisburg University have the same five structural elements: 1) Foundation courses, 2) General Education courses, 3) Program Requirement courses, 4) Experiential courses, and 5) Elective courses. The number of semester hours covered by the structural elements adds up to the total of 120 semester hours needed for graduation. Each structural element has specific semester hour and course requirements associated with it. Generally, the breakdown of semester hours by structural element is 18 semester hours in Foundation courses, 30 semester hours in General Education courses, 40 – 50 semester hours in Program Requirement courses, 13 semester hours in Experiential courses, and 9 – 19 semester hours in Electives.

Foundation

The purpose of Foundation courses at Harrisburg University is to provide the student with mathematics and communication knowledge and skills that will be used throughout the selected program of study. More importantly, mastery of foundational knowledge and skill is required for success in science and technology careers. Every student must complete 9 semester hours of mathematics including the following topics: college algebra; college

statistics; and calculus, discrete mathematics, or finite mathematics. Additionally, every student must complete 9 semester hours of communication including the following topics: composition, speech, and advanced composition and technical writing.

General Education

The purpose of general education at Harrisburg University is to offer the undergraduate student a dynamic platform for both foundational and skill-based learning that prepares them for a well-rounded life in which they will make informed decisions, contribute to society, and become lifelong learners. In developing "habits of mind," and through the lens of the desired university-wide competencies, the student will obtain a breadth of knowledge and become adept at approaching and analyzing complex problems.

Given the sheer vastness of knowledge and the rate at which new knowledge is developed, the student typically cannot command mastery or deep expertise in the broad areas known as the sciences, social sciences, humanities, or applied knowledge domains such as entrepreneurship or leadership. The purpose of General Education is not to produce experts. Instead, the goal is to integrate contributions from multiple fields to give the student more comprehensive explanations and understandings of the world. In essence, General Education – and all learning at the University – extends the more traditional "learn-to-know" model by combining a "learn-how-to-learn" model with a "learn-for-action" model.

The Mind courses are 6 semester hour, cross-disciplinary, problem-based courses team-taught by faculty of different disciplines. At Harrisburg University, general education is a degree requirement for each undergraduate student. The student is required to take at least 30 semester hours of General Education, 24 of which must be the Mind courses.

- GEND 101: The Creative Mind
- GEND 111: The Scientific Mind
- GEND 201: The Civic Mind
- GEND 351: The Organizational Mind

The remaining 6 semester hours can be additional Mind courses or General Education (GEND) electives. These General Education courses are intended to be holistic in nature; that is, though they may be organized as two courses of 3 semester hours, they are intended to be taken as 6 semester hour integrative learning experiences. The focus is on the analysis of large problems that span the borders amongst the sciences, social sciences, humanities, and practical knowledge domains. The intention is to allow faculty from disparate disciplines the latitude to adapt and develop course themes and give the student some choice in general education.

Experiential Learning

The student will complete 13 semester hours of experiential learning. Experiential learning courses at Harrisburg University include: an internship, junior and senior projects, and seminar courses. This component of the curriculum was designed to ensure that the student obtains a range of skills by connecting classroom, workplace, and research experiences. The student will complete an internship under the guidance of a faculty member and off-site supervisor. Junior and senior projects, in which the student may choose to engage with a business partner, involve student directed research into topics in their major area of study and require the application of skills, methods, and knowledge obtained through Harrisburg University course work.

The seminar courses are intended to integrate the student's curricular, experiential, and co-curricular activities. These courses provide the student with the support and skill development needed for the acquisition and completion of an internship position, to communicate their research and workplace results, write a research or project proposal, and become a competent researcher. Additionally, they facilitate the continued development of the student's ePortfolio and explore topics in civic engagement, career planning, and professional ethics. The student is required to enroll in one seminar course each academic year.

Electives

The elective component of the curriculum provides the student opportunities: 1) to explore disciplines not included in the foundation, general education, and program requirements; 2) for study beyond the minimum requirements in the program discipline; or 3) to independently pursue an area of interest under the supervision of a University faculty member. The number of Elective semester hours required for graduation is specified by each program.

Outline of Baccalaureate Degree Program

The curriculum requires a minimum of 120 semester hours to be earned in fulfillment of the Bachelor of Science degree. The courses are distributed in the following required areas: Foundation and General Education Courses, Experiential, Program, and electives. Each requirement is detailed as follows:

Foundation Courses **18 semester hours**

Mathematics (9 semester hours) – MATH 120 College Algebra I, MATH 280 Introductory Statistics, MATH 220 Calculus I (MATH 210 Discrete Mathematics I for the CISC program student and MATH 230 Introduction to Finite Mathematics for the GGSI student)

English and Communication (9 semester hours) – ENGL 105 College Composition, COMM 110 Speech, and ENGL 200 Advanced Composition and Technical Writing

General Education Courses **30 semester hours**

All of the following courses - 24 semester hours:

GEND 101 The Creative Mind
Introduction to Psychology
Sociology
Literature

GEND 111 The Scientific Mind
Natural Sciences
Philosophy
Computer Science

GEND 201 The Civic Mind
U.S. or World History
U.S. or World Politics
Macroeconomics

GEND 351 The Organizational Mind
Organizational Theory
Leadership
Microeconomics

Complete 6 semester hours from the following:

GEND 150 The Learned Mind
Philosophy
Literature

GEND 251 The Political Mind
International Governing Institutions
Global Health, Energy, Poverty, and Security

GEND 300 The Cultured Mind
World Cultures
Art

GEND 400 The Entrepreneurial Mind
Business and Social Entrepreneurship

GEND 425 Globalization
Trade and Finance

GEND 450 The Healthy Mind and Body
Personal and Environmental Health

GEND 465 Professional Ethics
Moral, Ethical, and Professional Decision-making

Outline of Baccalaureate Degree Program continued

Experiential Courses **13 semester hours**

BTEC, CISC, EBUS, GGSI, or INSC (according to program of study) 265 Internship (3)
BTEC, CISC, EBUS, GGSI, or INSC (according to program of study) 398 Junior Project (3)
BTEC, CISC, EBUS, GGSI, or INSC (according to program of study) 498 Senior Project (3)
SEMR 100 Cornerstone (1)
SEMR 200 Steppingstone (1)
SEMR 300 Keystone (1)
SEMR 400 Capstone (1)

Electives **9 - 19 semester hours**

Program Requirements **40 – 50 semester hours**

Bachelor of Science degree **total of 120 semester hours**

UNDERGRADUATE PROGRAMS

Bachelor of Science in Biotechnology Program

Biotechnology is a multidisciplinary program that incorporates the foundations of biology, microbiology, genetics, molecular biology, and chemistry. Biotechnology focuses on the manipulation of living organisms, their products, or their processes to further knowledge, improve quality of life and engineer new tools and applications. Biotechnology is applied to a broad range of industries including the pharmaceutical, chemical, agricultural, food development and manufacturing, to name but a few. Biotechnology has impacted significantly in the fields of medicine, health, environment and new technology and will continue to do so far into the future.

Biotechnology Requirements – The following courses comprise the Biotechnology requirements. The semester hour value of each course appears in parentheses ( ).

Complete all of the following courses – 49 semester hours:

BIOL 101	General Biology	(4)
BIOL 280	Cell Biology	(4)
BIOL 320	Genetics	(3)
BIOL 330	Microbiology	(4)
BIOL 340	Introduction to Biochemistry	(4)
BIOL 370	Molecular Biology	(4)
BTEC 170	Introduction to Biotechnology	(3)
BTEC 350	Biotechnology Techniques	(4)
BTEC 351	Biotechnology Applications	(4)
BTEC 360	Biotechnology Seminar	(3)
CHEM 150	General Chemistry I	(4)
CHEM 160	General Chemistry II	(4)
CHEM 210	Organic Chemistry I	(4)

Recommended Sequence for the Full-time Student Completing the Biotechnology Program – The sequence that appears below was developed based upon the availability of specific courses each semester and the successful completion of course prerequisites.

	Semester I (Fall)		Semester II (Spring)	
FRESHMAN	ENGL 105 College Composition	(3)	BIOL 101 General Biology	(4)
	GEND 101 The Creative Mind	(6)	GEND 111 The Scientific Mind	(6)
	MATH 120 College Algebra	(3)	MATH 280 Introductory Statistics	(3)
	SEMR 100 Cornerstone	(1)	COMM 110 Speech	(3)
	Total semester hours = 13		**Total semester hours = 16**	
SOPHOMORE	BIOL 280 Cell Biology	(4)	BIOL 320 Genetics	(3)
	BTEC 170 Introduction to Biotechnology	(3)	CHEM 160 General Chemistry II	(4)
	CHEM 150 General Chemistry I	(4)	ENGL 200 Advanced Composition and Technical Writing	(3)
	MATH 220 Calculus I	(3)	GEND 201 The Civic Mind	(6)
	SEMR 200 Steppingstone	(1)		
	Total semester hours = 15		**Total semester hours = 16**	
JUNIOR	BIOL 370 Molecular Biology	(4)	BIOL 330 Microbiology	(4)
	BTEC 350 Biotechnology Techniques	(4)	BTEC 351 Biotechnology Applications	(4)
	CHEM 210 Organic Chemistry I	(4)	BTEC 398 Junior Project	(3)
	BTEC 265 Internship	(3)	GEND electives	(6)
	SEMR 300 Keystone	(1)		
	Total semester hours = 16		**Total semester hours = 17**	
SENIOR	BIOL 340 Intro. to Biochemistry	(4)	BTEC 360 Biotechnology Seminar	(3)
	BTEC 498 Senior Project	(3)	SEMR 400 Capstone	(1)
	GEND 351 The Organizational Mind	(6)	Electives	(10)
	Total semester hours = 13		**Total semester hours = 14**	

Bachelor of Science in Computer and Information Sciences Program

The Computer and Information Sciences Program is a comprehensive study of the latest concepts and techniques in computer programming, database security management, and network security, combined with offerings in graphics and visual computing, encryption, networking and security technologies. Additionally, the student enrolled in this program will gain experience with innovative information technologies and options including information technology project management, computer forensics, and new media design.

Computer and Information Sciences Requirements – This program requires a total of 43 semester hours: 1) 27 semester hours from the courses listed below and 2) 16 semester hours completed in one of the following concentrations: Computer Security, New Media Design, or Information Technology Project Management and Systems Analysis. The semester hour value of each course appears in parentheses ( ).

Complete all of the following courses - 27 semester hours:

CISC 120	Programming Fundamentals I	(4)
CISC 160	Programming Fundamentals II	(4)
CISC 240	Operating Systems	(4)
CISC 260	Programming Techniques	(4)
CISC 330	Computer and Network Security	(4)
CISC 360	Communication Networks	(4)
MATH 310	Discrete Mathematics II	(3)

Recommended Sequence for the Full-time Student – The sequence that appears below was developed based upon the availability of specific courses each semester and the successful completion of course prerequisites.

	Semester I (Fall)		Semester II (Spring)	
FRESHMAN	ENGL 105 College Composition	(3)	CISC 120 Programming Fundamentals I	(4)
	GEND 101 The Creative Mind	(6)	GEND 111 The Scientific Mind	(6)
	MATH 120 College Algebra	(3)	MATH 280 Introductory Statistics	(3)
	SEMR 100 Cornerstone	(1)	COMM 110 Speech	(3)
	Total semester hours = 13		**Total semester hours = 16**	
SOPHOMORE	CISC 160 Programming Fundamentals II	(4)	MATH 310 Discrete Mathematics II	(3)
	MATH 210 Discrete Mathematics I	(3)	CISC 330 Computer and Network Security	(4)
	CISC 360 Communications Networks	(4)	GEND 201 The Civic Mind	(6)
	GEND 351 The Organizational Mind	(6)		
	SEMR 200 Steppingstone	(1)	**Total semester hours = 13**	
	Total semester hours = 18			

Each student must also complete at least one of the following concentrations.

Computer Security Concentration

Complete all of the following courses - 16 semester hours:

CISC 280	Encryption Technologies	(4)
CISC 320	Computer Forensics	(4)
CISC 350	Database Security Management	(4)
CISC 450	Security Analysis	(4)

New Media Design Concentration

Complete all of the following courses - 16 semester hours:

CISC 290	Graphics and Visual Computing	(4)
CISC 300	Web Technologies	(4)
CISC 310	New Media Design I	(4)
CISC 420	New Media Design II	(4)

Information Technology Project Management and Systems Analysis Concentration

Complete all of the following courses - 16 semester hours:

CISC 340	Intellectual Issues and Systems	(4)
CISC 410	Information Technology Project Management	(4)
CISC 430	Software Engineering	(4)
CISC 460	Information Management	(4)

Recommended Sequence for the Full-time Student Completing the Computer Security Concentration – The sequence that appears below was developed based upon the availability of specific courses each semester and the successful completion of course prerequisites.

	Semester I (Fall)	Semester II (Spring)
JUNIOR	CISC 260 Programming Techniques (4)	CISC 265 Internship (preferably Semester III) (3)
	CISC 240 Operating Systems (4)	CISC 280 Encryption Technologies (4)
	ENGL 200 Advanced Composition and Technical Writing (3)	CISC 320 Computer Forensics (4)
		CISC 398 Junior Project (3)
	SEMR 300 Keystone (1)	Elective (3)
	Electives (3)	
	Total semester hours = 15	**Total semester hours = 14 – 17**
SENIOR	CISC 350 Database Security Management (4)	CISC 450 Security Analysis (4)
	CISC 498 Senior Project (3)	SEMR 400 Capstone (1)
	GEND electives (6)	Electives (10)
	Total semester hours = 13	**Total semester hours = 15**

Recommended Sequence for the Full-time Student Completing the New Media Design Concentration – The sequence that appears below was developed based upon the availability of specific courses each semester and the successful completion of course prerequisites.

	Semester I (Fall)		Semester II (Spring)	
JUNIOR	CISC 260 Programming Techniques	(4)	CISC 265 Internship (preferably Semester III)	(3)
	CISC 240 Operating Systems	(4)	CISC 290 Graphics and Visual Computing	(4)
	ENGL 200 Advanced Composition and Technical Writing	(3)	CISC 300 Web Technologies	(4)
	SEMR 300 Keystone	(1)	CISC 398 Junior Project	(3)
	Electives	(3)	Electives	(3)
	Total semester hours = 15		**Total semester hours = 14 – 17**	
SENIOR	CISC 310 New Media Design I	(4)	CISC 420 New Media Design II	(4)
	CISC 498 Senior Project	(3)	SEMR 400 Capstone	(1)
	GEND electives	(6)	Electives	(10)
	Total semester hours = 13		**Total semester hours = 15**	

Recommended Sequence for the Full-time Student Completing the Information Technology Project Management and Systems Analysis Concentration – The sequence that appears below was developed based upon the availability of specific courses each semester and the successful completion of course prerequisites.

	Semester I (Fall)		Semester II (Spring)	
JUNIOR	CISC 260 Programming Techniques	(4)	CISC 265 Internship (preferably Semester III)	(3)
	CISC 240 Operating Systems	(4)	CISC 340 Intellectual Issues and Systems	(4)
	ENGL 200 Advanced Composition and Technical Writing	(3)	CISC 410 Information Technology Project Management	(4)
	SEMR 300 Keystone	(1)	CISC 398 Junior Project	(3)
	Electives	(3)	Electives	(3)
	Total semester hours = 15		**Total semester hours = 14 – 17**	
SENIOR	CISC 430 Software Engineering	(4)	CISC 460 Information Management	(4)
	CISC 498 Senior Project	(3)	SEMR 400 Capstone	(1)
	GEND electives	(6)	Electives	(10)
	Total semester hours = 13		**Total semester hours = 15**	

Geography and Geospatial Imaging Program

The Geography and Geospatial Imaging program provides the student with an understanding of the mathematics and science underlying today's geographic information applications. Additionally, the student will gain experience developing web-based methods of viewing, analyzing, and reporting geographic data.

Geography and Geospatial Imaging Requirements (42 semester hours)

Complete all of the following courses – 42 semester hours:

GGSI 130	World Geography	(4)
GGSI 140	Introduction to GIS/GSI	(3)
GGSI 210	Cartography	(3)
GGSI 220	Applied Geospatial Technology	(4)
GGSI 240	GIS/GSI Policy	(4)
GGSI 340	Advanced Spatial Analysis	(4)
GGSI 370	Spatial Software and Database Development	(4)
GGSI 460	Satellite Remote Sensing	(4)
CISC 120	Programming Fundamentals I	(4)
CISC 160	Programming Fundamentals II	(4)
CISC 330	Computer and Network Security	(4)

Recommended Sequence for the Full-time Student Completing the Geography and Geospatial Imaging Program – The sequence that appears below was developed based upon the availability of specific courses each semester and the successful completion of course prerequisites.

	Semester I (Fall)		Semester II (Spring)	
FRESHMAN	ENGL 105 College Composition	(3)	GGSI 130 Geography of the World	(4)
	GEND 101 The Creative Mind	(6)	COMM 110 Speech	(3)
	MATH 120 College Algebra	(3)	GEND 111 The Scientific Mind	(6)
	SEMR 100 Cornerstone	(1)	MATH 280 Introductory Statistics	(3)
	Total semester hours = 13		**Total semester hours = 16**	
SOPHOMORE	GGSI 140 Intro to GIS/GSI	(4)	GGSI 210 Cartography	(3)
	MATH 230 Introduction to Finite Mathematics	(3)	GGSI 220 Applied Geospatial Technology	(4)
	SEMR 200 Steppingstone	(1)	CISC 120 Programming Fundamentals I	(4)
	GEND electives	(6)	ENGL 200 Advanced Composition and Technical Writing	(3)
			Electives	(3)
	Total semester hours = 14		**Total semester hours = 17**	
JUNIOR	GGSI 240 GIS/GSI Policy	(4)	GGSI 340 Advanced Spatial Analysis	(4)
	GGSI 265 Internship	(3)	GGSI 398 Junior Project	(3)
	GGSI 370 Spatial Software and Database Development	(4)	CISC 330 Computer and Network Security	(4)
	CISC 160 Programming Fundamentals II	(4)	Electives	(4)
	SEMR 300 Keystone	(1)		
	Total semester hours = 16		**Total semester hours = 15**	
SENIOR	GGSI 460 Satellite Remote Sensing	(4)	GEND 201 The Civic Mind	(6)
	GGSI 498 Senior Project	(3)	SEMR 400 Capstone	(1)
	GEND 351 The Organizational Mind	(6)	Electives	(6)
	Electives	(3)		
	Total semester hours = 16		**Total semester hours = 13**	

Bachelor of Science in Integrative Sciences Program

This program strives to produce a well-prepared student who is able to contribute to the local, regional, and global community on current scientific issues. An environment favorable to interdisciplinary learning in science and business is provided, and through classroom and experiential learning opportunities, the student is allowed to develop his or her own interests in the areas where the different disciplines overlap. In conjunction with the general education coursework, the student develops the skills to competently communicate with scientists and non-scientists, the motivation to be engaged citizens, the capacity to be sensitive to the needs of local and global communities, and the knowledge in the physical sciences to enter the workforce or graduate school.

Integrative Sciences Requirements - Complete all of the following courses (15 semester hours): INSC 180 Integrative Sciences (3), BIOL 101 General Biology (4), CHEM 150 General Chemistry I (4), and PHYS 210 General Physics I (4). Completion of one of the following concentrations is also required: Biology, Biological Chemistry, Chemistry, Analytical Forensics or Forensics. A complete list of the program requirements by concentration follows.

Biology Concentration - 50 semester hours

The following courses comprise the biology concentration of the Integrative Sciences program. The semester hour value of each course appears in parentheses ( ).

Complete all of the following courses - 15 semester hours:

BIOL 101	General Biology	(4)
CHEM 150	General Chemistry I	(4)
INSC 180	Integrative Sciences	(3)
PHYS 210	General Physics I	(4)

Complete all of the following courses - 23 semester hours:

BIOL 280	Cell Biology	(4)
BIOL 302	Principles of Ecology	(4)
BIOL 320	Genetics	(3)
BIOL 330	Microbiology	(4)
CHEM 160	General Chemistry II	(4)
CHEM 210	Organic Chemistry I	(4)

Complete three of the following courses - 12 semester hours:

BIOL 214	Anatomy and Physiology I	(4)
BIOL 215	Anatomy and Physiology II	(4)
BIOL 315	Forensic Entomology	(4)
BIOL 340	Introduction to Biochemistry	(4)
BIOL 370	Molecular Biology	(4)
BIOL 375	Immunology	(4)
INSC 350	Animal Behavior	(4)

Recommended Sequence for the Full-time Student Completing the Biology Concentration – The sequence which appears below was developed based upon the availability of specific courses each semester and the successful completion of course prerequisites.

	Semester I (Fall)		Semester II (Spring)	
FRESHMAN	ENGL 105 College Composition	(3)	BIOL 101 General Biology	(4)
	GEND 101 The Creative Mind	(6)	GEND 111 The Scientific Mind	(6)
	MATH 120 College Algebra	(3)	MATH 280 Introductory Statistics	(3)
	SEMR 100 Cornerstone	(1)	COMM 110 Speech	(3)
	Total semester hours = 13		**Total semester hours = 16**	
SOPHOMORE	BIOL 280 Cell Biology	(4)	CHEM 160 General Chemistry II	(4)
	CHEM 150 General Chemistry I	(4)	ENGL 200 Advanced Composition and Technical Writing	(3)
	MATH 220 Calculus I	(3)		
	SEMR 200 Steppingstone	(1)	INSC 180 Integrative Sciences	(3)
	Electives	(3)	BIOL 320 Genetics	(3)
			INSC 265 Internship	(3)
	Total semester hours = 15		**Total semester hours = 16**	
JUNIOR	BIOL 302 Principles of Ecology	(4)	BIOL 330 Microbiology	(4)
	CHEM 210 Organic Chemistry I	(4)	GEND 201 The Civic Mind	(6)
	PHYS 210 General Physics I	(4)	INSC 398 Junior Project	(3)
	SEMR 300 Keystone	(1)	Electives	(3)
	Total semester hours = 13		**Total semester hours = 16**	
SENIOR	INSC 498 Senior Project	(3)	SEMR 400 Capstone	(1)
	GEND 351 The Organizational Mind	(6)	BIOL electives	(8)
	BIOL electives	(4)	GEND electives	(6)
	Electives	(3)		
	Total semester hours = 16		**Total semester hours = 15**	

Biological Chemistry Concentration – 48 to 50 semester hours

The following courses comprise the biological chemistry concentration of the Integrative Sciences program. The semester hour value of each course appears in parentheses ( ).

Complete all of the following courses -15 semester hours:

BIOL 101	General Biology	(4)
CHEM 150	General Chemistry I	(4)
INSC 180	Integrative Sciences	(3)
PHYS 210	General Physics I	(4)

Complete all of the following courses - 27 semester hours:

BIOL 280	Cell Biology	(4)
BIOL 340	Introduction to Biochemistry	(4)
CHEM 160	General Chemistry II	(4)
CHEM 200	Environmental Chemistry I	(3)
CHEM 210	Organic Chemistry I	(4)
CHEM 220	Organic Chemistry II	(4)
PHYS 260	General Physics II	(4)

Complete two of the following courses – 6-8 semester hours:

CHEM 310	Environmental Chemistry II	(4)
CHEM 320	Bio-Organic Chemistry	(4)
CHEM 340	Forensic Chemistry	(4)
CHEM 410	Physical Chemistry	(3)
CHEM 420	Inorganic Chemistry	(3)

Recommended Sequence for the Full-time Student Completing the Biological Chemistry Concentration – The sequence which appears below was developed based upon the availability of specific courses each semester and the successful completion of course prerequisites.

	Semester I (Fall)		Semester II (Spring)	
FRESHMAN	ENGL 105 College Composition	(3)	BIOL 101 General Biology	(4)
	GEND 101 The Creative Mind	(6)	GEND 111 The Scientific Mind	(6)
	MATH 120 College Algebra	(3)	MATH 280 Introductory Statistics	(3)
	SEMR 100 Cornerstone	(1)	COMM 110 Speech	(3)
	Total semester hours = 13		**Total semester hours = 16**	
SOPHOMORE	BIOL 280 Cell Biology	(4)	CHEM 160 General Chemistry II	(4)
	CHEM 150 General Chemistry I	(4)	ENGL 200 Advanced Composition and Technical Writing	(3)
	MATH 220 Calculus I	(3)		
	SEMR 200 Steppingstone	(1)	INSC 180 Integrative Sciences	(3)
	Electives	(3)	GEND 201 The Civic Mind	(6)
	Total semester hours = 15		**Total semester hours = 16**	
JUNIOR	CHEM 200 Environmental Chemistry I	(3)	CHEM 220 Organic Chemistry II	(4)
	CHEM 210 Organic Chemistry I	(4)	INSC 398 Junior Project	(3)
	INSC 265 Internship	(3)	PHYS 260 General Physics II	(4)
	PHYS 210 General Physics I	(4)	Electives	(3)
	SEMR 300 Keystone	(1)		
	Total semester hours = 15		**Total semester hours = 14**	
SENIOR	INSC 498 Senior Project	(3)	SEMR 400 Capstone	(1)
	BIOL 340 Introduction to Biochemistry	(4)	CHEM electives	(3-4)
	GEND 351 The Organizational Mind	(6)	GEND elective	(6)
	CHEM electives	(3 – 4)	Electives	(3-4)
	Total semester hours = 16 - 17		**Total semester hours = 14-15**	

Chemistry Concentration – 44 to 46 semester hours

The following courses comprise the chemistry concentration of the Integrative Sciences program. The semester hour value of each course appears in parentheses ( ).

Complete all of the following courses -15 semester hours:

BIOL 101	General Biology	(4)
CHEM 150	General Chemistry I	(4)
INSC 180	Integrative Sciences	(3)
PHYS 210	General Physics I	(4)

Complete all of the following courses - 15 semester hours:

CHEM 160	General Chemistry II	(4)
CHEM 200	Environmental Chemistry I	(3)
CHEM 210	Organic Chemistry I	(4)
PHYS 260	General Physics II	(4)

Complete four of the following courses – 14 - 16 semester hours:

BIOL 340	Biochemistry	(4)
CHEM 220	Organic Chemistry II	(4)
CHEM 310	Environmental Chemistry II	(4)
CHEM 320	Bio-Organic Chemistry	(4)
CHEM 340	Forensic Chemistry	(4)
CHEM 410	Physical Chemistry	(3)
CHEM 420	Inorganic Chemistry	(3)

Recommended Sequence for the Full-time Student Completing the Chemistry Concentration – The sequence which appears below was developed based upon the availability of specific courses each semester and the successful completion of course prerequisites.

	Semester I (Fall)		Semester II (Spring)	
FRESHMAN	ENGL 105 College Composition	(3)	BIOL 101 General Biology	(4)
	GEND 101 The Creative Mind	(6)	COMM 110 Speech	(3)
	MATH 120 College Algebra	(3)	GEND 111 The Scientific Mind	(6)
	SEMR 100 Cornerstone	(1)	MATH 280 Introductory Statistics	(3)
	Total semester hours = 13		**Total semester hours = 16**	
SOPHOMORE	CHEM 150 General Chemistry I	(4)	CHEM 160 General Chemistry II	(4)
	PHYS 210 General Physics I	(4)	ENGL 200 Advanced Composition and Technical Writing	(3)
	MATH 220 Calculus I	(3)	GEND 201 The Civic Mind	(6)
	SEMR 200 Steppingstone	(1)	PHYS 260 General Physics II	(4)
	Electives	(3 - 4)		
	Total semester hours = 15 – 16		**Total semester hours = 17**	
JUNIOR	CHEM 210 Organic Chemistry I	(4)	INSC 180 Integrative Sciences	(3)
	CHEM 200 Environmental Chemistry I	(3)	INSC 398 Junior Project	(3)
	INSC 265 Internship	(3)	CHEM electives	(4)
	SEMR 300 Keystone	(1)	Electives	(3 - 4)
	Electives	(3 - 4)		
	Total semester hours = 14 - 15		**Total semester hours = 13 – 14**	
SENIOR	GEND 351 The Organizational Mind	(6)	SEMR 400 Capstone	(1)
	INSC 498 Senior Project	(3)	CHEM program electives	(3 - 4)
	CHEM program electives	(7 - 8)	GEND electives	(6)
	Total semester hours = 16 - 17		Electives	(3 – 4)
			Total semester hours = 13 - 15	

Forensics Concentration – 44 to 45 semester hours

The following courses comprise the Forensics concentration of the Integrative Sciences program. The semester hour value of each course appears in parentheses ( ).

Complete all of the following courses - 15 semester hours:

BIOL 101	General Biology	(4)
CHEM 150	General Chemistry I	(4)
INSC 180	Integrative Sciences	(3)
PHYS 210	General Physics I	(4)

Complete all of the following courses - 11 semester hours:

BIOL 125	Introduction to Forensics	(3)
BIOL 270	Crime Scene Investigation	(4)
INSC 360	Forensic Case Study	(4)

Complete six of the following courses – 18 to19 semester hours:

BIOL 315	Forensic Entomology	(3)
CISC 320	Computer Forensics	(4)
INSC 160	Introduction to Forensic Computing	(3)
INSC 362	Medico-Legal Death Investigation	(3)
INSC 363	Forensic Population Studies	(3)
INSC 361	Criminal Profiling	(3)
INSC 364	Fraud Investigation	(3)

Recommended Sequence for the Full-time Student Completing the Forensics Concentration

– The sequence that appears below was developed based upon the availability of specific courses each semester and the successful completion of course prerequisites.

	Semester I (Fall)		Semester II (Spring)	
FRESHMAN	ENGL 105 College Composition	(3)	BIOL 101 General Biology	(4)
	GEND 101 The Creative Mind	(6)	GEND 111 The Scientific Mind	(6)
	MATH 120 College Algebra	(3)	MATH 280 Introductory Statistics	(3)
	SEMR 100 Cornerstone	(1)	COMM 110 Speech	(3)
	Total semester hours = 13		**Total semester hours = 16**	
SOPHOMORE	CHEM 150 General Chemistry I	(4)	BIOL 125 Forensic Science	(3)
	MATH 220 Calculus I	(3)	INSC 180 Integrative Sciences	(3)
	GEND 351 The Organizational Mind	(6)	ENGL 200 Advanced Composition and Technical Writing	(3)
	SEMR 200 Steppingstone	(1)	GEND 201 The Civic Mind	(6)
	Total semester hours = 14		**Total semester hours = 15**	
JUNIOR	INSC 265 Internship	(3)	INSC 270 Crime Scene Investigation	(4)
	PHYS 210 General Physics I	(4)	INSC 398 Junior Project	(3)
	SEMR 300 Keystone	(1)	Forensics electives	(6)
	Forensics electives	(3)	Electives	(3)
	Electives	(4)		
	Total semester hours = 15		**Total semester hours = 16**	
SENIOR	INSC 498 Senior Project	(3)	SEMR 400 Capstone	(1)
	Forensics electives	(6-7)	INSC 360 Forensic Case Study	(4)
	GEND electives	(6)	Forensics electives	(3)
			Electives	(7-8)
	Total semester hours = 15-16		**Total semester hours = 15-16**	

Bachelor of Science in Management and eBusiness

Management and eBusiness, abbreviated as MEBA, provides a unique opportunity for the student to learn the management as well as technical aspects of modern businesses. Instead of separate and isolated courses in technology and business, the core curriculum is designed to integrate management and business principles with the latest eTechnologies, such as the Internet, web technologies, social networking, mobile computing and wireless communications. Specifically, the core courses cover business strategy, eBusiness, eCommerce, business management, business analysis and design, information technologies, media design, and the management aspects of marketing, finance and accounting with emphasis on eTechnologies (e.g., eMarketing and eManagement). Experiential projects and a capstone course on enterprise architectures further serve to develop a practice based integrated view of modern enterprises.

The program is designed to prepare the student to lead and engage in business analysis, marketing, finance, project management, entrepreneurships, IT consulting, IT management, eCommerce development, business system design, and a multitude of other assignments in the digital age. Because the University is located in the state capital, the student has access to a diverse array of government and business sites for suitable opportunities.

Management and eBusiness Requirements – The program requires a total of 50 semester hours: a) 35 semester hours from the required Core courses: MEBA 110, 210, 220, 230, 310, 320, 350, 420, 470, 480, and CISC 410; and b) 15 semester hours completed in one of the concentrations: Management, Technology, or eBusiness.

Management Concentration – 50 semester hours

The following courses comprise the management concentration of the Management and eBusiness program. The semester hour value of each course appears in parentheses ( ).

Complete all of the following Core courses - 35 semester hours

CISC 410	Information Technology Project Management	(4)
MEBA 110	Introduction to eBusiness and Management	(3)
MEBA 210	Information Technologies for Modern Businesses	(3)
MEBA 220	Principles of Business Management	(3)
MEBA 230	Marketing in the Digital Age	(3)
MEBA 310	eCommerce and mCommerce	(3)
MEBA 320	Financial and Managerial Accounting	(3)
MEBA 350	Financial Management	(3)
MEBA 420	International Business and Strategies	(3)
MEBA 470	Business Analysis, Modeling and Design	(4)
MEBA 480	Enterprise Architecture and Integration	(3)

Complete 15 semester hours from the following courses:

CISC 310	New Media Design I	(4)
GEND 425	Globalization	(3)
MEBA 330	Sales and Sales Management	(3)
MEBA 390	Directed Study	(1-3)
MEBA 430	Business Law	(3)
MEBA 440	Leadership and Organizational Behavior	(3)
MEBA 464	eGovernment and mGovernment	(3)
MEBA 472	Business Intelligence and Decision Support	(3)
MEBA 499	Special Topics in Management and eBusiness	(3)

Recommended Sequence for the Full-time Student Completing the Management Concentration -

The sequence that appears below is based upon the availability of specific courses in each semester and the successful completion of course prerequisites. Semester hours are shown in parentheses.

	Semester I (Fall)		Semester II (Spring)	
FRESHMAN	ENGL 105 College Composition	(3)	COMM 110 Speech	(3)
	GEND 101 The Creative Mind	(6)	GEND 111 The Scientific Mind	(6)
	MATH 120 College Algebra	(3)	MATH 280 Introductory Statistics	(3)
	SEMR 100 Cornerstone	(1)	MEBA 110 Introduction to eBusiness and Management	(3)
	Total semester hours = 13		**Total semester hours = 15**	
SOPHOMORE	ENGL 200 Advanced Composition and Technical Writing	(3)	GEND 201 The Civic Mind	(6)
	MEBA 210 Information Technologies for Modern Business	(3)	MEBA 230 Marketing in the Digital Age	(3)
	MEBA 220 Principles of Business Management	(3)	Management concentration electives	(3)
	MATH 220 Calculus I	(3)	Electives	(3)
	SEMR 200 Steppingstone	(1)		
	Electives	(3)		
	Total semester hours = 16		**Total semester hours = 15**	
JUNIOR	GEND 351 The Organizational Mind	(6)	MEBA 350 Financial Management	(3)
	MEBA 265 Internship	(3)	MEBA 398 Junior Project	(3)
	MEBA 310 eCommerce and mCommerce	(3)	MEBA 470 Business Analysis, Modeling and Design	(4)
	MEBA 320 Managerial Accounting	(3)	Management concentration electives	(3)
	SEMR 300 Keystone	(1)	Electives	(3)
	Total semester hours = 16		**Total semester hours = 16**	
SENIOR	CISC 410 Information Technology Project Management	(4)	MEBA 420 International Business and Strategies	(3)
	MEBA 498 Senior Project	(3)	MEBA 480 Enterprise Architecture and Integration	(3)
	Management electives	(6)	SEMR 400 Capstone	(1)
	GEND electives	(3)	Management concentration electives	(3)
			GEND electives	(3)
	Total semester hours = 16		**Total semester hours = 13**	

Technology Concentration – 50 semester hours

The following courses comprise the technology concentration of the Management and eBusiness program. The semester hour value of each course appears in parentheses ( ).

Complete all of the following Core courses - 35 semester hours

CISC 410	Information Technology Project Management	(4)
MEBA 110	Introduction to eBusiness and Management	(3)
MEBA 210	Information Technologies for Modern Businesses	(3)
MEBA 220	Principles of Business Management	(3)
MEBA 230	Marketing in the Digital Age	(3)
MEBA 310	eCommerce and mCommerce	(3)
MEBA 320	Financial and Managerial Accounting	(3)
MEBA 350	Financial Management	(3)
MEBA 420	International Business and Strategies	(3)
MEBA 470	Business Analysis, Modeling and Design	(4)
MEBA 480	Enterprise Architecture and Integration	(3)

Complete all of the following courses – 8 semester hours:

CISC 120	Programming Fundamentals I	(4)
CISC 160	Programming Fundamentals II	(4)

Complete two of the following – 7 semester hours:

CISC 290	Graphic and Visual Computing	(4)
CISC 300	Web Technologies and Applications	(4)
CISC 310	New Media Design I	(4)
CISC 330	Computers and Network Security	(4)
CISC 340	Intellectual Issues and Systems	(4)
CISC 360	Communication Networks	(4)
CISC 430	Software Engineering	(4)
CISC 460	Information Management	(4)
MEBA 390	Directed Study	(1-3)

Recommended Sequence for the Full-time Student Completing the Technology Concentration - The sequence that appears below is based upon the availability of specific courses in each semester and the successful completion of course prerequisites. Semester hours are shown in parentheses ( ).

	Semester I (Fall)		Semester II (Spring)	
FRESHMAN	ENGL 105 College Composition	(3)	COMM 110 Speech	(3)
	GEND 101 The Creative Mind	(6)	GEND 111 The Scientific Mind	(6)
	MATH 120 College Algebra	(3)	MATH 280 Introductory Statistics	(3)
	SEMR 100 Cornerstone	(1)	MEBA 110 Introduction to eBusiness and Management	(3)
	Total semester hours = 13		**Total semester hours = 15**	
SOPHOMORE	ENGL 200 Advanced Composition and Technical Writing	(3)	CISC 120 Fundamentals of Programming I	(4)
	MEBA 210 Information Technologies for Modern Business	(3)	GEND 201 The Civic Mind	(6)
	MEBA 220 Principles of Business Management	(3)	MEBA 230 Marketing in the Digital Age	(3)
	MATH 220 Calculus I	(3)	Electives	(3)
	SEMR 200 Steppingstone	(1)		
	Electives	(3)		
	Total semester hours = 16		**Total semester hours = 16**	
JUNIOR	CISC 160 Fundamentals of Programming II	(4)	MEBA 350 Financial Management	(3)
	MEBA 265 Internship	(3)	MEBA 398 Junior Project	(3)
	MEBA 310 eCommerce and mCommerce	(3)	MEBA 470 Business Analysis, Modeling and Design	(4)
	MEBA 320 Managerial Accounting	(3)	Technology concentration electives	(4)
	SEMR 300 Keystone	(1)	Electives	(3)
	Total semester hours = 14		**Total semester hours = 17**	
SENIOR	CISC 410 Information Technology Project Management	(4)	MEBA 420 International Business and Strategies	(3)
	GEND 351 The Organizational Mind	(6)	MEBA 480 Enterprise Architecture and Integration	(3)
	MEBA 498 Senior Project	(3)	SEMR 400 Capstone	(1)
	Technology concentration electives	(3)	GEND electives	(6)
	Total semester hours = 16		**Total semester hours = 13**	

eBusiness Concentration – 50 semester hours

The following courses comprise the eBusiness concentration of the Management and eBusiness program. The semester hour value of each course appears in parentheses ( ).

Complete all of the following Core courses - 35 semester hours

CISC 410	Information Technology Project Management	(4)
MEBA 110	Introduction to eBusiness and Management	(3)
MEBA 210	Information Technologies for Modern Businesses	(3)
MEBA 220	Principles of Business Management	(3)
MEBA 230	Marketing in the Digital Age	(3)
MEBA 310	eCommerce and mCommerce	(3)
MEBA 320	Financial and Managerial Accounting	(3)
MEBA 350	Financial Management	(3)
MEBA 420	International Business and Strategies	(3)
MEBA 470	Business Analysis, Modeling and Design	(4)
MEBA 480	Enterprise Architecture and Integration	(3)

Complete 15 semester hours from Groups A and B listed below:

Group A - Complete at least two courses - 6 semester hours:

MEBA 330	Sales and Sales Management	(3)
MEBA 390	Directed Study	(1-3)
MEBA 430	Business Law	(3)
MEBA 440	Leadership and Organizational Behavior	(3)
MEBA 464	eGovernment and mGovernment	(3)
MEBA 472	Business Intelligence and Decision Support	(3)
MEBA 499	Special Topics in Management and eBusiness	(3)
GEND 425	Globalization	(3)

Group B - Complete at least two courses - 6 semester hours:

CISC 120	Programming Fundamentals I	(4)
CISC 160	Programming Fundamentals II	(4)
CISC 290	Graphic and Visual Computing	(4)
CISC 300	Web Technologies and Applications	(4)
CISC 310	New Media Design I	(4)
CISC 330	Computers and Network Security	(4)
CISC 340	Intellectual Issues and Systems	(4)
CISC 360	Communication Networks	(4)
CISC 430	Software Engineering	(4)
CISC 460	Information Management	(4)
MEBA 390	Directed Study	(1-3)

Recommended Sequence for the Full-time Student Completing the eBusiness Concentration - The sequence that appears below was developed based upon the availability of specific courses each semester and the successful completion of course prerequisites.

	Semester I (Fall)	Semester II (Spring)
FRESHMAN	ENGL 105 College Composition (3)	COMM 110 Speech (3)
	GEND 101 The Creative Mind (6)	GEND 111 The Scientific Mind (6)
	MATH 120 College Algebra (3)	MATH 280 Introductory Statistics (3)
	SEMR 100 Cornerstone (1)	MEBA 110 Introduction to eBusiness and Management (3)
	Total semester hours = 13	**Total semester hours = 15**
SOPHOMORE	ENGL 200 Advanced Composition and Technical Writing (3)	GEND 201 The Civic Mind (6)
	MEBA 210 Information Technologies for Modern Business (3)	MEBA 230 Marketing in the Digital Age (3)
	MEBA 220 Principles of Business Management (3)	eBusiness concentration electives – Group A (3)
	MATH 220 Calculus I (3)	Electives (3)
	SEMR 200 Steppingstone (1)	
	Electives (3)	
	Total semester hours = 16	**Total semester hours = 15**
JUNIOR	GEND 351 The Organizational Mind (6)	MEBA 350 Financial Management (3)
	MEBA 265 Internship (3)	MEBA 398 Junior Project (3)
	MEBA 310 eCommerce and mCommerce (3)	MEBA 470 Business Analysis, Modeling and Design (4)
	MEBA 320 Managerial Accounting (3)	eBusiness concentration electives – Group B (3)
	SEMR 300 Keystone (1)	GEND electives (3)
	Total semester hours = 16	**Total semester hours = 16**
SENIOR	CISC 410 Information Technology Project Management (4)	MEBA 420 International Business and Strategies (3)
	MEBA 498 Senior Project (3)	MEBA 480 Enterprise Architecture and Integration (3)
	eBusiness concentration electives – Group A (3)	SEMR 400 Capstone (1)
	eBusiness concentration electives – Group B (3)	eBusiness concentration electives – Group A or B (6-7)
	GEND electives (3)	
	Total semester hours = 16	**Total semester hours = 13 – 14**

University Courses – Undergraduate

BIOLOGY (BIOL)

BIOL 101 General Biology* (4 semester hours)
Prerequisites: None
Corequisites: None
Description: This course introduces the student to the major themes of biology, including properties of living organisms, comparison of eucaryotes vs. procaryotes, patterns of inheritance, the central dogma, mitosis and meiosis, the diversity of life in both plants and animals, classification of organisms, evolution, metabolism, photosynthesis, cell structures, basic structure of the body, infectious disease, the Hardy-Weinberg principle, biodiversity, ecosystems, and the biosphere. A broad understanding of biology and living organisms in the biosphere is developed through hands-on, multi-modal engaged learning opportunities in both the classroom and laboratory.

BIOL 125 Forensic Science (3 semester hours)
Prerequisites: None
Corequisites: None
Description: This course explores the science and art of forensic investigations and the identification, proper collection and recognition of evidence. The student looks at a variety of specialty areas such as firearms, tool marks, fiber tracing, hair paint, toxicology and photography. Crime scenes are explored using critical thinking skills to produce alternative strategies by thinking creatively. Experts in foresics are guest presenters. Fundamentals of the science behind the crime are learned. Case studies are presented as group projects and the student is expected to provide several scenarios and evidence for alternative conclusions.

BIOL 211 Introduction to Pharmacology (3 semester hours)
Prerequisites: BIOL 101 and CHEM 150; BIOL 280 BTEC 170 and are encouraged
Corequisites: None
Description: This course studies how specific small molecules can impact and affect body behavior and responses. Small molecules or drugs made by man or from nature can modulate special gates and enzymes. These concepts are the first step into the world of pharmacology. The understanding of this course depends heavily on knowing what is considered normal for the body. Consequently, human physiological systems are featured as an integral part of this course.

BIOL 214 Anatomy and Physiology I* (4 semester hours)
Prerequisites: BIOL 101
Corequisites: None
Description: This course discusses the structural and functional makeup of the human body. Medical and anatomical terminology is mastered, and an emphasis is placed on covering the details of development, histology and functioning of the muscular, circulatory, cardiovascular and endocrine systems.

BIOL 215 Anatomy and Physiology II* (4 semester hours)
Prerequisites: BIOL 101
Corequisites: None
Description: This course of study includes the immune system, lymphatic system, gastrointestinal tract and digestion, genitourinary system, and the nervous system. An in-depth examination of the five senses is also conducted.

BIOL 225 Entomology* (4 semester hours)
Prerequisites: BIOL 101
Corequisites: None
This course introduces the biology, ecology and evolution of insects in both naturalistic and human context. Subject matter and course content includes field observation and collection techniques in addition to case studies of evolutionary, economical and historical importance.

BIOL 280 Cell Biology* (4 semester hours)
Prerequisites: BIOL 101
Corequisites: None
Description: This course examines the foundations of cell biology including the structure, function, differentiation, and growth of the eucaryotic cell. It is primarily concerned with eukaryotic cells from their evolution, organization, differentiation and biosynthesis. The simplicity and complexity of macromolecules in the cell are covered through multi-modal learning technologies on nutrition, energy production, and synthesis of cellular components. The student develops a thorough understanding of the mechanisms underlying mitosis and meiosis, the cell cycle, and cancer.

BIOL 302 Principles of Ecology* (4 semester hours)
Prerequisites: BIOL 101 or permission of instructor
Corequisites: None
Description: This course examines theories (including a variety of mathematical, verbal, and graphical models of important ecological processes), techniques of study (both laboratory and field-based), and natural history. The student explores: 1) various questions (in a broad sense) asked by ecologists; 2) ideas (theories, models) from which hypotheses are suggested to answer the questions; and 3) ways in which ecologists go about gathering data to refute or support the proposed hypotheses. Specific ecological studies are used to illustrate what has been learned about the natural world.

BIOL 315 Forensic Entomology* (4 semester hours)
Prerequisites: Minimum of 45 earned semester hours and BIOL 225 or permission of instructor
Corequisites: None
Description: The forensic entomologist can use a number of different techniques including insect species succession, larval weight, length, and technical methods such as the accumulated degree-hour technique. The student learns about standard forensic procedures and, when practical, will see and use those procedures.

BIOL 320 Genetics (3 semester hours)
Prerequisites: BIOL 101, 280, CHEM 150, or permission of instructor
Corequisites: None
Description: This course is an introduction to human and population genetics including Mendelian and non-Mendelian genetics (DNA replication, transcription, and translation; genetic recombination and mutation), genetic basis of gender (sex-linked and non-sex linked genetic diseases), and emerging areas of genetics research. The student learns to connect facts together to get a whole picture, to apply knowledge, then to solve a problem. Basic genetics introduces the student to the traditional elements of genetic biology and contemporary genetic issues.

BIOL 330 Microbiology* (4 semester hours)
Prerequisites: BIOL 101, 280 and CHEM 150
Corequisites: None
Description: This course is an introduction to microbial cell structure, growth and physiology combined with basic laboratory techniques. The relationship between host and parasite is emphasized, especially as related to human disease, epidemiology and infection control. A broad

range of infectious diseases are covered, including etiologic agent identification, modes of transmission and prevention.

BIOL 340 Introduction to Biochemistry* (4 semester hours)
Prerequisites: BIOL 101, CHEM 150, 160 and 210 or permission of instructor
Corequisites: None
Description: This course provides a study of the reactions and molecules of life to understand that biology and chemistry at this level is biochemistry. Particular focus will be given to: 1) techniques in biochemistry to separate material; 2) the central dogma; and 3) communication and signal transduction at the cellular level.

BIOL 370 Molecular Biology* (4 semester hours)
Prerequisites: BIOL 101, 280 and CHEM 150
Corequisites: None
Description: The complicated process that goes on in living cells and organisms, in terms of the law of chemistry and physics, is described. The genetic message is examined, as it is carried in the form of DNA through transcription and translation as well as the biosynthesis of macromolecules. The course is designed to follow chemistry (general and organic) and biology coursework to complete an understanding of life chemistry.

BIOL 375 Immunology* (4 semester hours)
Prerequisites: BIOL 101, 280
Corequisites: BIOL 320
Description: This advanced course explores the specific innate and acquired aspects of the immune system. Innate host defenses, which protect humans against disease and foreign contaminants, are examined. Cellular immune response interaction with viral infections, foreign cells, or defective host cells are covered as to how the humoral immune response
produces antibodies against foreign antigen and how these immune responses are controlled. Through an understanding of the nature of antibodies, lymphokines and specific cellular reaction, the student discovers the power and limitation of the immune system. This course also includes a significant laboratory component focusing on the analysis of blood cells, enzyme-linked immunosorbent assays (ELISAs), blood typing, and rapid commercial test technologies.

***Three hours of lecture, three hours of lab per week.

BIOTECHNOLOGY (BTEC)

BTEC 100 Nanobiotechnology Explorations (2 semester hours)
Pre-requisites: BIOL 101, BIOL 280 or BTEC 170.
Co-requisites: None
Description: This is an introductory course to nanobiotechnology, which is the use of existing elements of natural systems to develop new technologies. The concepts of how nano-structures are characterized are defined and a review is conducted of the applications of this new technology. The course includes a laboratory component in addition to lecture component.

BTEC 105 The Art of Genes and Fusion (3 semester hours)
Prerequisites: None
Corequisites: None
Description: Investigations using a variety of case studies and contemporary topics in biotechnology and genetic engineering are conducted. The links of diseases and genes, such as leukemia and cancer,

are examined. In this process, the student learns about molecular concepts regarding DNA, genes, proteins, and chromosome mapping to see the importance of biotechnology to help combat human diseases and disorders.

BTEC 170 Introduction to Biotechnology (3 semester hours)
Prerequisites: BIOL 101 or permission of instructor
Corequisites: None
Description: Biotechnology explores biological processes to produce raw materials, foodstuffs, and medical treatments for use by humans. The industry is key for generating income worldwide and feeds into the pharmaceutical, textile, food and agricultural industries. The course centers on three main goals: 1) to understand the biological processes involved in biotechnology methods; 2) to identify and criticize the benefits and drawbacks of current methods; and 3) to review new emerging technologies that focus on ecological solutions.

BTEC 222 Emerging Laboratory Techniques (4 semester hours)
Prerequisites: Either BTEC 170 and/or BIOL 101, CHEM 150 , BIOL 320 or permission of instructor.
Corequisites: None
Description: This lecture and laboratory course addresses key shortcomings that face the student who embarks on a career in the sciences by orchestrating the planning, executing and implementing of experimental design; the first step towards independent research. These problem areas center primarily on abstract principles that are difficult to convey in the standard lecture format. As such, this course is laboratory intensive with visual and hands-on experiments used to reinforce concepts. Key laboratory procedures are discussed and taught. Subsequently, with knowledge in hand, the student is responsible for experimental design to accomplish the assignments using prokaryotic and eukaryotic systems.

BTEC 235 Applied Cell and Agro Culture* (4 semester hours)
Prerequisites: CHEM 210 and BIOL 280
Corequisites: None
Description: The fields of biology, biochemistry, molecular biology and biotechnology are increasingly dependant on growing and experimenting with cells in culture. At one time animal models predominated but today cell culture is becoming ever important. This course offers a concise, practical guide to the basic essentials of the techniques used in modern cell culture laboratory. Using hands-on laboratory experimentation, the procedures and application of cell culture are explored.

BTEC 265 Internship (3 semester hours)
Prerequisites: SEMR 200, an approved application, permission of Internship Coordinator and a minimum of 40 earned semester hours
Corequisites: None
Description: An internship allows the student to put theory to practice. In this form of experiential learning, the student applies their classroom experiences to the workplace at an off-site placement, where ideas are tested and career-ready skills and competencies are developed. Throughout each internship, the student works with a faculty supervisor who, together with a site supervisor, observe and reflect on what was accomplished. The student integrates these reflections into a comprehensive internship portfolio which both showcases specific achievements in the workplace and analyzes the quality of the learning throughout the internship.

BTEC 350 Biotechnology Techniques (4 semester hours)
Prerequisites: CHEM 150, 160, BIOL 101, 280 and 320
Corequisites: None
Description: This course develops the skills, competencies, and fundamental manipulations of research procedures in biotechnology. The student is exposed to a variety of relevant biotechnology techniques in the laboratory and research or commercial centers.

BTEC 351 Biotechnology Applications* (4 semester hours)
Prerequisites: CHEM 150, BIOL 101, 280, 320 and BTEC 350
Corequisites: None
Description: This laboratory-intensive course examines the various applications in the field of biotechnology at a molecular level, which aids the understanding of cellular mechanisms. The power, limitation, proper use and theoretical framework around biotechnology
applications are explored. Biotechnology-related workforce growth, and the area corporations involved in this field, provide case study illustrations.

BTEC 360 Biotechnology Seminar (3 semester hours)
Prerequisites: Minimum of 60 earned semester hours
Corequisites: None
Description: This seminar course reviews newsworthy advances and applications in the field of biotechnology. Class activities include primary article review, internet research, and meeting with guest professionals. Tours of biotechnology facilities are also planned.

BTEC 370 Genetically Modified Foods (3 semester hours)
Prerequisites: BTEC 170, CHEM 150, BIOL 101, 280, 320
Corequisites: None
This course explores the impact of plant and animal biotechnology on food nutrition and provides an understanding of the techniques and methods in genetically-modified food products. The advantages and disadvantages of genetically modified foods will be explored, in addition to cultivation, production, processing, and manufacturing issues that are related to genetically modified foods. This course draws heavily from the SENCER model series and the National Science Case Study library. A broad knowledge of the current laws governing use of genetically modified foods, the ethical issues surrounding production of these foods, and the global impact of those laws will be studied.

BTEC 390 Directed Study (1 to 4 semester hours)
Prerequisites: Minimum of 60 earned semester hours
Corequisites: None
Description: This course is designed for the student who demonstrates an interest in an area of study not offered or who wishes to pursue a discipline in greater depth than possible through existing courses. A directed study counts as an elective and may not be used for accelerated or remedial credit. A learning contract between the student and instructor defines the responsibilities of the parties and specifies the learning objectives and standards for successful completion of the project. A calendar of meeting times and deadlines shall be a part of that contract.

BTEC 398 – Junior Project (3 semester hours)
Prerequisites: Minimum of 60 earned semester hours, successful completion of CISC 265 or special permission, submission of appropriate paperwork, designation of an appropriate faculty advisor
Corequisites: None
Description: The junior project challenges the student to identify, investigate and analyze a particular topic in their program of study or combined aspects of several minor areas. An objective of the junior project experience is to demonstrate the student's ability to apply skills, methods, and knowledge obtained in classroom experiences with the student's research on a chosen topic. This project is usually undertaken in the student's junior year under the close mentorship of a faculty member and/or a community partner. Approval by an appropriate faculty advisor is required.

BTEC 498 Senior Project (3 semester hours)
Prerequisites: Minimum of 90 earned semester hours, successful completion of BTEC 398, submission of appropriate paperwork, designation of an appropriate faculty advisor
Corequisites: None
Description: This project must be in the student's program of study and should demonstrate application of the skills, methods and knowledge of the discipline to solve a problem representative of the type to be encountered at the professional level. Senior project activities encompass research, development and application. These involve analysis or synthesis in a particular concentration in the major or combined aspects of several minor areas. This project is undertaken in the student's senior year and is overseen by a faculty member for the project subject matter who participates as the project advisor.

*****Three hours of lecture, three hours of lab per week.

CHEMISTRY (CHEM)

CHEM 150 General Chemistry I* (4 semester hours)
Prerequisites: None
Corequisites: None
Description: This course with laboratory provides a general introduction to atoms and molecules, stoichiometry, states of matter, solutions, reactions, kinetics and equilibrium which serve as a prerequisite for advanced courses.

CHEM 160 General Chemistry II* (4 semester hours)
Prerequisites: C or higher grade in CHEM 150 or permission of instructor
Corequisites: None
Description: A study of chemical principles including acid/base chemistry, bonding, thermodynamics and electrochemistry.

CHEM 200 Environmental Chemistry I (3 semester hours)
Prerequisites: C or higher grade in CHEM 150 or permission of instructor
Corequisites: None
Description: An introductory investigation of current issues and problems dealing with chemistry of the environment. Chemistry of the atmosphere, biosphere and hydrosphere will be examined and discussed.

CHEM 210 Organic Chemistry I* (4 semester hours)
Prerequisites: C or higher grade in CHEM 160 or permission of instructor
Corequisites: None
Description: This course with laboratory is designed as a first-level introduction to the carbon-based reactions involved in life chemistry. The course focuses on the nomenclature, stucture and fundamental basis for reactivity of organic compounds. It sets a background for advanced study in forensic or environmental chemistry and biochemistry.

CHEM 220 Organic Chemistry II* (4 semester hours)
Prerequisites: C or higher grade in CHEM 210 or permission of instructor
Corequisites: None
Description: This course builds upon the principles learned in the first course and is designed to provide a foundation in the fundamentals of organic compounds, their structures, reactions, and underlying reaction mechanisms.

CHEM 310 Environmental Chemistry II* (4 semester hours)
Prerequisites: CHEM 200 or permission of instructor
Corequisites: None
Description: This laboratory-intensive course addresses specific topics related to environmental chemistry; specifically, the transport of chemicals and energy amongst soil, air and water phases, rates of movement of solutes, and the chemical impact to biological systems. This is an advanced course specifically tailored for those in the integrative sciences program of study or those with specific interest in environmental chemistry. This course is required for the environmental chemistry concentration.

CHEM 320 Bio-Organic Chemistry (3 semester hours)
Prerequisites: CHEM 150, 160, 210, 220
Corequisites: None
Description: This course is designed as an advanced undergraduate study of the structure and reactivity of carbon-based bio-molecules. Approximately one-half of the course is devoted to a description of the structure and chemical properties of bio-organic compounds. The second half of the course draws upon the concepts from organic and inorganic chemistry in order to investigate enzymatic reactions and metabolism.

CHEM 340 Forensic Chemistry* (4 semester hours)
Prerequisites: CHEM 220
Corequisites: None
This course will survey the applications of science in a criminal investigation with a laboratory-based examination of the methods and analyses of forensic science from a fundamental chemical perspective. The course focuses primarily on how physical evidence is located at crime scenes and how evidence samples are processed in the crime lab.

CHEM 410 Physical Chemistry (3 semester hours)
Prerequisites: CHEM 220
Corequisites: None
Physical chemistry is a demanding interdisciplinary subject in which physics and mathematics are applied to chemical systems. This course covers topics in chemical equilibrium and thermodynamics.

CHEM 420 Inorganic Chemistry (3 semester hours)
Prerequisites: CHEM 220
Corequisites: None
This course provides the student a general overview of inorganic chemistry. The relationship between structure, bonding and reactivity of transition metals is a primary focus.

*****Three hours of lecture, three hours of lab per week.

COMMUNICATION (COMM)

COMM 110 Speech (3 semester hours)
Prerequisite: ENGL 105
Corequisites: None
Description: This course builds on the skills acquired in ENGL 105. The student continues to study the process of effective communication, based on an understanding of purpose and audience using speaking techniques such as enunciation and modulation. By the completion of this course, the student will have built an awareness of the basic skills needed to communicate across the disciplines.

COMPUTER AND INFORMATION SCIENCES (CISC)

CISC 100 Learning Programming Using Lego Mindstorms Robots (3 semester hours)
Prerequisites: None
Corequisites: None
Description: This course provides an introduction to mobile robots and the fundamental concepts of programming by using Lego Mindstorms RCX robots. Lectures are followed by hands-on exercises performed in groups, where creativity is a key component. The primary goal is to obtain both visual and textual programming skills while promoting social aptitudes such as leadership and teamwork.

CISC 120 Programming Fundamentals I (4 semester hours)
Prerequisites: Basic Computer Skills
Corequisites: Intermediate Algebra
Description: This course introduces the concepts and techniques of computer programming. Emphasis is placed on developing the student's ability to apply problem-solving strategies to design algorithms and to implement these algorithms in a modern, structured programming language. Topics include fundamental programming constructs, problem solving techniques, simple data structures, Object-Oriented Programming (OOP), program structure, data types and declarations, control statements, algorithm strategies and algorithm development.

CISC 160 Programming Fundamentals II (4 semester hours)
Prerequisites: CISC 120
Corequisites: None
Description: This lecture and laboratory course further develops the concepts and techniques of computer programming. Emphasis is placed on structured programming, top-down design, more advanced data structures, and the proper use of the programming language and development tools. Topics include abstract data types (ADTs), sets, records, recursion, problem solving and algorithms, fundamental computing algorithms, searching, introductory sorting, hash tables, basic algorithm analysis, Object-Oriented Programming (OOP), files, linked lists, queues, stacks, and binary trees.

CISC 240 Operating Systems (4 semester hours)
Prerequisites: CISC 160
Corequisites: None
Description: This course provides an introduction to the design and implementation of operating systems. The student is exposed to different operating systems on various computer platforms and is expected to develop a significant operating system programming project in this area. Topics include operating systems principles, computer architecture, concurrency threads, CPU scheduling and dispatching, memory management techniques, computer security and system administration using Windows XP, Unix and Linux.

CISC 260 Programming Techniques (4 semester hours)
Prerequisites: CISC 160
Corequisites: None
Description: This course is a systematic study of programming languages and algorithms organized around the unifying concept of data and code abstraction. Emphasis is placed on ADT-based and object-oriented design, incremental development and testing, and comparison of data structure implementations. Topics include programming paradigms, programming language comparisons, functional programming scripting languages, objects, algorithm design and analysis, trees, graphs, sorting and searching.

CISC 265 Internship (3 semester hours)
Prerequisites: SEMR 200, an approved application, permission of Internship Coordinator and a minimum of 40 earned semester hours
Corequisites: None
Description: An internship allows the student to put theory to practice. In this form of experiential learning, the student applies their classroom experiences to the workplace at an off-site placement, where ideas are tested and career-ready skills and competencies are developed. Throughout each internship, the student works with a faculty supervisor who, together with a site supervisor, observe and reflect on what was accomplished. The student integrates these reflections into a comprehensive internship portfolio which both showcases specific achievements in the workplace and analyzes the quality of the learning throughout the internship.

CISC 280 Encryption Technologies (4 semester hours)
Prerequisites: CISC 160 and MATH 210
Corequisites: None
Description: This course covers the analysis of cryptographic algorithms, cryptanalysis, symmetric key cryptography, public key cryptography, Diffie-Hellman, DES, AES, RSA, Blowfish, Twofish, hash and MAC functions, digital signatures, pseudo-random generators, cryptographic protocols, SSL/TLS and SET. These algorithms represent the actual ciphers used in most standard secure applications. The student is challenged to implement these algorithms using an Object-Oriented Programming Language such as C# or Java.

CISC 290 Graphics and Visual Computing (4 semester hours)
Prerequisites: CISC 120
Corequisites: None
Description: This course introduces the essential topics in visual computing, graphics and multimedia. Emphasis is placed on programming and use of graphical content. Topics include GUI Programming, Human-Computer Interfacing, 3D Graphics Programming, Computer animation, image manipulation, window programming, mouse, events, video manipulation, multimedia and virtual reality.

CISC 300 Web Technologies (4 semester hours)
Prerequisites: CISC 120
Corequisites: None
Description: The student studies, explores and designs a website using basic software in this course. Coursework is both individual and in teams to build, launch, and market a website for a community member or as a university project.

CISC 310 New Media Design I (4 semester hours)
Prerequisites: CISC 290, 300
Corequisites: None
Description: The fundamental theory and practice of new media is explored in this course. It prepares the student for creative expression and technology application in all aspects of multimedia for effective message communication, whether it is for a specific product, a game or entertainment site, instruction, or eCommerce. New and emerging interactive digital media is used to create, store, transmit and sell products and services. The student may work on a project to enhance a local employer to recruit and expand business.

CISC 320 Computer Forensics (4 semester hours)
Prerequisites: CISC 240, 330
Corequisites: None
Description: This course provides the student with a unique hands-on experience in digital forensics using case studies. Emphasis is placed on computer incident responses and security risk assessments. Technical and legal issues regarding computer evidence are also covered since they have a bearing on both the computer incident response and the investigation. Computer evidence preservation is stressed using cross-validation of forensic tools and the documentation of computer evidence findings. Computer evidence processing methodologies and practices are also learned to combat legal challenges against the admissibility of computer-related evidence.

CISC 330 Computer and Network Security (4 semester hours)
Prerequisites: CISC 120
Corequisites: None
Description: The essential issues in computer (digital) and network security are covered. Topics include viruses, Internet worms, computer crime, web server security, denial of service attacks, authentication protocols, firewalls, Trojan horses, intrusion detection, data encryption methods, public key cryptography (RSA, DES), email viruses, attachments, spy ware, digital homeland security and issues in wireless technologies and mobile computing. The student is expected to develop a significant programming project in this area.

CISC 340 Intellectual Issues and Systems (4 semester hours)
Prerequisites: CISC 260
Corequisites: None
Description: This course introduces intellectual issues and intelligent systems in the computer field. Topics include: Fundamentals of intelligent systems, Artificial Intelligence (AI), AI Search Strategies, knowledge representation, privacy issues and civil liberties, intellectual property, digital copyrights and patent issues, social and ethical issues, intelligent (Internet) agents, intelligent manufacturing systems, and robotics.

CISC 350 Database Security Management (4 semester hours)
Prerequisites: CISC 280, 330
Corequisites: None
Description: This course focuses on design principles of trusted computing bases (TCB). Issues regarding authentication, access control and authorization, discretionary and mandatory security

policies, secure kernel design, secure operating systems, and secure databases will be covered from a systems architecture perspective. Emphasis is placed on the design of security measures for critical information infrastructures. Another focus is on the design and implementation details of secure data storage. Emphasis is also placed on multi-level security in database systems, covert channels, and security measures for relational and object-oriented database systems.

CISC 360 Communication Networks (4 semester hours)
Prerequisites: CISC 120
Corequisites: None
Description: This course introduces the essential terminology, elements and architecture of communication networks, data communication systems, server management, network administration, data integrity and network security. Topics include communication network principles, network administration, web servers, web site management, Internet and network programming, ISO, TCP/IP models, programming web and network applications, introduction to network security, wireless technologies and mobile computing. The student is expected to develop a significant programming project in this area.

CISC 390 Directed Study (1 to 4 semester hours)
Prerequisites: CISC 160 and a minimum of 60 earned semester hours
Corequisites: None
Description: This course is designed for the student who demonstrates an interest in an area of study not offered or who wishes to pursue a discipline in greater depth than possible through existing courses. A directed study counts as an elective and may not be used for accelerated or remedial credit. A learning contract between the student and instructor defines the responsibilities of the parties and specifies the learning objectives and standards for successful completion of the project. A calendar of meeting times and deadlines shall be a part of that contract.

CISC 398 – Junior Project (3 semester hours)
Prerequisites: Minimum of 60 earned semester hours, successful completion of CISC 265 or special permission, submission of appropriate paperwork, designation of an appropriate faculty advisor
Corequisites: None
Description: The junior project challenges the student to identify, investigate and analyze a particular topic in their program of study or combined aspects of several minor areas. An objective of the junior project experience is to demonstrate the student's ability to apply skills, methods, and knowledge obtained in classroom experiences with the student's research on a chosen topic. This project is usually undertaken in the student's junior year under the close mentorship of a faculty member and/or a community partner. Approval by an appropriate faculty advisor is required.

CISC 410 – Information Technology Project Management (4 semester hours)
Prerequisites: CISC 160 and a minimum of 60 earned semester hours
Corequisites: None
Description: This course introduces the student who has a background in computers and information sciences to a variety of skills and roles of the IT project manager. The basic techniques of project management are learned, from setting goals and objectives through managing selection of IT support products and procurement.

CISC 420 – New Media Design II (4 semester hours)
Prerequisites: CISC 310
Corequisites: None
Description: This course covers advanced multimedia applications, extending the previously learned multimedia and visual computing from CISC 290 and CISC 310. The course uses experiential

learning through the investigation of realistic 3D virtual worlds. Attention is paid to the addition of other multimedia elements, such as audio content, and the effectiveness of overall 3D content is examined.

CISC 430 – Software Engineering (4 semester hours)
Prerequisites: CISC 260, 330, 360
Corequisites: None
Description: This course introduces object-oriented software engineering concepts, methodologies and tools, requirements analysis and specifications, with the design and implementation of a software development process using UML. Topics include: software design, using API's, software tools and environments, software requirements and specifications, software project management tools, software testing and reliability, and software validation. The student is expected to develop a significant programming project in this area.

CISC 450 – Security Analysis (4 semester hours)
Prerequisites: CISC 350, 360
Corequisites: None
Description: This course integrates knowledge accumulated from the prerequisites and serves as a capstone for the concentration in Computer Security. Attention is focused on the techniques for protecting critical information infrastructures using case studies, application development, and systems assessment.

CISC 460 – Information Management (4 semester hours)
Prerequisites: CISC 260, 360
Corequisites: None
Description: This course will introduce physical and logical organization of databases, data retrieval languages, relational database languages, security and integrity, concurrency, distributed databases, and web access to database information. Emphasis is on software design using a relational database management system. Topics include: information systems, database management systems, relational databases, database design, query languages (SQL), data warehousing, data mining, database security, web site architecture and development (with database access.) The student will be expected to develop a significant programming project in this area. This course includes a laboratory component.

CISC 498 – Senior Project (3 semester hours)
Prerequisites: Minimum of 90 earned semester hours, successful completion of CISC 398, submission of appropriate paperwork, designation of an appropriate faculty advisor
Corequisites: None
Description: This project must be in the student's program of study and should demonstrate application of the skills, methods and knowledge of the discipline to solve a problem representative of the type to be encountered at the professional level. Senior project activities encompass research, development and application. These involve analysis or synthesis in a particular concentration in the major or combined aspects of several minor areas. This project is undertaken in the student's senior year and is overseen by a faculty member for the project subject matter who participates as the project advisor.

ENGLISH (ENGL)

ENGL 005 College Composition Recitation (0 semester hours)
Prerequisite: Placement by assessment
Corequisite: ENGL 105
Description: This course is offered as a companion to ENGL 105 for the student who lacks college-level composition skills and serves as an opportunity to develop the foundations necessary to succeed in subsequent courses.

ENGL 100 Composition and Literature (3 semester hours)
Prerequisites: None
Corequisites: None
Description: This course is designed to develop the student's ability to write by interpreting works of literature. The student is challenged to read literature so as to cogently explain how the use of literary techniques develops meaning and creates style and theme. Literature from various cultures, genres and periods of time are examined. In addition, this course will develop expository, argumentative, and research-based writing skills. *Limited to the College in High School student.*

ENGL 101 Composition Fundamentals (3 semester hours)
Prerequisites: None
Corequisites: None
Description: This course is designed to develop composition skills and usage of different genres. The student is challenged to reflect, create drafts, evaluate revisions and submit a variety of writing forms. *Limited to the College in High School student.*

ENGL 105 College Composition (3 semester hours)
Prerequisites: Placement by assessment
Corequisites: None
Description: This first-year composition course includes an introduction to college-level writing strategies with emphasis on critical reading and thinking skills and the composition process. By reading various writing styles and genres, the student will contemplate how purpose and audience guide the writing process. Additionally, writing assignments are to be completed according to a deadline with a goal of improving style, grammar, and diction.

ENGL 200 Advanced Composition and Technical Writing (3 semester hours)
Prerequisites: Minimum of 30 earned semester hours including GEND 101, ENGL 105 and COMM 110
Corequisites: None
Description: This course introduces the student to technical communication and prepares the student for designing and producing technical documents. Practice strategies are used for effective professional and technical writing to produce documents in various formats with attention to clarity and design.

GENERAL EDUCATION (GEND)

GEND 001 The Creative Mind Recitation (0 semester hours)
Prerequisite: Placement by assessment
Corequisite: GEND 101
Description: This reading course is offered as a companion to GEND 101 for the student who lacks college-level reading skills and serves as an opportunity to develop the foundations necessary to succeed in subsequent courses.

GEND 050 Humans as Learners (3 semester hours)
Prerequisite: None
Corequisite: None
Description: This course teaches study skills, time management techniques, teamwork, test-taking techniques, and prioritization of activities. The student learns what it means to synthesize an experience and develop a conclusion with an informed point-of-view through a high-level review of psychological theories on learning and experiential practice sessions. *Limited to the College in High School student. Credits do not count toward graduation requirements.*

GEND 101 The Creative Mind (6 semester hours)
Psychology, Sociology, and English Literature
Prerequisite: None
Corequisite: None
Description: This is a course about learning and creativity that draws from three fields of study: psychology, sociology and literature. More specifically, the themes of learning and creativity from the perspective of self, group, and community are addressed in-depth.

GEND 111 The Scientific Mind (6 semester hours)
Natural Sciences, Philosophy, and Computer Science
Prerequisite: GEND 101
Corequisite: None
Description: This course assists the student to understand his or her place in the observation and interpretation of the natural world by drawing from three fields of study: philosophy, the natural sciences, and computer applications. More specifically, the study of cosmology, astronomy, chemistry, physics and biology in this course includes a discussion of how research in these areas are influenced or were influenced by history, religion, politics and even entertainment.

GEND 150 The Learned Mind (6 semester hours)
Introduction to Philosophy and English Literature
Prerequisite: ENGL 105 and COMM 110
Corequisite: None
Description: This course introduces the student to the readings and study of philosophy. This learning opportunity includes reading and reflecting on the great philosophies of modern history and, through a study of the people and their writings (literature), the student learns to appreciate the power of the written word. The student will be exposed to a large number of writings and learn to carefully critique both the approach and manner of writing.

GEND 201 The Civic Mind (6 semester hours)
U.S. or World History, U.S. or World Politics, and Macroeconomics
Prerequisite: GEND 101 and GEND 111
Corequisite: None
Description: This course draws on topics related to American history and government, macroeconomics and ecology. The course demonstrates the interconnection between these fields of

study by focusing on the civic responsibility involved with decisions regarding the distribution of the nation's resources. The course provides a historical look at the American democratic system, political institutions, fiscal policy, monetary institutions and the national economy and examines the influence of these structures on public and environmental health.

GEND 251 The Political Mind (6 semester hours)
International Governing Institutions and Global Health, Energy, Poverty, and Security
Prerequisite: GEND 111 and GEND 201
Corequisite: None
Description: This course introduces the student to a wide spectrum of critical global issues in governance, energy, health, poverty and security. The primary objective of the course is to encourage the student to learn about international issues that affect global communities at different levels. The student will learn about the role of international institutions, intergovernmental and non-governmental organizations that promote globalization, environmental issues, trade, international finance, peace and human rights.

GEND 300 The Cultured Mind (6 semester hours)
World Cultures and Art
Prerequisite: GEND 101
Corequisite: None
Description: This course integrates the study of culture and art and introduces the student to a global and comparative study of culture as a key to understanding human behavior in different societies. The formation and application of art and culture is studied in relation to the impact of religious belief and tradition in different societies. The course explores similarities and differences in the world's major cultures and attempts to pinpoint the impacts on social institutions and human behavior.

GEND 351 Organizational Mind (6 semester hours)
Organizational Theory, Leadership and Microeconomics
Prerequisite: GEND 101 and COMM 110
Corequisite: None
Description: This course introduces the student to organization, leadership, and decision-making in firms and businesses by drawing from the fields of organizational theory, leadership, and microeconomics. The objective is to encourage the student to understand the significance of organization and leadership in professional, economic and entrepreneurship activities. The role and impact of organizational theory and leadership is also explored in relation to a firm's microeconomic decisions, while attempting to be successful and productive in the marketplace.

GEND 400 The Entrepreneurial Mind (3 semester hours)
Business and Social Entrepreneurship
Prerequisites: Minimum of 60 earned semester hours
Corequisites: None
Description: The student will study and compare key features of entrepreneurship from two important vantage points: business entrepreneurs and social entrepreneurship. The drive and creativity of individuals who question the status quo and explore new opportunities are examined. The student reads stories, completes case studies, and speaks with community entrepreneurs. Examples are taken from business and others from ordinary people who do remarkable work. The objective of this course is to help the student identify a specific entrepreneurial spirit, set their goals, and develop their skills in entrepreneurship.

GEND 425 Globalization (3 semester hours)
Trade and Finance
Prerequisite: Minimum of 60 semester hours completed
Corequisite: None
Description: This course explores the significance of trade and finance by investigating the benefits and harms of globalization as it relates to world economic development. The course also probes the role of international institutions that promote issues related to human well-being and security.

GEND 450 The Healthy Mind and Body (3 semester hours)
Personal and Environmental Health
Prerequisites: Minimum of 60 earned semester hours
Corequisites: None
Description: This course provides the foundation for a study of various current health issues. The student will investigate a topic related to personal, community or environmental health to conduct research, formulate an opinion of the topic, discuss relevant facts, and write about the topic. The projects in this class focus on the development of competence in both oral and written communication and information literacy.

GEND 465 Professional Ethics (3 semester hours)
Moral, Ethical and Professional Decision-making
Prerequisites: Minimum of 60 earned semester hours
Corequisites: None
Description: This course covers contemporary concepts and fundamental issues in moral, ethical, and professional decision-making. Through case analysis, the course organizes and maintains study around topics such as professional client relations, confidentiality, professional dissent, and professional virtue in a professional setting. The course will also concentrate on the theme of corporate social responsibility and will probe how companies craft a balance between increasing profit and improving the welfare of society, promoting sustainable economic development, and committing themselves to fair trade.

GEOGRAPHY AND GEOSPATIAL IMAGING (GGSI)

GGSI 130 Geography of the World (4 semester hours)
Prerequisites: None
Corequisites: None
Description: This introductory course has three broad goals and three specific ways of looking at the geography of the world. Through a weekly laboratory and recitation period, the student learns the vocabulary needed to understand the science, specific sites, regions, cities and environments of the world. A broad look at the various geographies including cultural, economic and political borders will occur. The use of modern digital technologies is introduced and future trends in the field are discussed.

GGSI 140 Introduction to GIS/GSI (3 semester hours)
Prerequisites: None
Corequisites: None
Description: This course includes the principles, techniques and practices of geographic and geospatial imaging and how these techniques lead to the understanding of how geography is represented and space images constructed. There are a host of methods for learning about the rarely accessible regions of the globe and placing these regions amongst the whole on which science relies. Models can be built from spatial and geographic image representations which can be overlaid by both

time and imperial or experimental data. This course explores the basic foundations of geographic and geospatial imaging, with both theory and laboratory practice.

GGSI 210 Cartography (3 semester hours)
Prerequisites: GGSI 130 or permission of instructor
Corequisites: None
Description: The fundamental processes of modern cartography are covered in this course. Topics explored are scale, function, representation and map projection to connect these topics with GIS and geographic remote satellite sensing applications. The student will use digital cartographic information to create models and strategies using U.S. Department of Agriculture and Department of Commerce information, as well as other databases.

GGSI 220 Applied Geospatial Technology (4 semester hours)
Prerequisites: GGSI 140 or permission of instructor
Corequisites: None
Description: Theory and practice are bridged in this course to build competency using ArcInfo, ArcView and ArcEditor through ArcGIS. The ArcGIS system is a scalable system of software for geographic data to build geographic literacy. The student learns the basics of editing, analysis and modeling along with cutting-edge data models and management and will learn how data management analysis and conversion tools are applied to a variety of different settings. With these very basic tools, the student will perform data conversion, generalization, aggregation overlaps, buffer creations and statistical calculations.

GGSI 240 GIS/GSI Policy (4 semester hours)
Prerequisites: GGSI 140 and GGSI 220
Corequisites: None
Description: Through the use of geographic and geospatial information system examples, the current policy on managing data for public administration and public policy is explored. The student will utilize knowledge and skills in the field of GIS/GSI to come to an understanding of power and limits of this technology as it is used to set public policy. The resources of GIS/GSI to gain information for national defense purposes is critical. The knowledge of GIS/GSI systems is used to explore emerging public policy, professional standards, ethics, and future directions of geographic data.

GGSI 265 Internship (3 semester hours)
Prerequisites: SEMR 200, an approved application, permission of Internship Coordinator and a minimum of 40 earned semester hours
Corequisites: None
Description: An internship allows the student to put theory to practice. In this form of experiential learning, the student applies their classroom experiences to the workplace at an off-site placement, where ideas are tested and career-ready skills and competencies are developed. Throughout each internship, the student works with a faculty supervisor who, together with a site supervisor, observe and reflect on what was accomplished. The student integrates these reflections into a comprehensive internship portfolio which both showcases specific achievements in the workplace and analyzes the quality of the learning throughout the internship.

GGSI 340 Advanced Spatial Analysis (4 semester hours)
Prerequisites: GGSI 140 and GGSI 210 or permission of instructor
Corequisites: None
Description: This course is an advanced-level applied GIS course in which the student will learn to use GIS technology (ArcGIS) to complete a large and complex GIS project in a team environment. Significant focus will be given to working with spatial data, including creating, editing, analysis

techniques, labeling and filtering, developing data projections, trouble shooting data conversion and ensuring data quality. Cartographic layer management and viewing data are also addressed. The student will also focus on applied cartography, metadata management, and digital and hard copy cartographic output.

GGSI 370 Spatial Software and Database Development (4 semester hours)
Prerequisites: CISC 160 and GGSI 340
Corequisites: None
This course provides the hands-on experience necessary to understand the application of spatial skills and software development competencies to the unique field of spatial software development. Fundamental concepts covered previously, including scale, earth models, map projections and coordinate systems, are further developed. New major concepts include Boolean logic, overlays, map algebra, and binary modeling. Technical skill development focuses on data collection and integration, digitizing, and design of spatial data display. The course focuses on using real-world examples in GIS modeling and analysis.

GGSI 390 Directed Study (1 to 4 semester hours)
Prerequisites: Minimum of 60 earned semester hours
Corequisites: None
Description: This course is designed for the student who demonstrates an interest in an area of study not offered or who wishes to pursue a discipline in greater depth than possible through existing courses. A directed study counts as an elective and may not be used for accelerated or remedial credit. A learning contract between the student and instructor defines the responsibilities of the parties and specifies the learning objectives and standards for successful completion of the project. A calendar of meeting times and deadlines shall be a part of that contract.

GGSI 398 – Junior Project (3 semester hours)
Prerequisites: Minimum of 60 earned semester hours, successful completion of CISC 265 or special permission, submission of appropriate paperwork, designation of an appropriate faculty advisor
Corequisites: None
Description: The junior project challenges the student to identify, investigate and analyze a particular topic in their program of study or combined aspects of several minor areas. An objective of the junior project experience is to demonstrate the student's ability to apply skills, methods, and knowledge obtained in classroom experiences with the student's research on a chosen topic. This project is usually undertaken in the student's junior year under the close mentorship of a faculty member and/or a community partner. Approval by an appropriate faculty advisor is required.

GGSI 460 Satellite Remote Sensing (4 semester hours)
Prerequisites: GGSI 140, GGSI 290 and a minimum of 60 earned semester hours
Corequisites: None
Description: Remote sensing through the use of satellites is the science of acquiring and analyzing information about objects or phenomena from a distance. Remote sensing is recognized as a valuable tool for analyzing, viewing, characterizing and making decisions in real time. Satellite-borne sensors observe, measure and record the electromagnetic radiation reflected or emitted by the earth and its environment for subsequent analysis and extraction of the information. Application for satellite remote sensing is predominant in military surveillance and uses a variety of weather and tracking systems.

GGSI 498 Senior Project (3 semester hours)
Prerequisites: Minimum of 90 earned semester hours, successful completion of GGSI 398, submission of appropriate paperwork, designation of an appropriate faculty advisor
Corequisites: None
Description: This project must be in the student's program of study and should demonstrate application of the skills, methods and knowledge of the discipline to solve a problem representative of the type to be encountered at the professional level. Senior project activities encompass research, development and application. These involve analysis or synthesis in a particular concentration in the major or combined aspects of several minor areas. This project is undertaken in the student's senior year and is overseen by a faculty member for the project subject matter who participates as the project advisor.

INTEGRATIVE SCIENCES (INSC)

INSC 105 Field Studies in Natural Science (3 semester hours)
Prerequisites: None
Corequisites: None
Description: The student is introduced to the natural world in this course through discussion, multimedia and field experience. The exploration of the natural world takes the class from shores of the Susquehanna River to stellar nurseries where new stars and planets are born. The journey together will build the foundation for more intensive studies in science and personal ownership of our own discoveries.

INSC 115 The Chemistry of Life (3 semester hours)
Prerequisites: None
Corequisites: None
Description: What's Organic about Organic Chemistry? This is one of the many discussions that will occur in the O.C. (Organic Connection). Why is organic chemistry important for a future nurse, lawyer, teacher, scientist or informed citizen? To answer this question, organic chemistry in the context of everyday life will be presented. Teamwork and outdoor expeditions keeps the student moving and thinking while studying the chemistry of life.

INSC 120 The Scientific Method and Public Opinion (4 semester hours)
Prerequisites: None
Corequisites: None
Description: Public opinion is often dictated by preconceived notions, tradition and superstition. This class uses the power of the scientific method, experimental design and statistics to explore some of the things accepted by the public as givens: lunar cycle effects; life, death and holidays; and superstition and old wives' tales. Data mining techniques are employed, followed by a discussion and application of the appropriate quantitative methods to explore the phenomena under scrutiny. This course has field trips, with one overnight stay. Relations with local hospitals and police officials will be developed for access to data.

INSC 140 Introduction to Integrative Science (3 semester hours)
Prerequisites: None
Corequisites: None
Description: Many things live side-by-side with humans, often remaining hidden from day-to-day life yet thriving among homes and city streets. Humanity's reach has been extended through ceaseless questioning and technology to observe the very large and the very small. Telescopes, microscopes, and swarming satellites overhead all assist to understand both the world around us and our place

within it. The student is introduced to the natural world through science and science's tools of observation, and will learn to ask the questions which expand the mind and ignite the innate sense of wonder and curiosity.

INSC 160 Introduction to Forensic Computing (3 semester hours)
Prequisites: None
Corequisites: None
Description: Computers are increasingly critical to forensic investigations. This course introduces the student to the basics of computer-stored data and methods of hiding, erasing and recovering data from storage media. It also explores the relationship between computer technology and crime scene investigation.

INSC 180 Integrative Science (3 semester hours)
Prerequisites: None
Corequisites: None
Description: The student continues the exploration of the natural world through the use of active, collaborative approaches to help connect mechanisms, ideas, patterns, and numeracy measures amongst fields which are often considered to be distinct and separate. The nature of such vital elements as molecules of life, the earth and cosmos, diversity and biodiversity, evolution, and strategies for successful ecosystems will be explored.

INSC 265 Internship (3 semester hours)
Prerequisites: SEMR 200, an approved application, permission of Internship Coordinator and a minimum of 40 earned semester hours
Corequisites: None
Description: An internship allows the student to put theory to practice. In this form of experiential learning, the student applies their classroom experiences to the workplace at an off-site placement, where ideas are tested and career-ready skills and competencies are developed. Throughout each internship, the student works with a faculty supervisor who, together with a site supervisor, observe and reflect on what was accomplished. The student integrates these reflections into a comprehensive internship portfolio which both showcases specific achievements in the workplace and analyzes the quality of the learning throughout the internship.

INSC 270 Crime Scene Investigation (3 semester hours)
Prerequisites: None
Corequisites: None
Description: This is a fundamental course in forensic death investigations. The areas of specialized focus include the causes, manner, physical circumstances, and mechanisms of both natural and unnatural deaths. Death scenes are examined and investigations reviewed, with evidence pertaining to how people die. In addition, the course looks at the various legal considerations and methods germane to concluding equivocal death determinations.

INSC 320 The Study of Disease (3 semester hours)
Prerequisites: BIOL 280, minimum of 45 earned semester hours, or permission of instructor
Corequisites: None
Description: The human body is studied in health and disease with a focus on the contemporary causes of human pathology. Information on metabolic and infectious disorders that effect major body systems is explained. The study surveys system organ structure and metabolic/genetic aspects of disease, from simple to complex.

INSC 335 Field Studies in Ecology (3 semester hours)
Prerequisites: BIOL 280, minimum of 45 earned semester hours, or permission of instructor
Corequisites: None
Description: This course introduces the student to a broad range of subject areas in different subject matter associated with the Chesapeake Bay and its watershed. During the week-long field course, the ecologically-rich area is visited and studied. Historic and economically important sites are also visited. Research methodologies are introduced to the student and participation leads to a better understanding of the environment.

INSC 340 Community Health and Research (3 semester hours)
Prerequisites: Minimum of 45 earned semester hours
Corequisites: None
Description: This course provides the foundation for a study into relevant community health issues facing area residents. The course has three important and integrated components: reading and discussion in seminar fashion on a variety of topics and subjects related to community health, environmental health and research practices; the development, investigation and conduct of a community-based research project mentored by the faculty or a business/agency partner; and, the synthesis of the results and implications of the research into a final public and poster presentation. This course stresses both oral and written communication on issues of science and public policy (content, process and competency).

INSC 350 Animal Behavior* (4 semester hours)
Prerequisites: BIOL 280, INSC 180, or permission of instructor
Corequisites: None
Description: This course exposes the student to a broad range of topics within the area of animal behavior, from evolutionary and ecological perspectives. Natural selection and adaptation as functions of behavioral ecological and socio-biological processes are the focus. Ethological questions are also addressed.

INSC 360 Forensic Case Study (3 semester hours)
Prerequisites: BIOL 125 and INSC 270
Corequisites: None
Description: This course stresses field work and the application of collected evidence in the sometimes messy real world. The student will analyze several case studies, looking beyond the verdicts or newspaper reports to the actual workings of forensic science's involvement in prosecution of criminal cases.

INSC 361 Criminal Profiling (3 semester hours)
Prerequisites: BIOL 125 and INSC 270
Corequisites: None
Description: This course examines the process of profiling during the investigation of a crime. The process of psychological profiling was first institutionally used by the Federal Bureau of Investigation, but there are now multiple models for criminal profiling. This course examines the various models and how they relate both to expert witness standards and scientific methodologies. The course examines the differences of these models and their application in case studies.

INSC 362 Medico-Legal Death Investigation (3 semester hours)
Prerequisites: BIOL 125, 214 and 215
Corequisites: None
Description: This course is a study of the process known as medicolegal death investigation. The course introduces the student to the legal systems surrounding the investigation of the cause and manner of death. The role of forensic pathology and the application of pathology to law are studied

in relation to crime scene investigation. Natural, accidental, homicide and suicide deaths are explored in the perspective of the forensic pathologies.

INSC 363 Forensic Population Studies (3 semester hours)
Prerequisites: BIOL 125, INSC 270, and MATH 280
Corequisites: None
Description: This course utilizes large data sets to discern large scale crime patterns. The student is introduced to crime databases and follows criminal activity patterns correlated to such variables as physical area, time or economics. This course involves research design and statistical analysis and is a group project-driven course.

INSC 364 Fraud (3 semester hours)
Prerequisites: BIOL 125 and INSC 270
Corequisites: None
Description: This course examines all aspects of fraud investigation, including medical and corporate fraud. Case studies are used and guest speakers employed in the field of fraud investigation are presenters. Practical knowledge of investigation techniques and knowledge of the common traits existing in fraud cases will be examined.

INSC 390 Directed Study (1 to 4 semester hours)
Prerequisites: Minimum of 60 earned semester hours
Corequisites: None
Description: This course is designed for the student who demonstrates an interest in an area of study not offered or who wishes to pursue a discipline in greater depth than possible through existing courses. A directed study counts as an elective and may not be used for accelerated or remedial credit. A learning contract between the student and instructor defines the responsibilities of the parties and specifies the learning objectives and standards for successful completion of the project. A calendar of meeting times and deadlines shall be a part of that contract.

INSC 398 – Junior Project (3 semester hours)
Prerequisites: Minimum of 60 earned semester hours, successful completion of CISC 265 or special permission, submission of appropriate paperwork, designation of an appropriate faculty advisor
Corequisites: None
Description: The junior project challenges the student to identify, investigate and analyze a particular topic in their program of study or combined aspects of several minor areas. An objective of the junior project experience is to demonstrate the student's ability to apply skills, methods, and knowledge obtained in classroom experiences with the student's research on a chosen topic. This project is usually undertaken in the student's junior year under the close mentorship of a faculty member and/or a community partner. Approval by an appropriate faculty advisor is required.

INSC 410 Epidemiology (3 semester hours)
Prerequisites: Minimum of 60 earned semester hours
Corequisites: None
Description: This course studies how diseases are detected, identified, and distributed within populations. By definition, "epidemiology is the study of the distribution and determination of health-related states or events in specific populations and the application of this study to the control of health problems." Through the study of epidemiology, the student learns the medical and scientific investigative skills needed to critically think, strategize, and predict new epidemics and control current ones. Mathematics is used to model disease progression.

INSC 498 Senior Project (3 semester hours)
Prerequisites: Minimum of 90 earned semester hours, successful completion of INSC 398, submission of appropriate paperwork, designation of an appropriate faculty advisor
Corequisites: None
Description: This project must be in the student's program of study and should demonstrate application of the skills, methods and knowledge of the discipline to solve a problem representative of the type to be encountered at the professional level. Senior project activities encompass research, development and application. These involve analysis or synthesis in a particular concentration in the major or combined aspects of several minor areas. This project is undertaken in the student's senior year and is overseen by a faculty member for the project subject matter who participates as the project advisor.

*****Three hours of lecture, three hours of lab per week.

MANAGEMENT AND EBUSINESS (MEBA)

MEBA 050 Introduction to the World of Business (3 semester hours)
Prerequisites: None
Corequisites: None
Description: A survey course examining major aspects of business in the U.S. compared to business in Europe and Asia. How do companies form and operate? How do industries form and die? How do economies get built, grow and/or struggle? What is the link between individual companies, industries and economies? *Limited to the College in High School student. Credit does not count towards graduation requirements.*

MEBA 110 Introduction to eBusiness and Management (3 semester hours)
Prerequisites: None
Corequisites: None
Description: This course introduces the basic concepts of conducting and managing business in the digital age through a large number of real life case studies and examples. Modern enterprises and the evolution of those enterprises through adoption of the Internet and Web technologies are examined. The student is exposed to different models such as eBusiness, eCommerce, eGovrnment, eMarketing, eManagement, eProcurement and eSupply chains. The student works on team projects that attempt to help start-ups to establish a business strategy and then develop an overall plan to implement that business strategy.

MEBA 210 Information Technologies for Modern Businesses (3 semester hours)
Prerequisites: None
Corequisites: None
Description: This course introduces the current and emerging information technology (IT) infrastructure that enables and drives modern enterprises. The student is exposed to the key building blocks (enterprise applications, computing platforms, databases, and networks) of the modern IT infrastructure. The Internet, Internet service providers (ISPs), wireless networks, classical Web, Semantic Web, XML, Web 2.0, social networking, and mobile computing are discussed. The student will learn the main aspects of the software development process through simple hands-on projects and is introduced to basic software concepts by developing simple web sites by using HTML with Javascript or Java applets and XML to introduce more sophisticated features.

MEBA 220 Principles of Business Management (3 semester hours)
Prerequisites: None
Corequisites: None
Description: The student is provided with analytical tools to understand and synthesize the most current applications of theories and concepts in business management and is exposed to the debate on the dynamic of busniess environment, evolving business models, economic systems, and scale of domestic and global competion in the market place. The student is encouraged to explore the world of entrepreneurship through an understanding of leadership, organization and management. Other topics examined are market analysis, communication, planning, organizing, leading, controlling the business environment, and management of human resources through motivation of employees for improved results. The course also concentrates on money and financial management, securities markets and the utilization of technology in management, marketing, production, and distribution.

MEBA 230 Marketing in the Digital Age (3 semester hours)
Prerequisites: None
Corequisites: None
Description: The student is provided with analytical tools to understand and synthesize the most current applications of theories and concepts in marketing. The student learns how to design strategic planning for competitive advantage in the marketplace and is encouraged to explore the essence of marketing environment and the global vision for business marketing. Topics such as consumer and business marketing, segmentation, support systems in marketing, product concepts and management, marketing channels and supply chain management are explored. Promotion and communication concepts such as advertising, public relations and sales promotion mechanisms are also discussed. The effective use of information technology in sales, marketing and promotion with examples of eAdvertising, eSelling, and web-based market research and business intelligence is learned.

MEBA 265 Internship (3 semester hours)
Prerequisites: SEMR 200, an approved application, permission of Internship Coordinator and a minimum of 40 earned semester hours
Corequisites: None
Description: An internship allows the student to put theory to practice. In this form of experiential learning, the student applies their classroom experiences to the workplace at an off-site placement, where ideas are tested and career-ready skills and competencies are developed. Throughout each internship, the student works with a faculty supervisor who, together with a site supervisor, observe and reflect on what was accomplished. The student integrates these reflections into a comprehensive internship portfolio which both showcases specific achievements in the workplace and analyzes the quality of the learning throughout the internship.

MEBA 310 eCommerce and mCommerce (3 semester hours)
Prerequisites: MEBA 110, 210; MEBA 210 may be completely concurrently
Corequisites: None
Description: This course studies, analyzes and evaluates the business and technical aspects of eCommerce and mCommerce (mobile commerce). Business strategies to start a business, advertising a business, and selling the business product are covered. Case studies are used to explain the business process that needs to be automated to support the eCommerce and mCommerce initiatives. Economic trends and emerging web and mobile computing technologies are explored to understand the technical, business, and social processes that are shaping the electronic marketplace. Case studies and team projects explore how Web 2.0, text messaging, location based services, RFID and wireless sensor networks support the eProcurement, eSupply chain management, mobile-CRM and mobile portal initiatives. Technologies covered include eCommerce platforms, transaction processing systems and markup languages for wireless and voice.

MEBA 320 Financial and Managerial Accounting (3 semester hours)
Prerequisites: MEBA 220 and a minimum of 45 earned semester hours
Corequisites: None
Description: This course explores the basic financial and managerial accounting competencies needed in managing a business or product line. The accounting concepts are introduced with a discussion of how general purpose financial statements reflect the business corporation's performance and position for users external to management. The course also examines major elements of the statements such as cash, receivables, inventory, long–lived assets, depreciation, payroll, bonds, and other liabilities and stocks. Concepts of financial accounting are applied to management accounting for internal reporting and decision-making. The course emphasizes applications of accounting strategies, decision-making, and evaluation. A conceptual framework will be established to enable managers to be profitable and to read and understand ledgers. Accounting information systems commonly used in the industry (e.g., Quickbooks) will be examined by the student.

MEBA 330 Sales and Sales Management (3 semester hours)
Prerequisites: MEBA 210 and MEBA 220
Corequisites: None
Description: This course examines sales management strategies, approaches and best practices in creating an adaptive sales force. Areas explored include the human dimension of hiring and firing employees, how to look proactively at how to market and sell in a global and technological environment, and identify where people skills and competencies are vitally important. The productivity and assessment of the sales force, through motivation and training, will also be explored. Methods to advertise and sell over the Internet will be learned. Current events, market trends and areas, and regional associations for the various sales trades are covered.

MEBA 350 Financial Management (3 semester hours)
Prerequisites: Prerequisites: MEBA 220 and a minimum of 45 earned semester hours
Corequisites: None
Description: This course covers the principles of corporate finance and examines the foundations of tools for successful financial management. The course starts with concepts of corporate finance and the basic tools for financial decision making. The student is then exposed to capital budgeting, capital markets and securities, risk and return on investment, dividend policy, derivatives, valuation, cost of capital, capital structure, short and long-term investment decisions, financial implications of mergers and acquisitions, and other recent and relevant topics. Several case studies and computer-aided tools are used for real-world
insights.

MEBA 390 Directed Study (1 to 4 semester hours)
Prerequisites: Minimum of 60 earned semester hours
Corequisites: None
Description: This course is designed for the student who demonstrates an interest in an area of study not offered or who wishes to pursue a discipline in greater depth than possible through existing courses. A directed study counts as an elective and may not be used for accelerated or remedial credit. A learning contract between the student and instructor defines the responsibilities of the parties and specifies the learning objectives and standards for successful completion of the project. A calendar of meeting times and deadlines shall be a part of that contract.

MEBA 398 – Junior Project (3 semester hours)
Prerequisites: Minimum of 60 earned semester hours, successful completion of CISC 265 or special permission, submission of appropriate paperwork, designation of an appropriate faculty advisor
Corequisites: None
Description: The junior project challenges the student to identify, investigate and analyze a particular topic in their program of study or combined aspects of several minor areas. An objective of the junior project experience is to demonstrate the student's ability to apply skills, methods, and knowledge obtained in classroom experiences with the student's research on a chosen topic. This project is usually undertaken in the student's junior year under the close mentorship of a faculty member and/or a community partner. Approval by an appropriate faculty advisor is required.

MEBA 420 International Business and Strategies (3 semester hours)
Prerequisites: MEBA 110, MEBA 220 and MEBA 230
Corequisites: None
Description: This course discusses how global markets impact managerial processes. The questions under investigation are how managers adapt their organizational practices to accommodate global and local cultures and businesses practices in different parts of the world. The course explores the best practices in global strategic management, organizational design, human resource processes and organizational behavior. Also discuss are business strategy, Porter Models, and micro-macro economic issues in global and extended enterprises. Global supply chains and global operation management issues, with an emphasis on total quality management (TQM), will be also examined.

MEBA 430 Business Law (4 semester hours)
Prerequisites: MEBA 110, a minimum of 60 earned semester hours, or permission of instructor
Corequisites: None
Description: This course represents a fundamental study of current acceptable practices in business law. The major types of law that pertain to business activities and start-up companies, including the legal environments in which business arise, are covered. The Constitution is discussed and the different types of laws are learned, with a focus on cyber law as it applies today. Through readings, class discussions, seminars and case study analysis, the foundation of American business law is derived.

MEBA 440 Leadership and Organizational Behavior in Modern Settings (3 semester hours)
Prerequisites: MEBA 110 and a minimum of 60 semester hours completed
Corequisites: None
Description: Modern organizations are characterized by constant change, market fluctuations, increased automation, and globalization. This course explores and examines the basic framework for leadership styles and focuses on ethical leadership in times of change and crisis through use of case studies and examples. The course examines the behavior of individuals and groups in the modern global settings and concentrates on improving productivity, job satisfaction, team development and continuous improvement practices and experiences. Special attention is paid to introducing organizational change smoothly, humanistic concern for people, and cultural tolerance in a global business world. Topics include theories and case studies concerning the behavior of people in modern business organizations, analysis of the internal organizational structure and managerial roles and functions, examination of theory and design of organizational structure, and the impact of work flow, leadership styles and control systems on human behavior.

MEBA 464: eGovernment and mGovernment: Public Administration in the Digital Age (3 semester hours)
Prerequisites: MEBA 110, MEBA 210
Corequisites: None
Description: This course examines how eGovernment and mGovernment (mobile) are changing the way businesses and citizens interact with government. The course covers principles of public administration and discusses the role of emerging technologies to manage public assets and deliver services to the public. Highlighted are the emerging web and mobile computing technologies (e.g., Web 2.0+, text messaging, location based services, RFID and wireless sensor networks) to improve the government services.

MEBA 470: Business Systems Analysis, Modeling and Design (4 semester hours)
Prerequisites: MEBA 110, MEBA 210
Corequisites: None
Description: This course prepares the student to analyze business information systems in the digital age and to build models and logical designs that can be implemented later. Emphasis is on understanding the business processes and business requirements and building conceptual models that help in the analysis of business requirements. Complex systems and to build designs and architectures that can satisfy the business requirements are discussed. The course emphasizes business process modeling, business patterns, object orientation, design patterns and component-based design approaches. Topics include modern system life cycles, project management, BRODE (buy, rent, outsource, develop, extend) strategies in system building, business system modeling, requirements analysis, conceptual design, architectures, physical design, and design for the modern mobile systems with security and integration considerations.

MEBA 472: Business Intelligence and Decision Support Systems (3 semester hours)
Prerequisites: MEBA 110, MEBA 210
Corequisites: None
Description: Modern electronically-enabled enterprises rely increasingly on knowledge that needs to be managed and processed through a variety of intelligent tools. This course covers the vital issue of business intelligence and knowledge management in modern enterprises and discusses how decision support and expert systems tools can be used for effective decision making in organizations. Topics include artificial intelligence in a business context, business intelligence and business analytics, data mining, data warehousing, click stream mining, knowledge management, decision support and expert systems, artificial intelligence principles, neural networks, learning systems, and intelligent agents in a business context.

MEBA 480: Enterprise Architectures and Integration for a Global Economy
(3 semester hours)
Prerequisites: MEBA 110, MEBA 210, MEBA 310
Corequisites: None
Description: Modern digital enterprises are characterized by increased automation, mobile services, extended B2B operations with global business partners, and on-demand business services. The main issue in such enterprises is to architect and integrate a very wide range of services quickly and effectively. This course highlights the role of information and communication technologies, enterprise models, and emerging service oriented architectures (SOA) standards in developing flexible and integrated business architectures.

MEBA 498 Senior Project (3 semester hours)
Prerequisites: Minimum of 90 earned semester hours, successful completion of MEBA 398, submission of appropriate paperwork, designation of an appropriate faculty advisor
Corequisites: None
Description: This project must be in the student's program of study and should demonstrate application of the skills, methods and knowledge of the discipline to solve a problem representative of the type to be encountered at the professional level. Senior project activities encompass research, development and application. These involve analysis or synthesis in a particular concentration in the major or combined aspects of several minor areas. This project is undertaken in the student's senior year and is overseen by a faculty member for the project subject matter who participates as the project advisor.

MEBA 499: Special Topics in Management and eBusiness (3 semester hours)
Prerequisites: MEBA 110, MEBA 210
Corequisites: None
This course covers emerging issues in management and eBusiness. The topics change as the field evolves but will span management strategies, emerging eBusiness models, next generation of digital enterprises, emerging technologies, globalization trends, or a combination of multiple trends.

MATHEMATICS (MATH)

MATH 020 College Algebra Recitation (0 semester hours)
Prerequisite: Placement by assessment
Corequisites: MATH 120
This course is offered as a companion to MATH 120 for the student whose initial mathematics placement is strong in elementary algebra but less so in intermediate algebra. The course develops the foundations necessary to succeed in subsequent mathematics courses.

MATH 081 Prealgebra (3 semester hours)
Prerequisite: Placement by assessment
Corequisites: None
Description: This course is offered to the student who needs additional preparation in algebra or who has been away from mathematics for several years. Subject areas to be covered include arithmetic of whole numbers, fraction and decimals, ratios and percents, and basic algebraic concepts. Math study skills are an integral part of this course. Prepares the student for College Algebra. *Credit does not count towards graduation requirements.*

MATH 082 Prealgebra Recitation (0 semester hours)
Prerequisite: IP grade in MATH 081
Corequisites: None
Description: This course is required for the student who earned a grade of *in progress* (IP) in MATH 081 in a previous semester. The student has the opportunity to complete topics presented in MATH 081 under the supervision of an instructor on a scheduled basis.

MATH 120 College Algebra (3 semester hours)
Prerequisites: Placement by assessment
Corequisistes: None
Description: This course is intended for the student with an elementary knowledge of algebra. Topics include properties of real numbers, problem-solving using equations and inequalities, algebraic functions, graphing, systems of equations and inequalities, polynomial functions and graphs, exponents and radicals, the binomial theorem, zeros of polynomials, inverse functions, and

applications and graphs. Other topics selected from sequences, series, and complex numbers may be covered, including the study of functions equations and graphs with emphasis on linear, quadratic and exponential functions. A graphing calculator is required for this course.

MATH 210 Discrete Mathematics I (3 semester hours)
Prerequisites: Math 120
Corequisites: CISC 160
Description: This course provides the computer science student with an understanding of multiple mathematical concepts and methods which shape the foundation of modern information science in a form that is relevant and useful. Discrete mathematics plays a fundamental role for computer science which is similar to that played by calculus for physics and engineering. Many concepts in computer science are best understood from a perspective that requires expertise with mathematical tools and certain reasoning skills associated with mathematical maturity. The topics covered will draw on current material from several mathematical disciplines: graph theory, mathematical logic, and set theory.

MATH 220 Calculus I (3 semester hours)
Prerequisites: MATH 120
Corequisites: None
Description: This course introduces techniques to evaluate limits and covers continuity, special trigonometric limits, absolute value limits and differentiation of algebraic, trigonometric, and logarithmic functions. The course explores intermediate value theorem, mean value theorem, and extreme value theorem. Other topics for exploration are application and formal definition of derivative average rate of change versus instantaneous rate of change, velocity, and the introduction of the definite integral and its applications. A graphing calculator is required for this course.

MATH 230 Introduction to Finite Mathematics (3 semester hours)
Prerequisites: MATH 120 or equivalent
Co-requisites: None
This course is an introduction to the mathematics of discrete objects with separated values. The course develops concepts in set theory, counting, enumeration, relations, functions and propositional logic. The student will learn to apply formal approaches to problem solving, mathematical reasoning, mathematical proof and basic logic to topics in science, engineering, mathematics and economics.

MATH 260 Calculus II (3 semester hours)
Prerequisite: MATH 220
Description: This course focuses on the exploration of differential calculus, the derivatives of all functions. An emphasis is placed on the rules of differentiation and their proofs. The course analyzes graphs of functions using the concept of derivative and its application and includes an introduction to integral calculus, integration properties, differential equations and notation. Problem solving is learned using elementary integration techniques, elementary trigonometric integration, and hyperbolic functions. A graphing calculator is required for this course.

MATH 280 Introductory Statistics (3 semester hours)
Prerequisites: MATH 120
Corequisites: None
Description: This course covers elementary topics from the probability and statistics of both discrete and continuous random variables. Topics include independence and dependence, mean, variance and expectation, and distributions of random variables. Statistics is applied to hypothesis testing. This course provides the student with a broad, general knowledge and understanding of statistics. The emphasis of this course is on the utility and practical application of statistics rather than on the mathematical derivation of statistical principles.

MATH 310 Discrete Mathematics II (3 semester hours)
Prerequisites: CISC 160 and MATH 210
Co-requisites: None
Description: This course ensures that the computer science student reaches the level of mathematical maturity necessary for the study of Computer and Information Science. Topics covered draw on current material from the study of graphs, trees, relations, algorithms and models of computation.

MATH 380 Mathematical Modeling (4 semester hours)
Prerequisites: MATH 220
Corequisites: None
Description: This course involves applications of mathematics to real-world problems drawn from industry, research, laboratories, the physical sciences, engineering and scientific literature. Techniques used include parameter estimation, curve fitting, calculus, elementary probability, optimization, computer programming, and ordinary and partial differential equations. People routinely solve problems using estimation, probability, optimization, and simulation or modeling techniques without considering themselves mathematicians. This course broadensand strengthens the exposure of the interested student to applications of mathematics frequently seen in industry, science, and government. The student planning to pursue a career in industry, science, or government will synthesize mathematical skills appropriate to these fields from topics learned in a variety of more elementary mathematics courses.

NANOFABRICATION MANUFACTURING TECHNOLOGY (NANO)

NANO 211 Materials, Safety and Equipment Overview for Nanotechnology
(3 semester hours)
Prerequisites: CHEM 150 and 160, MATH 120, and PHYSICS 210
Description: Nanofabrication processing equipment and materials handling procedures with a focus on safety, environment, and health issues. *Course available only at The Pennsylvania State University – University Park campus.*

NANO 212 Basic Nanotechnology Processes (3 semester hours)
Corequisites: NANO 211
Description: Step-by-step description of equipment and processes needed in top-down, bottom-up, and hybrid nanofabrication. *Course available only at The Pennsylvania State University – University Park campus.*

NANO 213 Materials in Nanotechnology (3 semester hours)
Corequisites: NANO 211 and 212
Description: The use of materials for nanotechnology as well as the unique material properties available at the nano-scale. *Course available only at The Pennsylvania State University – University Park campus.*

NANO 214 Lithography for Nanofabrication (3 semester hours)
Corequisites: NANO 211 and 212
Description: Lithographic process from substrate preparation to exposure; process from development through inspection; advanced optical lithographic techniques. *Course available only at The Pennsylvania State University – University Park campus.*

NANO 215 Materials Modification in Nanofabrication (3 semester hours)
Corequisites: NANO 211 and 212
Description: Processing steps used in modifying material properties in nanofabrication.
Course available only at The Pennsylvania State University – University Park campus.

NANO 216 Characterization, Testing of Nanofabricated Structures and Materials (3 semester hours)
Corequisites: NANO 211 and 212
Description: Measurements and techniques essential for controlling device fabrication.
Course available only at The Pennsylvania State University – University Park campus.

PHYSICS (PHYS)

PHYS 210 General Physics I (4 semester hours)
Prerequisites: High School Physics and Algebra II
Corequisites: None
Description: This course provides an introductory treatment of classical Newtonian physics and covers kinematics in one and two dimensions, vector forces, Newton's laws of motion, uniform circular motion, work, conservation of energy, momentum and angular momentum, rotational kinematics and dynamics, and simple harmonic motion. Emphasis is placed on the application of basic concepts through mathematical problem-solving. Applications of physics to problems in medicine are presented and medical technology is highlighted throughout the course. Laboratory experiments provide experience with various measurement technologies and reinforce the theoretical concepts developed.

PHYS 260 General Physics II (4 semester hours)
Prerequisites: PHYS 210
Corequisites: None
Description: This course extends the study of classical physics and covers topics in electrostatics, magnetostatics, electric circuits, electromagnetic waves, optics, interference and diffraction, and the quantum theories of atomic and nuclear physics. Mathematical problem-solving skills and applied problems in medical technology are emphasized. The course includes laboratory experiments to expose the student to advanced electronic and radiation measurement technologies and enhance the theoretical development of each topic.

PSYCHOLOGY (PSYC)

PSYC 101 Introduction to Psychology (3 semester hours)
Prerequisites: None
Corequisites: None
Description: This course presents fundamental psychological concepts derived from the application of the scientific method to the study of behavior and mental processes, including cognition and development. Theories of learning and development, common terms and disorders of personality; recently accepted revisions to the science, the effects of nature and nurture and how the brain and body function together to produce behavior are studied.

PSYC 102 Introduction to Psychology – Part 1 (1.5 semester hours)
Prerequisites: None
Corequisites: None
Description: This course presents fundamental psychological concepts derived from the application of the scientific method to the study of behavior and mental processes, including cognition and development. Creativity will be a tool employed to uncover basic psychological processes. The student will have the opportunity to study a specific psychological disorder as a means of applying theory to actual behavior. *Limited to the College in High School student. Credit may not be earned for both PSYC 101 as well as PSYC 102 and 103.*

PSYC 103 Introduction to Psychology – Part 2 (1.5 semester hours)
Prerequisites: PSYC 102
Corequisites: None
Description: Continuation of PSYC 102. *Limited to the College in High School student. Credit may not be earned for both PSYC 101 as well as PSYC 102 and 103.*

UNIVERSITY SEMINARS (SEMR)

SEMR 050 Academic Skills (1 semester hour)
Prerequisites: None
Corequisites: None
Description: This course improves the student's opportunity for success in college by teaching study habits in ten key areas: anxiety, attitude, concentration, information processing, motivation, selecting main ideas, self-testing, study aids, test strategies, and time management. Limited to the student on academic probation or financial aid appeal. *Credit earned in this course does not count toward the minimum total of 120 semester hours required for graduation.*

SEMR 100 Cornerstone (1 semester hour)
Prerequisites: None
Corequisites: None
Description: This course focuses on college skills related to goal setting, time management, research skills, and transition issues. The course meets throughout the semester and provides time for the student to become comfortable with college-level expectations and adjust to college life, and offers mentorship by a faculty member.

SEMR 200 Steppingstone (1 semester hour)
Prerequisites: Minimum of 30 earned semester hours
Corequisites: None
Description: This course focuses on further developing the depth and range of the student's college skills in areas such as goal setting, time management, communication, study skills and ePortfolio. A professional staffing agency and professional mentors assist in the classroom, instructing the student on basic rules of professional behavior, career planning and development, resume writing, and interviewing skills. This course engages the student in the chosen field of study by examining ethics and contemporary issues in that field. A portion of this course prepares the student for the Internship component of experiential learning.

SEMR 300 Keystone (1 semester hour)
Prerequisites: Minimum of 60 earned semester hours
Corequisites: None
Description: This course focuses on the refinement of the student's academic and professional identity. It prepares the student for the Junior Project by reviewing issues related to becoming a

better researcher: writing an appropriate research proposal, getting the correct people involved in the project, and preparing presentations of research to both scientific and non-scientific communities. This course encourages the student's professional involvement and civic engagement in the chosen field of study. The student's progress with the ePortfolio is monitored.

SEMR 400 Capstone (1 semester hour)
Prerequisites: Minimum of 90 earned semester hours, successful completion of Senior Project 498
Corequisites: None
Description: The senior capstone course challenges the student to reflect on and integrate their academic experiences, both curricular and co-curricular, in preparation for graduate school or the workforce. The student will further refine and complete the ePortfolio to showcase accomplishments and skills to potential employers and graduate schools. This course continues to address professional involvement in the student's respective field of study and the importance of civic engagement.

GRADUATE EDUCATION

Admission

Graduate Admission

Philosophy

Harrisburg University of Science and Technology seeks to admit graduate program students from a variety of backgrounds. The University considers many factors in the review of applicant files and generally admits qualified students who have completed a bachelor's degree with related undergraduate coursework, as well as those who have any bachelor's degree but possess related professional experiences or potential.

Graduate education focuses on individualized career advancement in high-growth and high-demand areas of study within science, technology, engineering, and math disciplines. This is accomplished by making certain that each student is completely engaged in gaining knowledge at an advanced level, is able to specialize or generalize their knowledge and skills according to their needs and interests, and applies what is learned and researched to both practical and professional experience. This is also accomplished by involving corporate faculty members who bring a practical and academic perspective to the program and courses in the design, development and delivery of graduate education. This program is designed for working professionals focused on career advancement and who need flexibility of access and timeliness of content and delivery. The University currently offers degree programs in information technology project management and learning technologies.

Graduate Admission Process

There is no application deadline. Graduate program applicants are encouraged to apply at least two months prior to the start of any semester. This application process allows ample time to be accepted, develop an academic schedule, and to process financial aid applications (if applicable).

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Graduate Admission Requirements

Each applicant's candidacy will be evaluated once all admissions materials have been received.
The graduate admission process requires the candidate to:

- complete the application online at www.HarrisburgU.edu/Apply or a paper application.
- submit final official college transcript(s) for any college or university attended (whether or not academic credit was earned).
- submit a personal goal statement including:
  - future goals: identify career/professional goals.
  - leadership or group contributions: describe examples of leadership experience in which you have significantly influenced others, helped resolve disputes, or contributed to group efforts over time.
- submit a hard copy resume or by email to Admissions@HarrisburgU.edu.

Optional materials:

- Be interviewed - preferably in person during a campus visit or by telephone.

International Students

Harrisburg University of Science and Technology is approved by the Department of Homeland Security – U.S. Immigration and Customs Enforcement (DHS-USICE) as an eligible institution for the "Student and Exchange Visitor Information System (SEVIS)."

This approval allows foreign students to apply for entry into the United States for study on an F-1 visa only after: the SEVIS application fee of $200 is paid by the student to SEVIS; a USICE Form I-20 is certified and accepted by SEVIS; a "Statement of Financial Support" is deemed sufficient by the university and the Consulate granting the visa; and payment of the first semester's tuition has been received.

Following entry into the United States and arrival at the university, the student will be required to provide a copy of their passport, I-20 Certificate of Eligibility, and the Form I-94 departure record to confirm all identification information in SEVIS.

An international student planning to study at the University with a student (F-1) visa must satisfy the appropriate admissions requirements and procedures, demonstrate proficiency in the English language, and provide an affidavit of financial responsibility. Academic records should include courses studied, grades earned, diplomas, certificates, and results of comprehensive national examinations. A certified translation of previous education records is required if the records are in a language other than English.

An applicant whose native language is not English must submit his or her scores from the Test of English as a Foreign Language (TOEFL). Information on the TOEFL can be found at www.toefl.org. A minimum score of 80 or the equivalent must be earned on the Web-based version of the TOEFL.

An international student does not qualify for Federal and State financial aid but may be considered for institutional merit awards.

Graduate Non-Degree Students

Graduate Non-Degree Status Admission Process

Each applicant's candidacy will be evaluated once all admissions materials have been received. Offers of admission are made to qualified candidates on a rolling basis.

Complete the non-degree application online at www.HarrisburgU.edu/Apply or a paper application.

If required by a specific certificate or non-degree program, submit final official college transcript, providing evidence of completion of a bachelor degree program (no specific discipline required).

Graduate Non-Degree Status Policies

An applicant should enroll under non-degree status when undecided about a graduate-level major or program, not interested in earning a master's degree, interested only in graduate-level professional development courses such as Educator Technology Clinics, or completing work with the intention of transferring the credit earned to another institution.

Non-degree applicants must have earned an undergraduate degree from an accredited institution. A student may apply no more than 12 graduate semester hours completed under non-degree status to a graduate program at the University. A non-degree student may apply for admission to a degree program after having accumulated a minimum of 9 semester hours under non-degree status. Non-degree status

does not guarantee admission into a degree program. A student must maintain a 2.00 cumulative grade point average to remain enrolled.

An applicant whose native language is not English must submit his or her scores from the Test of English as a Foreign Language (TOEFL). Information on the TOEFL can be found at www.toefl.org. A minimum score of 80 must be earned on the Web-based version of the TOEFL.

Tuition Charges, Refund Policies and Business Office Policies

All graduate tuition, charges and policies listed in this publication are effective as of July 1, 2009 and are subject to change, without notice, by the University's Board of Trustees.

Admission Application Charge

There is no charge for application for admission to the University.

Tuition – Semester Schedule

Tuition payment or satisfactory arrangement to pay tuition due is required before the first day of class. Full-time tuition charges are for 9 to 12 semester hours in the graduate program. A student who registers for more than 12 semester hours is subject to additional tuition costs at the per-semester hour rate (for example, tuition charged for 13 semester hours will be $9,000 + $650 or $9,650). A student who registers for 8 semester hours or fewer is charged the per-semester hour rate multiplied by the number of registered semester hours.

	Full-Time Tuition (9 to 12 semester hours)	Per-Semester Hour Rate (1 to 8 semester hours)
Graduate	$9,000	$650

Tuition Deposit

A non-refundable tuition deposit of $150 must be paid in advance of final course registration for the initial semester of attendance. A tuition deposit made for Semester I (Fall) is non-refundable after May 1, 2009. A deposit for Semester II (Spring) is non-refundable after November 1, 2009.

Laptop Computer and Textbooks

A laptop computer with wireless capability is required for attendance in all programs of study and should be obtained prior to the first day of class. Minimum requirements are listed on the University's website: http://www.HarrisburgU.edu/campuslife/technology/laptop.php. The cost is approximately $1,200.

Textbooks and other supplies (if specified for a course) must be purchased by the student prior to the first day of class. Textbooks may include both hard- and soft-bound books, journals, CDs, or software. Supplies may include a laboratory coat, goggles, gloves or any other required item specified. The estimated cost for textbooks and other supplies per course is $200.

Other Costs

Tuition Payment Late Charge - A late payment charge of $150 will be assessed if the student fails to make payment arrangements or pay tuition on or before the first day of the semester or term.

OneCard Replacement Charge - Upon enrollment, a student receives, at no cost, a photo-imprinted OneCard to be used as an identification badge, as a library card, and for building and

elevator access. A student is required to wear the OneCard badge when on campus. If a OneCard is lost or stolen, a charge of $50 is assessed to replace the card.

Late Registration Charge – A charge of $50 will be assessed if the student registers for a course after the Add/Drop Period has ended.

Payment Plans

A student may meet tuition expenses by enrolling in a convenient interest-free monthly payment plan. Interested persons may contact the Business Office at 717.901.5135 for more information.

Enrollment Status Determination and Financial Aid Payments

A student's enrollment status is determined at the end of the Add/Drop Period (week 2). The student is charged the applicable tuition rate for the number of semester hours in which the student is enrolled. Federal and state student financial aid program assistance for which the student may be eligible is then calculated and paid during week 4 or thereafter, in accordance with regulations, based on the student's enrollment status. Stafford student loans and PLUS Loans are scheduled for disbursement on or after the 31st calendar day from the first day of the semester. University merit and need-based grants and scholarships are credited to the student's account in week 5 of the semester. Advance payment of an estimated credit balance resulting from anticipated institutional financial aid awards is prohibited.

Refund Policy for Traditional Semesters

A student who withdraws from the University prior to the end of the third week of the semester may be due a credit for the unearned portion of the tuition charge.

The rate of tuition refund for withdrawal from the University is as follows:

- prior to the first day of the semester 100%
- during the first week 75%
- during the second week 50%
- during the third week 25%
- after the third week 0%

Tuition Refund Policy

Tuition for the semester is considered fully-earned at the end of the third week of classes. For refund purposes, the semester begins on the first day of class for that semester, regardless of the student's first class day of attendance during week one. The period of time used to calculate the tuition refund is the first day of class of the semester to the University's determination date of official or unofficial withdrawal.

There will be no refund or additional charges for a student who adds and drops an equal number of semester hours within the same semester prior to the end of the Add/Drop Period (week 2).

If a student reduces the number of courses and/or semester hours during the published Add/Drop Period, a tuition adjustment for that course or semester hour reduction will be made, except when the student maintains full-time enrollment status with 9 semester hours or more.

There is no tuition refund when a student withdraws from one or more courses after the Add/Drop Period but remains enrolled in one or more other scheduled courses.

Scholarship payments received from a company or organization are treated as cash payments by the student. The refund policy does not apply separately to the various types of payments credited to the student's account.

Official Withdrawal

A student is encouraged to contact the Financial Aid and Business Offices in advance of any decision to withdraw from the University to obtain an explanation of the tuition and financial aid adjustments that will occur, if any, as the result of withdrawal from the program of study.

A student who decides to officially withdraw from the University must contact the office of Records and Registration by telephone (717.901.5136), e-mail (Registrar@HarrisburgU.edu), or in person. It is recommended that a Withdrawal Form be completed or one will be completed for you.

The determination date for withdrawal purposes shall either be the actual date of formal notification by the student or some future date specified by the student as the intended last date of attendance. The determination date is used to calculate the tuition refund, if any, and the student financial assistance program refund, if applicable.

Unofficial Withdrawal

A student who discontinues attendance in all courses during a semester and who do not officially withdraw from the University are considered to have unofficially withdrawn. The determination date for unofficial withdrawals shall be the end of the semester, unless other evidence is provided to the Office of Records and Registration. There are serious federal student financial aid program implications for a student who unofficially withdraws, as explained below.

Dismissal

The University reserves the right to exclude at any time a student whose academic record is unsatisfactory or whose conduct is found to be detrimental to the orderly functioning of the University.

When misconduct may constitute a threat to person or property within the University community or under other circumstances, it may result in disciplinary review and/or action. The University assumes the responsibility to regulate the private conduct of its students when such conduct *on University property* could constitute a hazard to or an infringement on the rights of others, a violation of the law, or a disruption of the legitimate academic and administrative processes of the University.

Student Financial Aid Programs & Policies

The Office of Financial Aid Services assists qualified applicants who, without assistance, would otherwise be unable to pursue a college education. The Free Application for Federal Student Aid (FAFSA) and resulting need analysis is used to apply for federal, state and institutional award consideration.

A student must apply each year to renew financial aid eligibility. The amount of financial aid awarded will reflect changes in University costs as well as changes in the financial profile of the student and family.

Financial aid awards are based on the enrollment status of the student, defined as:

Full-time	9 or more semester hours
Part-time	3 to 8 semester hours

A non-degree student is not eligible for financial aid.

Aid Sources

Federal Stafford Loan - The Federal Stafford Loan is available for students through participating lenders and credit unions. There are two types of Federal Stafford Loans: subsidized and unsubsidized. The subsidized loan is interest-free while the student is in school, and is awarded based on financial need. Interest accrues on the unsubsidized loan while the student is enrolled in school. The borrower may opt to pay it as it accrues, or allow it to accrue and capitalize. The unsubsidized loan is a non-need based loan program. The maximum Federal Stafford Loan per academic year is $8,500 for graduate students.

Federal PLUS Loan for Graduate or Professional Students – A graduate or professional student is eligible to borrow under the PLUS Loan Program up to their cost of attendance minus other estimated financial assistance in the Federal Family Education Loans (FFEL) loan program. The terms and conditions applicable to Parent PLUS Loans also apply to Graduate/Professional PLUS loans. The requirements include a determination that the applicant does not have an adverse credit history. Repayment begins on the date of the last disbursement of the loan. The student must have applied for the annual loan maximum eligibility under the Federal Subsidized and Unsubsidized Stafford Loan Program before applying for a Graduate/Professional PLUS loan.

Student Affairs

New Student Orientation

Orientation is an important and required program scheduled for all newly admitted students. The program is intended to ease the transition from the working world to university life. The goal is to provide critical information to the entering student regarding all the University has to offer. During orientation, the student is informed of available support services such as advising, tutoring, mentoring, library services, technology support, campus security and other campus resources. The student is introduced to the academic advisor at this time. An orientation session is offered immediately prior to the beginning of each semester.

Housing Partners

A student who desires housing has several attractive options which are located close to the university. These are independently owned and operated.

> International House - This facility has several rooms, suites, and apartment-style housing arrangements for University students which include laundry facilities, kitchen areas, private rooms, and group living spaces. A listing and tours of the rooms are available.
>
> Pennsylvania Place - This apartment complex offers fully furnished and unfurnished units which support two students in a modern, shared-living environment.

Information about these housing partners and other options may be obtained at the Office of Admissions.

Health Referral Services

The University does not offer health services on campus. Health care services are located within minutes of the University. A student who needs additional assistance with accessing health care should refer to the Student Handbook or contact the Office of Student Services.

Disability Support Services

Harrisburg University of Science and Technology welcomes diversity among its students and, in accordance to the Americans with Disabilities Act of 1990, seeks to provide reasonable and effective support services to all students.

The Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973 prohibit discrimination on the basis of disability and require the university to make reasonable accommodations for those otherwise qualified individuals with a disability who request accommodations. A reasonable academic accommodation is a modification or adjustment that allows an individual to gain equal access and have equal opportunity to participate in the university's courses, services, activities, and use of the facilities. The university is not obligated to provide an accommodation that requires a substantial change in the curriculum or alteration of any essential elements or functions of a program.

Disability support services are aimed at assisting with academic adjustments and accommodations. Services include test proctoring, library research, note taking, and reader services. Information on

mobility, wheelchair storage, adaptive computing, small equipment loans, specialized scholarships, and career/internship resources will also be available.

To ensure appropriate accommodations, a student needs to provide current documentation of the disability by a licensed professional. Please use the space provided in the Student Health and Immunization Record to notify the university of any special needs. Additionally, all requests for accommodations should be made to the Office of the Vice President for Student Services.

Textbook Services

Textbooks are made available for student purchase through the services of Validis (formerly The Nebraska Book Company). Three times during the school year, Validis establishes a physical presence on campus to sell and buy back textbooks. The bookstore opens for approximately two weeks at a time to facilitate purchases and returns. Student schedules are provided to Validis to assist with accurate purchasing. The hours of operation will be posted on Moodle.

University Library

The mission of the University Library is to enhance learning in all academic programs and to support student development in all University competencies, especially information literacy skills in finding, evaluating, and using information. Library services include:

- collaboration between the University Librarian and faculty to integrate information literacy skill development and use of library resources into the University curriculum.
- access to a wide range of information sources selected to enhance course-based and independent learning, such as
    - online databases of full-text articles from newspapers, magazines, and scholarly academic journals;
    - streaming multimedia such as documentaries and feature films;
    - electronic books; and
    - a self-service print library located in the Learning Commons.
- research guidance for a student by phone, chat, e-mail or in person.
- partnership with other regional libraries to provide access to their information sources, free of charge to our students and faculty.

For more information, visit the library's website. Electronic content is available on the website 24 hours a day from on- or off-campus. Off-campus use requires authentication with a valid University network ID and password.

Technology Services

Information Technology Services, based in the Learning Commons, is responsible for connecting students, faculty, and staff to technology resources in support of the university's mission. Technology services include:

- a robust and reliable infrastructure to enable excellence in learning.
- a required laptop program and an entirely wireless campus to facilitate mobile computing and access to content.
- high-end classroom technologies to enhance interactivity and the capture and distribution of classroom content.

- access to enterprise software applications such as our course management system
- Moodle; our ePortfolio platform built on MS SharePoint; and many other course related software programs.
- the Harrisburg University OneCard services which enables building access, pay-for-print, vending, and book check-out from the library while serving as official university identification.
- training, orientation, and support for all university technology services.

For more information, contact Helpdesk at helpdesk@HarrisburgU.edu or 717.901.5177 with questions.

Academic Advising

Academic advising is a critical component of a student's education. Successful advising is a significant contributor to student progress and therefore every undergraduate student is assigned to an academic advisor who is a faculty member. The advisor assists the student to explore academic and personal goals and to discuss upcoming course selections and curriculum issues. The advisor also assists the student in learning how to access resources and opportunities that the university has to offer. Academic support programs and services offered to the student includes:

One-on-One Advising
Individual student advising is provided for the student throughout the period of enrollment. This advising is focused on academic success strategies such as time management, study skills, career aptitude, decision making and goal setting. This is done by faculty advisors and also through the Office of Student Services.

Group Study Sessions
The Learning Commons provides group study rooms for students to study in groups for specific classes and to complete group projects. Regularly scheduled group sessions occur weekly or bi-weekly and students interact with an assigned tutor or model student.

Technology Literacy Program
A student who wishes to increase his or her technology skills can choose from an array of computer literacy tutorials provided by individual tutors and partnerships with local organizations.

These services are accessed through the Office of Student Services and options are individually tailored to meet each student's needs.

Academic Policies – Graduate Programs

Calendar and Credit System

The University operates on a semester calendar and uses the semester hour credit system. There are three semesters per twelve month period: Semester I (Fall), Semester II (Spring), and Semester III (Summer).

Enrollment Status

Student enrollment status is defined for certification purposes as either full-time or part-time. Full-time graduate student enrollment is 9 semester hours in a semester. Part-time status is assigned to any graduate student enrolled for fewer than 9 semester hours in a semester.

Class Attendance

Attendance is a critical part of a student's education. The student is expected to attend class regularly and participate fully in the activities of that course. The instructor is responsible to set forth the attendance requirements for each course in the syllabus.

Attendance will be taken by instructors during the first two weeks of the semester for enrollment status determination by the Office of Records and Registration. Following that period, instructors may or may not regularly take attendance but instructors are encouraged to engage the student with class participation assignments.

If, in the judgment of the instructor, a student is excessively absent from class or fails to complete the requested participatory assignments:

1. the instructor will notify the student of this determination;
2. the student will have one week to meet with the instructor to address the situation;
3. if the student fails to do so, the instructor will notify the Office of Records and Registration to withdraw the student from the course;
4. The Office of Records and Registration will notify the student of this action and record a grade of "W."

Advanced Standing

A student may earn advanced standing at the University in one of two ways: transfer of credit from another institution or the awarding of credit for military training.

Armed Services Training Programs – A student who is a veteran of or on active duty in the U. S. Armed Services may receive academic credit for service training programs completed during the time of service under the following conditions: 1) the student must present a copy of the discharge notice (completed DD-214 form); 2) the veteran's military occupational specialty (MOS) designation appears on the discharge; and, 3) the student's MOS as described in the American Council on Education's Educational Experiences in The Armed Services volumes 1–3 . Credit is awarded based upon the ACE recommendation and the closeness of the match between the training program and a University course.

Transfer Credit – Unofficial or student copies of transcripts may be used to initiate the transfer credit evaluation process. However, official final transcripts from the institution of origin are

required before the transfer evaluation process can be finalized by the Director of Records and Registration and academic credit is posted to the student's permanent record. The following limitations apply:

- transfer credit is limited to six (6) semester hours from another graduate program;
- the credit must have been earned with final grades of "B" or higher;
- the credit must be reviewed by the student's program advisor and the Director of Records and Registration;
- the credit must have been earned no more than five (5) years prior to the student's initial enrollment date in Harrisburg University's program;
- courses completed for Continuing Education Units (CEUs) are not eligible for transfer credit consideration.

Domestic –Academic credit earned for graduate work completed for a minimum grade of "B" or higher will be awarded if: 1) the course is a reasonable substitute of a University course or 2) the course(s) is considered graduate level work worthy of elective credit in the student's intended program of study.

International – A World Education Services (WES) transcript or American Association of Collegiate Registrars and Admissions Officers (AACRAO) international transcript evaluation is required. If the original evaluation received by the Office of Records and Registration from one of these evaluators deems the student's prior work to be at the graduate-level and the quality of the completed work is assessed to be at the "B" or higher level credit is awarded for the courses that apply to the student's intended program of study at Harrisburg University as indicated above for domestic transfer credit. If the prior work was earned under an educational system that did not assign credit values, a semester hour value is assigned for each course being accepted. If the student completed courses which are evaluated to be at the graduate-level, but Harrisburg University has no comparable course(s), the student is granted elective credit unless all required elective credit hours have been satisfied.

Coursework at Other Institutions – A student may study at other institutions and transfer the credit to the student's record at Harrisburg University.

Process for Approval - The student must complete an Off-campus Coursework form at the Office of Records and Registration notifying the University of the student's intention to enroll on a visiting basis at another higher educational institution. The request will be reviewed by the Director of Records and Registration who may consult with an appropriate member of the University's faculty. Prior to enrollment, a written response will be sent to the student stating whether or not the proposed course is acceptable.

Process for Awarding of Credit – The student must arrange for an official transcript from the other college or university to be sent to Harrisburg University's Office of Records and Registration. If the approved course was completed with a final grade of "B" or higher, the semester hours earned from the course will be posted to the student's record at the University.

Catalog in Effect

A student entering the University in the 2009-2010 academic year will be subject to this Catalog edition unless he or she elects to complete a revised set of program requirements printed in a future edition of the Catalog.

A student who elects to complete a revised set of program requirements released by the University must notify the Office of Records and Registration of this decision by completing a Declaration of Program/Catalog Option Form available in that office.

Graduation Requirements

To receive a Master of Science degree, a student must satisfy all of the following requirements. Verification that the student has met the following requirements is made by the Director of Records and Registration. The Provost has the authority to waive a requirement under extenuating circumstances.

1. At least 36 semester hours must be accumulated.

2. A minimum cumulative grade point average of 3.00 is required for graduation from a Master of Science program and graduate certificate programs.

3. In order for any completed course to satisfy the 36 semester hours required, the course must be completed with a grade of "C" (2.00) or higher.

4. A student must earn a minimum of 30 semester hours in residence toward a Master of Science degree from the University. The number of semester hours that may be transferred from another institution's graduate program is 6.

5. A degree student will demonstrate proficiencies in the field of study and the University's competencies through use of an ePortfolio or a similar technology or evidence-based approach.

6. A student must complete all requirements for the Master of Science degree within seven years from the first day of attendance as a degree-seeking graduate student.

A candidate must apply for graduation two semesters before the student intends to graduate. The University expects each graduating student to attend Commencement.

A candidate may participate in Commencement who is within one semester of completion of all graduation requirements if the student has a reasonable and executable plan to complete all unsatisfied requirements by the conclusion of the subsequent semester.

Grades and Grading

Grades are awarded to each student for academic credit completed at the University. A grade is assigned by the instructor responsible for the course in which the student is enrolled, using the following grading scale to indicate the quality of the student's academic work.

Grade	Description	Numerical Value
A	Superior achievement	4.00
A-		3.67
B+		3.33
B	Above average achievement	3.00
B-		2.67
C+		2.33
C	Average achievement	2.00
C-		1.67
D+		1.33
D	Minimum achievement	1.00
F	Fail	0.00
AU	Audit	Not applicable
I	Incomplete	Not applicable
IP	In progress	Not applicable
LB	Laboratory	Not applicable
NR	Not reported	Not applicable
P	Pass	Not applicable
TR	Transfer credit	Not applicable
W	Withdrawal	Not applicable
WA	Administrative withdrawal	Not applicable
WM	Medical withdrawal	Not applicable

Grades of "AU", "I", "IP", "NR", "P", "TR", "W", "WA" or "WM" are not included in the calculation of a student's grade point average (GPA). They are used by the University in circumstances when grades of "A" through "F" are not appropriate.

Audit (AU) – The audit grade is assigned by the instructor when the student has properly registered to audit the course, and has met all requirements of the University's course audit policy.

Incomplete (I) – Inability to complete course work due to documented circumstances beyond the student's control (such as severe illness) may, at the discretion of the instructor, result in a grade of incomplete (I). However, all work must be completed by the end of the Add/Drop Period of the subsequent semester. If all work is not completed by that time, the "I" grade will convert automatically to a grade of "F". It is the responsibility of the student to contact the instructor to make the necessary arrangements for makeup work. A student with 6 semester hours or more of incomplete work will not be permitted to register for future courses.

In Progress (IP) – This is a deferred grade assigned by the instructor to be used for research projects, internships, directed study, etc., when it is understood that the course

will extend over more than one semester. An "IP" grade should be accompanied by a written plan and a schedule for completing the course within a specified time period to be no longer than 12 months.

Withdrawal (W) – This grade is recorded by the Director of Records and Registration when the student has withdrawn from the course according the policy set forth by the University for withdrawing from a course.

Administrative Withdrawal (WA) – The "WA" grade can be assigned only by the Provost or other designated official. It is used when it is necessary for a student to leave the University under extenuating circumstances and when the normal withdrawal process is not available to the student. A request for administrative withdrawal with accompanying documentation will be submitted to the Director of Records and Registration. The "WA" grade can be submitted at any time during the semester.

Medical Withdrawal (WM) – This grade can be assigned at any time during the semester when a student requests to leave the University for medical reasons and when the normal withdrawal processes are not available to the student. This grade is assigned by the Director of Records and Registration with the approval of the Provost. The student must submit well-documented evidence of the medical condition to be eligible for a medical withdrawal from the University.

Transfer (TR) – A grade of "TR" is used to indicate on the student's transcript those credits that have been earned at another institution and that will count toward the degree at Harrisburg University. While courses with a "TR" grade are counted toward the student's degree requirements, there are no quality points associated with this grade so this grade has no impact upon the calculation of the student's grade point average.

Not Reported (NR) – The temporary grade of "NR" is recorded by the Director of Records and Registration when the instructor does not report a grade for the student for the course. The Director of Records and Registration will advise the Provost when an "NR" grade has been recorded for the student, and will work with the student and the instructor to determine why a grade was not reported.

Pass (P) - The "P" grade is assigned by instructors for a student who successfully completes a course that is designated as a course that will be graded on a Pass/Fail basis.

Grade Point Average
A grade point average (GPA) is a statistical calculation of a student's performance in a semester. The semester grade point average summarizes the student's performance during that academic term and the cumulative grade point average (CUM GPA) summarizes the student's performance during semesters completed at the University.

Calculation of the Grade Point Average

Course	Sem. Hrs. Attempted	Grade	Numerical Value	Quality Points
Course A	3	A-	3.67	11.01
Course B	3	B	3.00	9.00
Total	**6**			**20.01**

Total Quality Points = 20.01 / 6 = **3.34**

1. Compute the quality points earned for each course by multiplying the semester hours earned for the course by the numerical value of the grade earned in the course. *Example: A student registered for a course worth 3 semester hours who earns a final grade of "A-" in that course will earn 11.01 quality points for that course (3 semester hours x 3.67).*
2. Add the quality points earned for each course in which the student is registered in the semester.
3. Add the number of semester hours attempted for all courses in which a grade of "A" through "F" was earned.
4. Divide the total number of quality points earned by the total number of semester hours attempted. The result is the grade point average.

Mid-Semester Deficiency Letters
Each instructor notifies the Office of Records and Registration of a student's poor academic performance in a course by submitting mid-semester deficiencies of "B-", "C+", "C", "C-", "D+", "D", "F" or "I" at the end of the seventh week of classes as indicated on the Academic Calendar. These submissions are forwarded to the Vice President for Student Services who sends a letter to each student with a deficiency and a copy to the student's academic advisor. A student who receives such a letter is encouraged to consult both the instructor and academic advisor and utilize the services of the Academic Success Center.

Final Grading Process
After the conclusion of each semester each instructor notifies the Office of Records and Registration of a student's academic performance in a course by submitting grades. The Office of Records and Registration posts these grades to the student's permanent record at the University and releases grade reports to each student as indicated on the Academic Calendar.

Repeated Courses
A graduate student may not repeat courses.

Academic Standing
A graduate student must maintain a cumulative grade point average of 3.00 at all times.

Final Grade Appeal

A punitive final grade is required to be assigned by the instructor upon completion of coursework to earn credit during a semester or other term. A student may dispute and disagree with the final grade assigned by the instructor and may seek remedy using an evidence-based argument. A final grade appeal must be initiated on or before the tenth (10^{th}) business day following the end of a semester or other term as specified in the Academic Calendar.

A student who chooses to appeal a grade must obtain a "Final Grade Appeal Form" from the Office of Records and Registration. The form must be completed with an explanation of the disagreement and attached to it any and all tests, grades, essays or project summaries supporting the student's position as evidence. The student's academic record will be placed in a "hold" status during the grade appeal process.

The student is then required to meet with the course instructor to discuss the appeal request. The instructor must sign the form to either change the final grade or reaffirm the original grade assigned. If the final grade is changed, the instructor shall submit the form to the Office of Records and Registration, the grade will be posted, and the academic record "hold" status will be released.

If the instructor denies the appeal, the student may choose to further pursue a final grade appeal by submitting the completed and endorsed form, with evidence, to the Office of Records and Registration. That office will place a hold on the student's academic records until the formal appeal is resolved. The form and evidence-based argument is then sent to the Office of Student Services for review and final determination, with a copy to the Office of the Provost. Additional information may be requested from the student and/or instructor during this time. Following consultation with the Office of the Provost, a decision shall be rendered by the Vice President of Student Services within five (5) days of receipt. This decision is final and is not subject to further appeal. The student and instructor will then receive a final determination letter to change the grade or reaffirm the original grade assigned. The Office of Records and Registration will then post the grade and release the records "hold" status.

Withholding of Records

Student records may be withheld by the Office of Records and Registration when directed by the appropriate University officials. The release of academic transcripts or a diplomas may be held for a period of time. The Vice President for Student Services determines when a student's record must be on hold for disciplinary reasons and the Business Office determines when a student's record must be on hold for financial reasons.

Deferred Examination Policy

This section applies to all examinations, including mid-term and take-home examinations, whether or not administered during the final examination period.

No Right to Defer

No student has a right to defer an examination. A student who fails to take an examination when scheduled will receive a failing grade of "F" on the examination unless the examination has been deferred according to the procedure outlined in this policy.

Policy on Deferral of Examinations
Examinations will be deferred only for "good cause." "Good cause" will be determined by the Vice President for Student Services in conjunction with the instructor of that course. The decision of the Vice President for Student Services is final. In the event of a lack of consensus between the Vice President and the instructor, a decision will be made by the Provost. Examples of "good cause" include:

- serious personal injury or illness with appropriate documentation;
- serious injury, illness or death in the immediate family that can be documented; or,
- other extenuating mitigating circumstances beyond the student's control.

Procedure for Requesting Deferred Examination
If a student desires to request deferral of an examination, the student should file a request with the Vice President for Student Services and the instructor requesting deferral of the examination in a timely manner. Every student requesting a deferral of an examination must provide evidence of the event or situation which the student believes is justification for the request for deferral.

Emergency Deferral of Examination
The student must make the request in person or by telephone. If a student is unable to take an examination for good cause (as defined previously) and which arises within 24 hours immediately prior to the exam time, the student may appear in person or telephone the Office of the Vice President for Student Services to obtain permission to defer an examination.

If a student cannot appear in person or by telephone, the student may miss the examination and apply for a deferral after the examination date. Such application for deferral must be made within 48 hours of the administration of the exam for which the student seeks the deferral, and in no event later than the last day of the exam period for that semester.

Timing of Make-up Examination
The deferred examination will be taken at a time determined by the Vice President of Student Services in conjunction with the instructor of the course. The make-up examination must be completed no more than five business days after the original test date.

Illness During an Examination
If a student becomes ill during an examination and is unable to continue, the student shall notify the proctor and leave all examination materials with the proctor. The student shall seek medical attention immediately and obtain a letter in support of the illness that prevented the student from completing the examination.

Leave of Absence Policy

A student may initiate a leave of absence request for extenuating mitigating circumstances or short-term active-duty military service. A student choosing to take a leave of absence should contact the Vice President of Student Services to initiate the request and coordinate expectations to ensure a smooth return to the University. Only a student with a reasonable expectation of returning to the University and with the ability to complete the coursework should apply for a leave of absence.

A Leave of Absence Form must be submitted in writing, signed, and dated in advance of the onset of the leave. This form can be found in the Student Services Office and the Office of Records and Registration. Information regarding the request for the leave must be provided and may require additional supporting documents. The documents will then be forwarded to the Office of Records

and Registration for processing. The recording of student enrollment and grades during a leave is as follows:

- withdrawal (W) grades will be assigned after the Add/Drop Period and one week prior to the end of classes.
- final grades may be assigned by the instructor if the leave begins after the final week of classes have commenced.

The Business Office and Financial Aid Office will determine any tuition and financial aid implications of a leave.

Withdrawal Procedure

A student considering withdrawal from the University should meet with the Vice President for Student Services for evaluation of options. A student who wishes to officially withdraw from the University must complete and sign a withdrawal form, have a conference with the Business Office Clerk and Financial Aid Director regarding possible financial consequences of withdrawing from the University, and submit the form to the Office of Records and Registration. The last date of attendance will be determined by the official withdrawal date or the unofficial withdrawal process described in the Financial Aid section.

A student who unofficially withdraws by ceasing attendance and failing to notify the Office of Records and Registration may incur substantial penalties due to stringent federal regulations for the student financial assistance loan programs.

Dismissal

The University reserves the right to exclude at any time a student whose academic record is unsatisfactory or whose behavior or conduct is found to be detrimental to the orderly functioning of the University.

When misconduct may constitute a threat to person or property within the University community or under other circumstances, it may result in disciplinary review action. The University assumes the responsibility to regulate the private conduct of its students when such conduct could constitute a hazard to or an infringement on the rights of others, a violation of the law, or a disruption of the legitimate academic and administrative processes of the University.

Readmission

The Readmission Application Form is available at the Office of Records and Registration and must be completed and submitted to that office. A student who was in good academic standing, has satisfied all financial obligations to the University at the time of withdrawal, and has the approval of the Vice President of Student Services will be readmitted.

The application of a student who left the University on academic probation will also be reviewed by the Provost who will make the readmission decision.

Reinstatement

A student with a cumulative grade point average of less than 3.00, dismissed for poor scholarship pursuant to this Catalog, may petition the Vice President for Student Services for reinstatement. A student may not be reinstated fewer than twelve months from the date of the original dismissal. A student with a cumulative grade point average below 2.50 may not petition for reinstatement.

Filing Petition for Reinstatement

A petition for reinstatement must be filed during the fifteen-day period beginning with the day on which notice of dismissal is deemed effective. The petition shall be delivered to the Office of Student Services.

Requirements of the Petition

The student must allege and prove that the student possesses the requisite ability to perform satisfactorily at the University and that the student's current grade point average does not indicate a lack of capacity. The student must rebut the presumption of lack of capacity by proving the following:

- demonstration of ability to do graduate-level work.
- extenuating mitigating circumstances beyond the student's control. The student must prove that the academic failure was the result of extraordinary circumstances beyond the student's control. If these circumstances raised by the student were a result caused by physical or psychological incapacity suffered during a semester or before or during an examination, convincing medical proof of the condition must accompany the petition.

Dismissal Following Reinstatement

A student who has been dismissed and later reinstated is ineligible to petition if dismissed again.

Consideration of Petition for Reinstatement

Review of Petition

Petitions shall be reviewed by the Provost and Vice President for Student Services. A committee may also be convened if the Provost so chooses.

Reinstatement on Conditions

A readmitted student may be required to fulfill certain conditions such as, but not limited to, the repetition of graduate courses.

ACADEMIC PROGRAMS - GRADUATE

Graduate Education focuses on individualized career advancement in areas of study within science, technology, engineering, and math disciplines. The university's approach is based on an experiential model that allows the student to gain and apply knowledge and skills at an advanced level, as well as to focus on an area of need or interest particular to the student. Faculty combine corporate and academic perspectives in the design, development, and delivery of graduate programs and courses at the University. Programs are primarily designed for working professionals focused on career advancement. Degree programs are offered in information technology project management and learning technologies.

Master of Science in Information Technology Project Management

The 36 semester hour graduate program in Information Technology Project Management (ITPM) provides each student with a focused, applied and rigorous experience in creating, developing, implementing and assessing information technology projects and their products.

To produce a high-quality information technology product on time and to the specifications of a client, the skills and knowledge of a typical engineer or programmer are not enough. The complexities of technology product development and project management require a professional with specific technical knowledge, as well as strong project management and leadership skills.

This program of study leads to a master of science degree that prepares the student for career advancement in the field of project management and for positions such as information technology project manager, project coordinator, lead project engineer or information technology business manager.

Experiential Project - The student is required to complete project courses ITPM 598 and ITPM 599 for a combined minimum of 6 semester hours, and a total maximum of 9 semester hours, toward the 36 semester hours required in the degree. These courses represent planning and implementation of a real-world project. Learning objectives for these courses are outlined through a detailed learning contract which will be customized and agreed to by the student, project client, and faculty advisor. The student will review the parameters of the detailed learning contract at the start of the academic program and will progress through the program coursework mindful of the performance and competency requirements for successful completion of the contract. The student will have access to a list of possible projects and clients or may identify a suitable client. Final project approval is required from a faculty advisor.

Information Technology Project Management Requirements – The following courses comprise the Master of Science in Information Technology program - 36 semester hours. The semester hour value of each course appears in parentheses ( ).

Complete all of the following courses – 15 to 21 semester hours:

ITPM 510	Managing IT Projects	(3)
ITPM 540	Planning and Executing Projects	(3)
ITPM 550	Managing Systems Integration Projects	(3)
ITPM 598	IT Project: Phase I	(3 - 6)
ITPM 599	IT Project: Phase II	(3 - 6)

Complete 15 to 21 semester hours of the following courses:

ITPM 515	Business and Requirements Analysis Fundamentals	(3)
ITPM 520	Professional Communication for the IT Project Manager	(3)
ITPM 525	Business Modeling Techniques	(3)
ITPM 530	Procurement, Contracts and Risk Management	(3)
ITPM 531	System Development Lifecycle Introduction	(3)
ITPM 535	Advanced Topics in Business Analysis	(3)
ITPM 551	Survey of Software Development Technologies and Architectures	(3)
ITPM 560	Organizational Leadership	(3)
ITPM 570	Improving IT Project Quality	(3)
ITPM 580	Special Topics in IT Project Management	(3)
LTMS 530	Managing Technology Resources	(3)

Recommended Two-Year Sequence for the Part-time Student Completing the Master of Science in Information Technology Project Management Program – The sequence which appears below was developed based upon the availability of specific courses each semester, the successful completion of course prerequisites, and assumes that the first semester is in the fall of the academic year.

	First Year		Second Year
Semester I	ITPM 510 Managing IT Projects (3) ITPM 520 Professional Communication (3) **Total Semester Hours = 6**	**Semester I**	ITPM 598 ITPM Project Phase I (3 -6) Electives (3) **Total Semester Hours = 6 – 9**
Semester II	ITPM 540 Creating and Managing IT Projects (3) Electives (3) **Total Semester Hours = 6**	**Semester II**	ITPM 550 Managing Systems Integration Projects (3) Electives (3) **Total Semester Hours = 6**
Semester III	Electives (6) **Total Semester Hours = 6**	**Semester III**	ITPM 599 IT Project Phase II (3 -6) Electives (3) **Total Semester Hours = 6 – 9**

Master of Science in Learning Technologies

The Master of Science in Learning Technologies is a 36 semester hour program which provides the student with leading edge approaches and skills to help the student apply existing and emerging learning technologies in a variety of learning environments. The program is designed to critically explore how new technologies can be used effectively to enhance learning environments and prepare the student for leadership roles in those environments. A key element of the Learning Technologies master's degree is the use of technology to integrate and develop new ways of learning and assessing learning, as well as explore new approaches to work. The degree is a blend of theory and practice which develops skills that can be applied to complex education and training issues.

The program includes work in theory, applied coursework in practice, and specific project-based work, regardless of the student's particular interest. The student has great flexibility within a variety of topics for both the project and the research practicum.

Experiential Project – The student is required to complete project course LTMS 610 for 3 semester hours toward the 36 semester hours required for the degree. This course represents planning and implementation of a real-world project. Learning objectives for this course are outlined through a detailed project plan which will be customized and agreed to by the student, project client and faculty advisor. The student will review the parameters of the detailed project plan at the start of the academic program and will progress through the program coursework mindful of the performance and competency requirements for successful completion of the plan. The student will have access to a list of possible projects and clients, or identify a suitable client through his or her own means. Final project approval will be granted by a faculty advisor.

Practicum – The student will identify a specific research area or community-based project within learning technologies. The student will work with the advisor either to develop a research project (to include researchable questions, appropriate research methods, and a research proposal) or to scope out a project with an external client (to include learning objectives and a detailed, customized project plan). The student will use ePortfolio or a similar technology to synthesize and demonstrate learning throughout the course. This practicum is not required to be completed in the semester it is begun.

Learning Technologies Requirements – The following courses comprise the Master of Science in Learning Technologies program - 36 semester hours. The semester hour value of each course appears in parentheses ( ).

Complete all of the following courses – 15 semester hours:

LTMS 500	Instructional Design and Development	(3)
LTMS 510	Learning Technologies and Solutions	(3)
LTMS 520	Learning Assessment	(3)
LTMS 525	How Do Humans Learn?	(3)
LTMS 530	Managing Technology Resources	(3)

Complete all of the following courses for a minimum total of 9 semester hours:

LTMS 610	Learning Technologies Project	(3-6)
LTMS 630	Practicum in Learning Technologies	(3-6)

Complete four or five of the following courses – 12 - 13 semester hours:

LTMS 580	Special Topics in LTMS	(3)
LTMS 598	Critical Issues in Teaching Science	(3)
LTMS 599	Critical Issues in Technology Integration	(3)
LTMS 600	Implementing Web 2.0 in the Classroom	(3)
LTMS 601	Research Development and Design	(1)
LTMS 602	Technology Evaluation and Selection	(3)
LTMS 603	Engaging with Learning Activities, Games and Simulations	(3)
LTMS 615	The Learning Technology Architecture	(3)
LTMS 625	Designing and Supporting Systems, Methods, and Processes for Reusable Learning Objects	(3)
LTMS 635	Development Tools to Support Learning Technologies	(3)
LTMS 645	Visual Representation for Learning and Communication	(3)

Part-Time Three-and-a-Half Year Sequence for the Learning Technologies Program –

The sequence which appears below was developed based upon the availability of specific courses each semester, the successful completion of course prerequisites, and assumes that the first semester is in the fall of the academic year.

	First Year		Second Year
Semester I	LTMS 500 Instructional Design and Development (3) **Total Semester Hours = 3**	**Semester I**	LTMS 525 How Do Humans Learn? (3) **Total Semester Hours = 3**
Semester II	LTMS 510 Learning Technologies and Solutions (3) **Total Semester Hours =3**	**Semester II**	LTMS 520 Learning Assessment (3) **Total Semester Hours =3**
Semester III	Electives (3) **Total Semester Hours = 3**	**Semester III**	Electives (3) **Total Semester Hours = 3**

	Third Year		Fourth Year
Semester I	LTMS 530 Managing Technology Resources (3) **Total Semester Hours = 3**	**Semester I**	LTMS 610 Learning Technologies Project (3-6) **Total Semester Hours = 3-6**
Semester II	Electives (3) **Total Semester Hours =3**	**Semester II**	LTMS 630 Practicum in Learning Technologies (3-6) **Total Semester Hours =3-6**
Semester III	Electives (3) **Total Semester Hours = 3**		

Course Descriptions – Graduate

INFORMATION TECHNOLOGY PROJECT MANAGEMENT (ITPM)

ITPM 510 Managing Information Technology Projects (3 semester hours)
Prerequisites: Baccalaureate degree in IT or business field or appropriate work experience
Description: This course introduces the student to the variety of skills and roles of the IT project manager. The student learns the techniques of project management from setting goals and objectives through managing the selection of IT support products and procurement.

ITPM 515 Business and Requirements Analysis Fundamentals (3 semester hours)
Prerequisites: Baccalaureate degree or appropriate work experience
Description: The student will become familiar with the common tasks performed by business analysts during the lifecycle of a project beginning with initial business case development and project selection. The student learns foundational elements of enterprise analysis, requirements elicitation, modeling documentation, and project validation. This course provides a comprehensive study of the methods, tools, notations, and validation techniques for the analysis, specification and management of requirements.

ITPM 520 Professional Communication for the IT Project Manager (3 semester hours)
Prerequisites: Baccalaureate degree in IT or business field or appropriate work experience
Description: The student learns about effective communications for project managers and practices these skills at each class meeting. Solid communication starts with identifying the audience as the most appropriate communication medium. The student learns how to communicate in a variety of media. Conflict resolution, small group, and interpersonal communication is practiced to best support the information technology project manager's leadership and success.

ITPM 525 Business Modeling Techniques (3 semester hours)
Prerequisites: ITPM 510 or appropriate work experience
Description: The student will learn in-depth modeling techniques used to capture business processes, workflows and conceptual information models. Emphasis is placed on business modeling techniques such as the Business Process Modeling Notation (BPMN), business use case modeling, Entity Relationship (ER) modeling, as well as other selected techniques from the Unified Modeling Language. The student will develop business models to reflect case studies and real-world scenarios.

ITPM 530 Procurement, Contracts, and Risk Management (3 semester hours)
Prerequisites: ITPM 510, baccalaureate degree in IT or business field, or appropriate work experience
Description: Each project from conception of an idea to the bidding and implementation process has both risk and reward. The basics of procurement, contract negotiations, and risk management are learned. Through experiences, readings and case study analysis, the fundamental tenets of procurement and contract sourcing for success are explored in real world scenarios. Project risk is reviewed and investigated for its role in the process of overall project management. The student learns how to minimize risk and increase project success through risk management strategies.

ITPM 531 System Development Lifecycle Introduction (3 semester hours)
Prerequisites: Baccalaureate degree or appropriate work experience
Description: The student is introduced to essential topics related to software development methodologies and practices. Key topics include methodology concepts and a history/evolution of methodology practices. The various types of methodologies (e.g. waterfall, iterative, agile) are covered. The course addresses the Unified Process in detail – covering the various phases and disciplines. Additionally, the course includes some special topic areas to explain the relationship between a software development methodology and other frameworks and management methodologies such as Project Management Body of Knowledge (PMBOK) and Capability Maturity Model Integration (CMMI).

ITPM 535 Advanced Topics in Business Analysis (3 semester hours)
Prerequisites: Baccalaureate degree or appropriate work experience
Description: This course focuses on selected and timely advanced areas within the Business Analysis discipline. Topics examined in-depth include enterprise analysis activities (e.g. business architecture, portfolio management, feasibility and alternative analysis), requirements validation and verification techniques (requirements walkthroughs, system and acceptance testing), and requirements management approaches for various SDLC approaches (e.g. Waterfall, Agile, COTS etc). Other topics will be considered based upon changing conditions within the business analysis discipline.

ITPM 540 Planning and Executing Projects (3 semester hours)
Prerequisites: ITPM 510
Description: This course uses Microsoft Project software to schedule and control projects. The student learns about, and practices with, the most widely-used project management software system available. Functions, monitoring alternative usages and maintaining data are developed as the student builds a project from the ground up. This is a comprehensive, semester-long project budgeting, scheduling and control course where practiced theory is the platform for learning.

ITPM 550 Managing System Integration Projects (3 semester hours)
Prerequisites: ITPM 510
Description: This course introduces the student to Systems Integration Projects as a class of IT projects and methods that can be used to manage, control, and execute them effectively. It explores the uniqueness of these projects - specifically the issues that scale can bring to managing them. The PMI Integration processes will provide a basis for the studies in this course. The student examines different aspects of system integration projects (e.g., vertical integrations, horizontal integration, business process integration, enterprise application integration, network integration) and investigates the role of service-oriented architectures (SOA) in modern integration projects. Practical budgeting and cost control are used to develop a cost effective approach to maintaining project control. Measurement, charting and analysis will be developed as key tools in the management of IT projects. Real-life projects, case studies and computer-aided tools are used to illustrate the key points.

ITPM 551 Survey of Software Development Technologies and Architectures (3 semester hours)
Prerequisites: ITPM 531
Description: The student is introduced to various technologies encountered within software development projects, lifecycles, and key architectural aspects of robust enterprise applications. Topics for software development technologies include development languages and frameworks (e.g., .net and Java), various tools used during the development lifecycle, and key components of an application such as the data layer and User Interface. Architectural topics include prevalent patterns such as Model-View-Controller (MVC) and Service-Oriented Architecture (SOA). The student will complete an architectural specification for a project.

ITPM 560 Organizational Leadership (3 semester hours)
Prerequisites: Baccalaureate degree in IT or business field or appropriate work experience
Description: Successful project managers are adept at leading. Leadership, however, is a complex undertaking that requires knowledge and understanding of a number of competencies. This course builds these competencies. Focusing on organizational leadership, the course explores and develops skills and knowledge needed to lead organizational transformation and change, negotiate conflict resolution, build relationships and human capital, and instill business ethics and professional codes of conduct.

ITPM 570 Improving IT Project Quality (3 semester hours)
Prerequisites: ITPM 510, 540 and 550
Description: The information technology product is central to most business systems. Quality of the product is represented by accuracy, reliability, repeatability and specific customer requirement standards. The student will learn the various techniques to understand the quality control processes and quality assurance measures as demonstrated in industry standards and protocols. A focus of the course addresses the critical issues of managing and improving IT project quality in the digital age. The conceptual framework of quality planning, quality asssurance, quality controls and quality standards are learned to then specialize this framework for different types of IT projects. The role of different quality standards and frameworks (e.g., Lean, Six Sigma, CMM, ISO9001, and others) to address the emerging IT issues will be examined through case studies and classroom projects.

ITPM 580 Special Topics in IT Project Management (3 semester hours)
Prerequisites: Baccalaureate degree in IT or business field or appropriate work experience
Description: This course explores a topic of special interest that is timely and in response to a critical issue in the field of technology project management.

ITPM 598 IT Project: Phase I (3 - 6 semester hours)
Prerequisites: ITPM 510 and 540
Description: Under the tight fiscal pressures and the increasing complexities of IT project creation, coordination and management, IT project managers need to complete their projects on budget, on time and with a quality product. Working for a project client, the student focuses on project initiation, planning and execution phases. The student contributes to the management of a live project for a client, under the guidance of a faculty advisor. Learning objectives, including expected work products for the course, are a part of the detailed project plan to be created. The project plan is then customized to reflect the specific project responsibilities that have been agreed to with the external client. The student will use ePortfolio or a similar technology to demonstrate learning throughout the course. More than one semester may be required for completion of the project. A grade of *in progress* (IP) will be assigned at the conclusion of the first semester and the student will have one additional semester to complete the project.

ITPM 599 IT Project: Phase II (3 - 6 semester hours)
Prerequisites: ITPM 598
Description: This course focuses on the implementation and closing out phases of a project. Working for an external client, the student focuses on executing, monitoring, controlling and closing out a project. An analysis of successes and failures will be conducted. The student will use ePortfolio or a similar technology to demonstrate learning throughout the course. More than one semester may be required for completion of the project. A grade *of in progress* (IP) will be assigned at the conclusion of the first semester and the student will have one additional semester to complete the project.

LEARNING TECHNOLOGIES (LTMS)

LTMS 500 Instructional Design and Development (3 semester hours)
Prerequisites: Baccalaureate degree or permission of instructor
Description: The student establishes a systematic process for designing instruction in this course that incorporates the consideration of design trends and technology integration. This is accomplished through a focus on the use of an instructional design process to improve learning outcomes with an emphasis on instructional design and strategy considerations to develop technology-based learning solutions. Tools and techniques for analysis, design. Development, delivery and evaluation, in addition to strategies that can be enhanced with technology integration, are addressed and explored.

LTMS 510 Learning Technologies and Solutions (3 semester hours)
Prerequisites: Baccalaureate degree or permission of instructor
Description: This course presents an overview of multiple technology-based solutions to realize learning outcomes. Beyond a survey of learning software, the course challenges the student to think broadly about emerging technology trends that present learning opportunities. By understanding the request for proposal process as it relates to learning products, the student will be able to identify and begin to assess suitable technology tools to bring about learning outcomes through interactive technology resources. A broad survey of open source and proprietary solutions will be explored as well as emerging trends in learning technologies. Course topics are examined within a framework of learning strategies and learning architectures.

LTMS 520 Learning Assessment (3 semester hours)
Prerequisites: Baccalaureate degree or permission of instructor
Description: This course is an introduction to measuring multi-modal learning and performance with a particular emphasis on the use of technology. The following topics will be explored: formative and summative assessment, authentic assessment, subjective and objective assessment, criterion-referenced and norm-referenced assessment, formal and informal assessment, testing and evaluation standards, analytics and metrics, the importance of validity and reliability, and the use of technology in the assessment process.

LTMS 525 How Do Humans Learn? (3 semester hours)
Prerequisites: Baccalaureate degree or permission of instructor
Description: This course is an in-depth exploration of learning. Through exercises, simulations and the use of technology, the student will examine the impact of learning on performance and ways to position performance as a learning outcome. The following topics will be addressed: cognitive processing, behavioral modeling, motivation, transfer, metacognition, cognitive apprenticeship, social learning, culture and learning, eLearning, creating environments that support learning, and the integrated nature of technology and learning.

LTMS 530 Managing Technology Resources (3 semester hours)
Prerequisites: Baccalaureate degree or permission of instructor
Description: New technologies are changing instruction, and also placing new demands on technology professionals that support learning technologies. This course addresses the challenge of providing access to educational technologies while balancing security and resources in learning environments. The goal of the course is to establish strategies for assessing, planning, implementing, supporting and governing learning technologies with a focus on maximizing the instructional value of technology investments.

LTMS 580 Special Topics in LTMS (3 semester hours)
Prerequisites: Baccalaureate degree in field or appropriate work experience
Description: This course explores a topic of special interest that is timely and in response to a critical issue in the field of learning technology.

LTMS 598 Critical Issues in Teaching Science (3 semester hours)
Prerequisites: Baccalaureate degree or permission of instructor
Description: This course explores critical issues with the integration of learning technologies into a science curriculum. Beginning with learning outcomes identified in a science curriculum, the student will use multiple methods, such as case studies on innovative applications of technology, to create learning solutions. The course will explore issues such as how to empower future science educators through the integration of technology into the science curriculum, and what means of continuous learning in technologies exist for science educators.

LTMS 599 Critical Issues in Technology Integration (3 semester hours)
Prerequisites: Baccalaureate degree or permission of instructor
Description: This course looks at critical issues in the role of learning technologies within a variety of organizational models. This course examines ways to broaden the application of learning tools across divisions within an organization in support of broader organizational goals. An introduction to new information management strategies such as knowledge management will be included. The student will strategically assess their own environments and those of other organizations to identify new opportunities for the integration of learning technologies with consideration given to impact on the bottom line.

LTMS 600 Implementing Web 2.0 in the Classroom (3 semester hours)
Prerequisites: Baccalaureate degree or permission of instructor
Description: This intensive course is designed for classroom educators to explore, and practice with, Web 2.0 learning technologies and learn how the integration of these technologies into teaching and learning impacts their teaching and classroom dynamics. Tools to be explored and used, for example, include RSS feeds and aggregators, blogs, wikis, social bookmarking, mashups, podcasts and more. The student will begin to design a classroom activity incorporating one or more Web 2.0 tools for implementation in their classroom. Within a peer learning model, the student will design, implement and evaluate a classroom activity that incorporates one or more Web 2.0 tools. The results of this applied project and experiment will be reported out and presented. Lessons created will become a part of a technology-based collection of classroom activities which participants can continue to access after the course is completed.

LTMS 601 Research Development and Design (1 semester hour)
This course provides an overview of best practices for finding and framing researchable questions, conducting a literature review, and looking at the similarities and differences between quantitative and qualitative research. The student will learn how to approach the research they will be required to do as a part of their Practicum in Learning Technologies.

LTMS 602 Technology Evaluation and Selection (3 semester hours)
Prerequisites: LTMS 510
Description: This class advances the learning in LTMS 510. Effectively evaluating and selecting the right technology solution (software, hardware, and services) for a myriad of complex situations is a necessary skill in the development and management of learning technology projects or initiatives. It entails understanding market-forces and technology trends while balancing internal needs with external business drivers. Technology solutions that are well designed and evaluated create new capabilities and capacity within organizations.

LTMS 603 Engaging with Learning Activities, Games and Simulations (3 semester hours)
Prerequisites: Baccalaureate degree or permission of instructor
Description: The course focuses on promoting active learning, impacting learning engagement and improving learning outcomes with technology-based activities, games and simulations. Concepts are applied throughout the course as the student designs engaging learning experiences using current techniques and technologies. The goal of the course is to promote active learning solutions based on proven design and development trends and research-based practices in engagement, game and simulation concepts.

LTMS 610 Learning Technologies Project (3 - 6 semester hours)
Prerequisites: 15 LTMS degree hours completed
Description: The student will create and execute a detailed project plan to use as part of a real-world project that applies concepts and skills previously explored throughout the program. The student's project will be customized to their particular area of interest in learning technologies. This experiential course also provides an opportunity to reinforce and demonstrate the eight University competencies, i.e., critical thinking, communication, teamwork and collaboration, entrepreneurship, information literacy, ethical decision making, global awareness, and civic engagement.

LTMS 615 The Learning Technology Architecture (3 semester hours)
Prerequisite: Baccalaureate degree or appropriate work experience.
Description: This course examines how learning technologists in organizations plan and prepare for the extension and expansion of the learning architecture over time. Topics covered include a broad overview of learning technology architecture, designing a long-term plan and budget, considerations for installing and configuring enterprise learning technologies, supporting learning technologies within the existing IT environment, and managing course content and other digital assets. This course will covers supporting Web 2.0 technologies, integration issues, system security considerations, and supporting the user community.

LTMS 625 Designing and Supporting Systems, Methods, and Processes for Reusable Learning Objects (3 semester hours)
Prerequisite: Baccalaureate degree or appropriate work experience.
Description: This course introduces the standards of interoperability created for all varieties of delivery platforms and Learning Objects that are connected within, or to create, courses. These standards influence how authors create, share, and reuse Learning Objects. Topics covered include the evolution of learning technology standards, the content model, and Content Object Repository Discovery and Registration/Resolution Architecture (CORDRA).

LTMS 630 Practicum in Learning Technologies (3-6 semester hours)
Prerequisites: 20 semester hours and faculty advisor approval
Description: The student will identify a specific research area or community-based project within learning technologies.

LTMS 635 Development Tools to Support Learning Technology (3 semester hours)
Prerequisites: Baccalaureate degree or appropriate work experience.
Description: This course introduces content authors to XML and it is used to separate content objects from the mechanisms (such as .pdf, .html, .xhtml) used to present them. The course also teaches content authors how to use XSL to convert their XML-wrapped content to a variety of output types.

LTMS 645 Visual Representation for Learning and Communication (3 semester hours)
Prerequisites: Baccalaureate degree or permission of instructor
Description: This course explores the benefits of visually representing ideas, concepts and processes to improve the results of learning and communication. The history of visualization for learning and communication along with the current research and trends in using visuals to improve learning and communication are explored. Techniques and technologies for brainstorming, mind mapping, creating instructional and curricular design, thinking creatively, planning, creating visuals and delivering visual learning and communication are applied in individual and group projects throughout the course.

Professional Development

Professional Development is responsible for all contracted training, non-credit certificates, and professional development offerings for employers and working professionals. The professional development offerings through Harrisburg University provide specific and advanced skills training and industry certifications within the University's mission of science and technology.

The University works with organizations to conduct training and education needs analyses and to develop customized training solutions. The University partners, for example, with various outside agencies including but not limited to: corporations, government agencies, and school districts to develop customized solutions that contribute to professional development of the existing workforce.

For more information, contact ProfessionalEd@HarrisburgU.edu or visit our website at http://www.HarrisburgU.edu/academics/professional/.

University Administration

Harrisburg University of Science and Technology is a private, not-for-profit organization providing instruction, research, and service to the community. The university is governed by a Board of Trustees. The immediate regulation and direction of the academic, research, and service activities of the university are delegated by the Board of Trustees to the President and the faculty of the university.

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Teri	Mickle	Admissions Counselor
Kerry	Miller	Admissions Counselor
Jennifer	Olivetti	Manager of Student Transition
Anthony	Ortega	Production Coordinator
Charles	Palmer	Executive Director of the Center for Advanced Entertainment and Learning Technologies
Andrej	Petroski	Director of Learning Technologies
Alex	Pitzner	Director of Technology Services
Jennifer	Reiner	Director of Strategic Program Management
Ryan	Riley	Development and Alumni Relations Manager
Jared	Savage	Admissions Counselor
Elizabeth	Simcox	Vice President for Student Services
Keith	Thomas	Audio Visual Technician
Amjad	Umar	Director of Ebusiness
Jeanne	Wagner	Director of Records and Registration
Jeremy	Walmer	Financial Accounts Manager
Michael	Wilson	Director of Recruitment
Christopher	Wonders	Senior Grants Writer and Researcher
Linda	Wright	Associate Vice President for Human Resources and Administration
James	Young	Associate Vice President for Information Services

University Policies

These are some University policies that guide the conduct of students, faculty, and staff. Additional details can be found in the Student Handbook, Faculty Handbook, and Employee Handbook.

Family Educational Rights Privacy Act (FERPA) Policy

The University collects a considerable amount of information about each student during the period of enrollment. Almost all of this information is contained in records protected by the Family Educational Rights Privacy Act (FERPA), a federal statute signed into law in 1974. Under this law, a student has the right to review the records and to challenge anything in them that is perceived to be inaccurate or misleading. FERPA regulations also stipulate that the University cannot release information from the student's records to anyone but the student without the student's written consent, except to the extent that the FERPA policy authorizes disclosure without consent. The student should also be aware of the following:

Directory Information Policy - The University may disclose directory information about the student unless the student specifically informs the University in writing that this type of information should **not** be released. Directory information includes:

- student's name
- address
- e-mail address
- telephone number(s)
- class year, program of study
- enrollment status
- dates of attendance
- degree(s) and/or awards received
- participation in officially recognized University activities

For additional information on the FERPA policy see
http://www.ed.gov/policy/gen/reg/ferpa/index.html

Equal Opportunity

The University is committed to assuring equal opportunity to all persons and does not discriminate on the basis of race, creed, color, gender, age, religion, national origin, veteran or handicap status, or sexual orientation in its educational programs, activities, admissions, or employment practices as required by Title IX of the Educational Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, Title VI of the Civil Rights Act of 1964, and other applicable statutes. Inquiries concerning Title IX, Section 504, compliance and information regarding campus accessibility, may be referred to the Americans with Disabilities Act (ADA) Coordinator.

Credit Card Policy

The University is in compliance with state requirements for policies related to the marketing of credit cards on campus (Senate bill 157 session 2003 article xx111-A, Section 2301-A).

The Board of Trustees of the University adopted the following statement related to credit card solicitation on October 13, 2004:

> "Harrisburg University prohibits the marketing of all forms of credit cards on university property as well as prohibiting credit card marketers from offering gifts to a student in exchange for completing a credit card application."

Student Grievance Policy

A situation, circumstance or incident may occur where a student concludes that they have incurred egregious harm as the direct result of an action caused by a member of the faculty or staff. A student in this circumstance may file a formal grievance against a faculty or staff member of the university to seek administrative redress. Examples of adverse behaviors include, but are not limited to: violation of confidentiality; offensive remarks as a deliberate insult individually, in the company of others, or in the classroom; racist or sexist remarks and/or attitudes; inappropriate sexual contact, not limited to sexual intercourse; or, inappropriate relationships with the student which cause conflict of interest for either the student or faculty or staff.

A student who is compelled to submit a grievance must obtain a Student Grievance Form from the Office of Records and Registration. The form must be completed with an explanation of the facts of the allegation, and attach to it any and all documents, testimonies or petitions supporting the student's position as evidence. The completed grievance form should be submitted promptly to the office of the Vice President of Student Services.

A grievance cannot be filed on behalf of another person. Grievances may not be used to challenge academic or other policies or procedures of general applicability.

Additional information may be requested from the student while the grievance is being considered. The alleged faculty or staff person will be interviewed and asked to sign an affidavit stating facts relative to the alleged incident. Following consultation with the Office of the Provost, a decision shall be rendered by the Vice President of Student Services within five (5) business days of the grievance submission. The student will then receive a determination letter.

If the student does not receive a satisfactory remedy for a grievance, the student may request further review by a Grievance Committee which consists of: the Director of Institutional Compliance, who shall act as the Committee Chair, an administrator designated by the Provost, the Chair of the Faculty of the Whole, the Student Services Advisor, and a student volunteer that has no previous knowledge of the matter to be considered. The request for review by the Grievance Committee must be submitted in writing to the Vice President for Student Services. Formal rules of evidence will not apply, and the panel may consider any evidence considered relevant and reliable. A student is permitted to have a representative to assist them during the proceeding; however, the representative may not be an attorney.

The student will be advised of the date and time of the Grievance Committee meeting so that he or she may participate. The Committee shall deliberate and reach a decision on the grievance in closed

session and render its recommendation regarding the grievance within ten (10) days of its meeting. The student will be notified promptly of the Committee's recommendation.

If a student wishes to appeal the decision of the Grievance Committee, he or she must submit a written request to the Provost within five (5) business days after formal notification of the Committee's decision. The Provost's Office will review all of the relevant materials of the matter and notify the student of a final decision within five (5) business days of the appeal submission.

Grievances relating to the alleged denial of access to the benefits and services of the University as a result of discrimination on the basis of gender, race, color, creed, religion, national origin, sexual orientation, age, ancestry, disability, civil union, marital or veteran status should be presented in writing to the Affirmative Action Officer within 30 days of the alleged discrimination. The Affirmative Action Officer will review the written complaint and meet with the individual filing it. After reviewing all the facts and utilizing legal counsel, if appropriate, the Affirmative Action Officer will determine if corrective action is required. The student bringing the complaint will be promptly notified in writing of the determination. If corrective action is required, it will be initiated within 30 days of the determination of the grievance.

Acceptable Use of Information Technology Policy

Introduction

Harrisburg University offers comprehensive academic programs that emphasize science and technology. Access to information technology is essential to the pursuit and achievement of the university's instructional, research, administrative and service missions. As such, the use of information technology is a privilege and all members of the university community are expected to be responsible and ethical users of information technology. This policy applies to all technology acquired by or on behalf of Harrisburg University (wherever used) and all technology (however acquired) used on any Harrisburg University resources[1].

Purpose

This policy:

A. Promotes the responsible and ethical use of computing, information resources, and/or communication systems, collectively known as "information technology" but hereafter known as "IT," administered by the Office of Information Services (OIS).

B. Defines the rights, responsibilities, and standards of conduct for its faculty, administrators, staff, students, and other authorized users with regard to the use of IT.

C. Explains the appropriate procedures for enforcing any and all misuse of the university's IT resources and outlines appropriate disciplinary procedures for violating these rules.

[1] Computers, computer systems, networks, electronic communications systems, data storage media, facilities, peripherals, servers, routers, switches, equipment, software, files, or accounts.

Responsibilities

D. It is the responsibility of the university faculty, administrators, staff, or student workers to communicate this policy and its contents to any and all users of IT at, or in affiliation with, Harrisburg University. Not being aware of any part of this policy does not excuse the individual from being responsible for its contents.

E. The Harrisburg University OIS is responsible for the following:

- **i.** Maintaining user accountability requirements including user identification and authentication, account administration, and password integrity.
- **ii.** Making every effort to protect the privacy of users and confidentiality of data[2].
- **iii.** Ensuring fair access to IT.
- **iv.** Developing and implementing security policies and standards.

F. All Harrisburg University IT users are responsible for the following:

- **i.** Acting in a responsible, ethical, and legal manner in the use of IT. As such, this use of IT implies consent with any and all applicable university policies and regulations**.**
- **ii.** Using IT for authorized university business only. Excessive use of any IT resource for personal use is prohibited.
- **iii.** Safeguarding data including personal information and passwords.
- **iv.** Recognizing the limitations to privacy afforded by electronic services.
- **v.** Respecting other users and their expectation of privacy, confidentiality, and freedom of expression.
- **vi.** Taking precautions to prevent the initial occurrence and/or spread of computer viruses. Therefore, network connected resources must utilize university-approved anti-virus software.
- **vii.** Avoiding any unauthorized or illegal use of IT. This includes but is not limited to the transmission of abusive or threatening material, spam, or communications prohibited by state or federal laws.
- **viii.** Using IT in compliance with applicable license and purchasing agreements. Each user is individually responsible for reading, understanding, and adhering to all licenses, notices, and agreements in connection with IT which he or she uses.
- **ix.**

Compliance

G. Harrisburg University reserves the right to capture, preserve, and/or inspect any information transmitted through, stored on, or used on any IT resource without notice but especially when:

- **i.** There is reasonable cause a user has violated this policy.
- **ii.** A user or an account appears to be engaged in unusual activity.

[2] While Harrisburg University recognizes the importance of (and makes every attempt to achieve) privacy, the university cannot promise privacy of information stored on, or sent through, university-owned systems or resources except for certain information pertaining to student records, research, or other proprietary or patentable materials.

iii. It is necessary to protect the integrity, security, or functionality of IT resources.
iv. It is necessary to protect the University from liability.
v. It is permitted or required by law.

Enforcement and Disciplinary Procedures

H. Any user who violates any part of this policy may be subject to the following:

i. Suspension or revocation of the user's computer account and/or suspension or revocation of access to the university's IT resources.
ii. Disciplinary action as described in Harrisburg University's Student Handbook which may include suspension, dismissal, or expulsion from the university.
iii. Disciplinary procedures outlined in Harrisburg University's Faculty Handbook or any other documents outlining conduct for faculty, staff, administration, or student employees which may include termination of employment or other disciplinary action.
iv. Civil or criminal prosecution under federal and/or state law. Noncompliance with certain provisions of this policy may incur penalties under such laws which may include fines, orders of restitution, and imprisonment.
v. Re-instatement of computer privileges shall be examined on a case-by-case basis.

Procedure to Update and/or Amend

Harrisburg University reserves the right to update and/or amend this document to reflect university policy changes and/or state or federal law.

Intellectual Property Policy

Purpose

The policy reflects the following goals:

- To create an environment that encourages the generation of new knowledge by faculty, staff, and students.
- To facilitate wide transfer of useful inventions, ideas, and writings to society.
- To motivate the development and dissemination of intellectual property by providing appropriate financial rewards to creators and the university, and administrative assistance to creators.
- To ensure that the financial return from the development of intellectual property does not distort ethical decisions and operations of the university in a manner contrary to the mission of the university.

Definitions

Terms used in this document are defined in this section. These definitions may not necessarily conform to customary usage.

Intellectual Property includes any patentable invention, any copyrightable subject matter, or trade secret. It also includes works of art, inventions, discoveries, or creations that might normally be developed on a proprietary basis.

University means Harrisburg University of Science and Technology.

Student means any full-time or part-time graduate or undergraduate student, regardless of whether the student receives financial aid from the university or from outside sources. It is the responsibility of students who are also employees of other outside entities to resolve any conflicts between this policy and provisions of agreements with their employers prior to beginning any undertaking at the university that will involve the development of intellectual property.

Faculty means a person employed for pay at the university who has received a teaching appointment, plus instructors who have faculty appointments of various types.

Staff means any employee of the university other than students and faculty as defined above. If a student is also a part-time university employee, that person is considered as staff with regard to intellectual property developed as a result of employment, and as a student with regard to other intellectual property. A full-time non-faculty employee who is also taking one or more courses is considered to be staff. Visitors to the university who make substantial use of university resources are considered as staff with respect to any intellectual property arising from such use.

Creator means any person (or persons) who create an item of intellectual property.

Net proceeds to the university means all proceeds received by the university on intellectual property that it assigns, sells or licenses, minus any application, litigation, interference, or marketing costs directly attributable to the intellectual property being licensed. Deducted costs shall be reasonable and fair, and shall be properly disclosed; the sources and amounts of compensation shall also be properly disclosed.

Net proceeds to the creator means all proceeds received by the creator from intellectual property owned that is sold, assigned, or licensed, less the costs of application, legal protection, or litigation, interference, travel and other marketing costs directly attributable to the intellectual property being exploited. Such net proceeds do not include compensation legitimately received by the creator for consulting services or interest or other return on invested labor or capital. Deducted costs shall be reasonable and fair, and shall be properly disclosed; the sources and amounts of compensation shall also be properly disclosed.

Substantial use of university facilities means extensive unreimbursed use of major university laboratory, computational facilities, or human resources. The use of these facilities must be important to the creation of the intellectual property; merely incidental use of a facility does not constitute substantial use, nor does extensive use of a facility commonly available to all faculty or professional staff (such as libraries and offices), nor does extensive use of a specialized facility for routine tasks. Use will be considered "extensive" and facilities will be considered "major" if similar use of similar facilities would cost the creator more than $5000 (five thousand dollars) if purchased or leased in the

public market. Creators wishing to directly reimburse the university for the use of its facilities must make arrangements to do so before the level of facilities usage for a particular intellectual property becomes substantial.

Policy Provisions

This section states the policies concerning ownership of intellectual property created at the University. In order of precedence, ownership of intellectual property shall be as follows:

1. Externally Sponsored Work

Ownership Provisions: Intellectual property created as a result of work conducted under an agreement between an external sponsor and the university that specifies the ownership of such intellectual property shall be owned as specified in said agreement.

2. Internally Sponsored Work

Ownership Provisions: When the university provides funds or facilities for a particular project to the extent of substantial use, it may also choose to designate itself as sponsor of that work. The university may declare itself the owner of intellectual property resulting from said work. In such cases the university must specify in advance the disposition of any intellectual property rights arising from the project. If such ownership provisions are not in place, the university will not go into contract with researcher.

3. Individual Agreements

Ownership Provisions: Intellectual property, which is the subject of a specific agreement between the university and the creator(s) thereof, shall be owned as provided in said agreement. Such agreements by the university and the faculty are encouraged.

4. Intellectual Property Created Within Scope of Employment

Ownership Provisions: Intellectual property created by university employees who were employed specifically to produce particular intellectual property shall be owned by the university if said intellectual property was created within the normal scope of their employment. Computer programs written on the job by staff computer programmers would fall under this provision.

5. Public Dedication

Ownership Provisions: Except when limited by the above, the creator of any intellectual property may choose to place his or her creation in the public domain. In such cases both the creator and the university waive all ownership rights to said property.

6. In General

Unless governed by the above, ownership of intellectual property created at the university shall be determined as follows:

A. Traditional Rights Retained

Ownership Provisions: In keeping with establishing academic traditions at the university, the creator retains all rights to the following types of intellectual property, without limitation: books (including textbooks), educational courseware, articles, pictorial and graphic works, audio-visual works, and sound recordings, regardless of the level of use of university facilities. This provision does not include computer software (other than educational courseware) or databases.

B. No Substantial Use of University Facilities

Ownership Provisions: The creator owns all intellectual property created without substantial use of university facilities, including intellectual property rights in computer software and databases.

C. Substantial Use of University Facilities - No External or Internal Sponsorship

Ownership of intellectual property created with substantial use of university facilities, but not directly arising from externally sponsored work, or from work for which the university has declared itself as sponsor, shall be determined as set forth hereinafter depending on whether the creator or the university develops said property.

i. Development by Creator

Ownership Provisions: The creator originally owns intellectual property created with substantial use of university facilities but no external or internal sponsorship, and retains said ownership by commercial development of said property subject to the following: (i) the university shall receive 15% (fifteen percent) of the net proceeds to the creator above $25,000 (twenty-five thousand dollars) from all sources (in the case of patents and copyrights, this provision shall be limited to the life of the patent or copyright), and (ii) the university shall receive a perpetual, non-exclusive, non-transferable, royalty free license to use said intellectual property. In the case of software, this license includes access by specified university personnel to the source listings, and the university shall require each person to whom a disclosure is made to execute in advance a binding confidentiality agreement in favor of and enforceable by the creator. If the intellectual property is created solely by a student or students, the creator is exempt from the obligation to pay to the university a fraction of his net proceeds, but not from the provision of this paragraph for a non-exclusive license to the University.

ii. Development by the University

Ownership Provisions: When intellectual property is created with substantial use of university facilities, but not directly arising from sponsored research, the creator will originally retain the rights to the property, provided that he desires to commercially develop the property himself or to make it available to the public. If, however, the creator elects not to commercially develop same or fails to show diligence in pursuing such development, then the ownership rights to that property may be acquired by the university.

D. Substantial Use of University Facilities - External or Internal Sponsorship

Ownership of intellectual property created with substantial use of university facilities and directly arising from work sponsored under an agreement between an external sponsor and the University, or from work for which the university has declared itself a sponsor, but for which neither the external sponsor nor the university have specified the ownership of resulting intellectual property shall be determined as set forth hereinafter depending on whether the creator or the university develops said property.

i. Development by University

Ownership Provisions: The university originally owns intellectual property created with substantial use of university facilities provided by an external agreement or internal university sponsorship and retains said ownership by commercial development of said property, subject to the following: in all cases, the creator shall receive 50% (fifty percent) of the net proceeds to the university.

ii. Development by Creator

Ownership Provisions: When intellectual property is created with substantial use of university facilities provided by external or internal sponsorship, the university will originally retain the rights to the property, provided that it desires to commercially develop the property or to make it available to the public. If, however, the university elects not to commercially develop the same or fails to show diligence in such development, the ownership rights to that property may be acquired by the creator.

E. Consulting Agreements

Ownership Provisions: Work done by individuals as consultants to outside firms is presumed not to involve unreimbursed substantial use of university facilities, and the rights to intellectual property created under consulting agreements are retained by the outside firms or the individual as specified by the terms of the consulting agreement.

General Procedures

The creator of any intellectual property that is or might be owned by the university under this policy is required to make reasonably prompt written disclosure of the work to the university's provost, and to execute any document deemed necessary to perfect legal rights in the university and enable the university to file patent applications and applications for copyright registration when appropriate. This disclosure to the provost should be made at the time when legal protection for the creation is contemplated, and it must be made before the intellectual property is sold, used for profit, or disclosed to the public. Whenever legal protection for intellectual property is anticipated all persons engaged in such creative activity are encouraged to keep regular notebooks and records.

Whenever the university undertakes commercial development it shall do so, if possible, in a fashion that provides for the widest possible dissemination, avoiding suppression of inventions from which the public might otherwise benefit, providing for non-exclusive licensing at reasonable royalties, and giving consideration to more favorable or royalty-free licensing to non-profit charitable institutions, minority businesses or enterprises in developing countries.

The university's share of any proceeds under this policy will be used to reimburse the university for its expenses for commercial development of intellectual property. Any additional return to the university will be used to further the academic purposes of all disciplines of the university community.

Non-Discrimination Policy

The Pennsylvania Fair Educational Opportunities Act provides student access to benefits and services of the University and prohibits discrimination without regard to race, color, gender, religious creed, ancestry, national origin, sexual orientation, age, ancestry, civil union, marital status, veteran status, handicap or disability, perceived handicap or disability, relationship or association with an individual with a handicap or disability, use of a guide or support animal, and/or handling or training of support or guide animals. This commitment includes, but is not limited to, admissions, course offerings, transfer of credit, financial aid, scholarships, student employment, internships, educational and social programs, and student advisement and counseling.

Any complaint of an alleged act of discrimination must be filed within 180 days of the incident by contacting the PA Human Relations Commission located at 1101-1125 Front Street, 5th Floor, Harrisburg, PA 17104-2515 (717) 787-9784.

Notes