HARRISBURG UNIVERSITY
OF SCIENCE AND TECHNOLOGY

University Catalog
2006-2007

Your 21st Century Learning Community
www.HarrisburgU.net

Welcome to Harrisburg University of Science and Technology

An adventure in learning is what awaits you at Harrisburg University of Science and Technology, a university that provides quality educational experiences in the practical application of knowledge relating to business and technical fields. As a young, modern institution we offer opportunities for innovation that can significantly benefit those with us today as well as generations to come. We also value and actively seek diverse perspectives in our quest to create new educational traditions that enhance student learning. Applied learning that students can put to use is at the core of all our efforts. Learning, innovation, diversity and alignment are at the heart of everything we do.

At Harrisburg University we support collaborative learning, team learning and workplace ethics to develop work ready competent graduates with enhanced self-confidence. We encourage such growth by offering academic experiences in which you use fundamental principles to address real challenges having relevance to them and to the world beyond the classroom. You will work in learning communities and in teams that plan, implement and evaluate projects as well as learn skills necessary to accomplish the kinds of work that people really do. Being engaged in real-world tasks requires you to consider multiple viewpoints and to connect new input to existing information. Expanding and engaging you as a learner and one who understands will foster a lifelong hunger for knowledge and an enthusiasm for learning. Our learning is problem and project based.

Innovation is a central activity at HU. Students, like you, learn to be on the lookout for new ideas and opportunities. In partnership with local corporations, you will see innovative processes in action and learn how to contribute to such endeavors.

As an urban campus, we welcome and appreciate the diverse perspective available to us. We seek to understand multiple viewpoints and to encourage cross fertilization of ideas among various individuals, groups, organizations, cultural traditions and schools of thought. In so doing, we enhance your ability to make reasoned decisions that enhance your convictions while also demonstrating an appreciation for the needs and views of others. Learning at Harrisburg University of Science and Technology takes place in the classroom, on campus, in the business setting and within organizations in the community. The city and the world is your campus.

The Harrisburg University of Science and Technology University Catalogue is a document which is updated annually and made available in electronic form from the HU website. In addition, copies are made available in paper form on request to the Office of Academic & Student Affairs at 717.901.5102. New courses developed and offered since the most recent paper form of the catalogue was published can be found on our website at www.HarrisburgU.net/ .

Every effort has been made to make this catalogue accurate, however, all policies, procedures, fees and charges are subject to change at any time by appropriate action of the faculty, university administration or the Board of Trustees.

As part of the Harrisburg University of Science and Technology community, students are expected to have read and, by virtue of attending HU, agree to the following responsibility statements.

Student Responsibility Statement

As students of Harrisburg University of Science and Technology you have the responsibility to engage fully in your work, make connections and develop your professional competencies. HU is a new university in both thought and ideas. You have a responsibility to be a partner in this endeavor now and in the future. Collectively, your responsibility is to become an engaged Harrisburg University of Science and Technology community of learners and develop a strong professional and ethical foundation as individuals. It is the possession of these foundations that will serve you, your future, the University and the community at large.

Statement of Community Values

Underlying the University's mission are basic values that must be respected. These indispensable community values include:

- importance of personal integrity, honesty and ethical decision making;
- the right of every individual to be treated with respect and dignity as members of a learning organization;
- freedom of intellectual inquiry in the pursuit of truth-even if it defies commonly understood theories;
- acceptance and appreciation of diversity with regard to 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 students and provides a path for knowledge in the service of the community.

Table of Contents

* submitted for PDE approval

History and Mission

<u>History:</u>

In 1997 the 150 member Envision Capital Region Task Force worked to identify the strategies that would guide Central Pennsylvania through the next 20 years. The group studied issues of government, private sector leadership, education, quality of life, economic development and infrastructure in its sessions. Its four benchmarks were regional cooperation, job creation, individual earnings and education.

The Task Force saw education as one of the keys to the twenty-first century economy. They emphasized the partnership between business and education and workforce ready graduates. Harrisburg University of Science and Technology grew from this plan.

Conceived in 2001 by a group of business leaders and Harrisburg Mayor Stephen Reed, Harrisburg University was designed to be an educational catalyst for this revolution. Operating initially as the Harrisburg Polytechnic Development Corporation, its goal was to "pursue creation of a non-traditional public university in downtown Harrisburg that will fulfill a "niche mission" of addressing region-specific needs not currently served by existing colleges and universities."

Today Harrisburg University of Science and Technology plays a central role in changing the climate, aspirations and achievement level for the city's youth through three unique and supportive learning structures. Our environment focuses on student achievement, hands-on experience and active mentoring.

- **Harrisburg University of Science and Technology** is a unique urban educational institution located in downtown Harrisburg and developed in direct response to the educational and economic needs of the region. When classes began in August 2005, the university offered a focused selection of science and technology degrees, certificate and short-term programs.

- **SciTech Center**, the university's IT incubator, will be completed and house its first small businesses in fall 2006. It will provide dedicated space and support services for startup high tech companies that address the region's economic development needs. It will provide our students with internship opportunities.

- **SciTech High School,** opened fall 2003 with 155 9th, 10th and 11th graders being successfully prepared for college and the regional workforce for in the sciences, math and technology arenas. The student body will expand to 300 students in grades 9 through 12 in 2004. Over 90% of our students are minority young adults from an urban environment.

These integrated components allow a seamless transition from high school to college to successful employment in the region.

<u>Mission:</u>

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 9, 2006.

Equal Opportunity

The Harrisburg University of Science and Technology 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.

Academic Calendar

       The university operates on a semester schedule with intense summer sessions for selective offerings. The 2006-2007 academic calendar is listed below. Any updates or changes are listed on our website. http://www.harrisburgu.net/academics/calendar.php

SEMESTER I, 2006

Registration Begins	Monday, April 10, 2006
New Student Orientation	Saturday, July 22, 2006
Labor Day Holiday (University Closed)	Monday, September 04, 2006
First Day of Classes - Drop/Add Period Begins	Tuesday, September 05, 2006
Last Day to Withdraw with 100% Tuition Refund	Friday, September 08, 2006
Drop/Add Period Ends	Thursday, September 14, 2006
Census Date / Last Day to Withdraw with 50% Tuition Refund	Friday, September 15, 2006
Last Day to Withdraw with 25% Tuition Refund	Friday, September 22, 2006
Mid-Term Grades Due	Friday, October 20, 2006
Mid-Term Warning Letters Mailed	Wednesday, October 25, 2006
Registration Begins for Semester II, 2007	Monday, November 06, 2006
Last Day to Withdraw from a Course with a Grade of "W"	Friday, November 10, 2006
Thanksgiving Holiday (No Classes 11/22, University Closed 11/23-26)	Wednesday- Sunday, November 22-26, 2006
Classes Resume	Monday, November 27, 2006
Last Day of Classes	Friday, December 08, 2006
Final Examinations	Monday-Thursday, December 11-14, 2006
Final Grades Due	Tuesday, December 19, 2006

SEMESTER II, 2007

New Student Orientation	Saturday, January 06, 2007
Martin Luther King, Jr. Birthday (University Closed)	Monday, January 15, 2007
First Day of Classes - Drop/Add Period Begins	Tuesday, January 16, 2007
Last Day to Withdraw with 100% Tuition Refund	Friday, January 19, 2007
Drop/Add Period Ends	Thursday, January 25, 2007
Census Date / Last Day to Withdraw with 50% Tuition Refund	Friday, January 26, 2007
Last Day to Withdraw with 25% Tuition Refund	Friday, February 02, 2007
Mid-Term Grades Due	Friday, March 02, 2007
Spring Recess	Monday-Friday, March 5-9, 2007
Mid-Term Warning Letters Mailed	Wednesday, March 07, 2007
Classes Resume	Monday, March 12, 2007
Last Day to Withdraw from a Course with a Grade of "W"	Friday, March 30, 2007
Registration Begins for Semester III, 2007 and Semester I, 2007	Monday, April 02, 2007
Reading Days / Easter Holiday (No Classes)	Thursday-Monday, April 5-9, 2007
Classes Resume	Tuesday, April 10, 2007
Last Day of Classes	Friday, April 27, 2007
Final Examinations	Monday-Thursday, April 30 - May 3, 2007
Final Grades Due	Tuesday, May 08, 2007

SEMESTER III, 2007

New Student Orientation	Saturday, May 05, 2007
First Day of Classes - Drop/Add Period Begins	Monday, May 14, 2007
Last Day to Withdraw with 100% Tuition Refund	Friday, May 18, 2007
Drop/Add Period Ends	Thursday, May 24, 2007
Census Date / Last Day to Withdraw with 50% Tuition Refund	Friday, May 25, 2007
Memorial Day Holiday (University Closed)	Monday, May 28, 2007
Last Day to Withdraw with 25% Tuition Refund	Friday, June 01, 2007
Mid-Term Grades Due	Friday, June 29, 2007
Mid-Term Warning Letters Mailed	Tuesday, July 03, 2007
Independence Day Holiday (University Closed 7/4, no classes 7/5-7/8)	Wednesday-Sunday, July 4-8, 2007
Classes Resume	Monday, July 09, 2007
Last Day to Withdraw from a Course with a Grade of "W"	Friday, July 20, 2007
Last Day of Classes	Friday, August 17, 2007
Final Examinations	Monday-Thursday, August 20-24, 2007
Final Grades Due	Tuesday, August 28, 2007

University Administration

Harrisburg University of Science and Technology is a private not for profit focused university 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.

2006-2007 Board of Trustee Executive Committee Members:

David Schankweiler, Chair	(Journal Publications)
Tim Weston, Vice Chair	(Kirkpatrick, Lockhart)
Geoffrey McDowell, Vice Chair	(Independent)
Jeffrey Vrabel, Treasurer	(Beard Miller)
Sheila Dow Ford, Secretary	(PHEAA)
Alan Todd, Committee Chair	(Corporate University Exchange)
Cliff Jones, Committee Chair	(Independent)
Greg Rothman, Committee Chair	(RSR Realtors)

2005-2006 Officers of the University:

President	Melvyn D. Schiavelli, Ph.D.
Provost	Karen K. Oates, Ph.D.
Executive Vice President for Finance and Administration	Eric D. Darr, Ph.D.
Vice President for University Advancement	Marcus Lingenfelter
Associate Vice President of Information Services	James Young, Ph.D.

Admissions

Students will be admitted to Harrisburg University based upon a review of applications by a faculty committee. The university anticipates enrolling students from a variety of backgrounds. Many will be traditional college-age students applying as high school students or within their first couple of years after high school. HU will be targeting high school graduates with the desire and motivation to study science and technology and who test in the middle half of the ability population. HU has seamless 2+2 programs to serve HACC graduates desiring bachelor's degrees in science or technology after completing an associate's degree or certificate program at the community college. We also anticipate admitting adult students who currently are employed but who require additional education (specialized certificates, baccalaureate degrees, or graduate degrees in science or technology) to advance their careers. HU has also developed a robust degree completion mechanism through utilizing the integrated sciences program of study to provide a pathway for individuals who have at some point acquired higher education credits in the science fields but now desire to return to complete their degrees.

Anyone applying for a bachelor's degree program will be required to submit an application that includes high school transcripts, two letters of recommendation, descriptions of activities (especially community-based and/or science and technology-related experiences). In addition, SAT and ACT scores are requested. Applicants whose paper credentials appear meritorious will be invited to HU for an interview. Applicants transferring from other institutions and those with prior higher education also will need to submit transcripts of their postsecondary coursework and letters of recommendation from college faculty. Applicants who are currently employed and who have been in the workforce for three years or longer may have test requirements (ACT or SAT) waived by the Admissions committee.

Generally, minimum requirements for admission will include a grade point average in high school and/or other higher education institutions of 2.0 or greater, SAT scores, two letters of recommendation describing the candidate's likelihood for academic success at HU. Successful graduates of SciTech High will automatically be admitted to HU after completion of the application process.

In order to graduate from HU with a bachelor's degree, a student must complete 120 credit hours with a GPA of at least 2.0. In addition, students must successfully complete 45 hours in upper division work (300-400 level) and complete 45 hours in General Education. The coursework required for each program of study is described in this catalog. Each student will be required to participate successfully in internships or community or work-related applications of knowledge as detailed in the program descriptions. HU has developed an intense internship or co-operative learning program.

UNDERGRADUATE ADMISSION PROCESS

The admissions process at HU is designed to help you make good decisions about your higher education choices and to make sure you explore all of the enrollment options at the University so you find the plan that works best for you. The process is meant to be information and encouraging – not to present an intimidating barrier to your college dreams. Just like every student who receives personal attention in the classroom, every applicant

receives thorough consideration and advising during the enrollment process. Students are encouraged to visit the campus for an advising session with a member of the admission's team. When you visit for an advising session, you'll have the opportunity to complete the admissions application during your visit and have the application fee waived.

Admissions Application:
>   You can apply online at **www.HarrisburgU.net/Apply**. It saves time and it is automatically submitted when you complete it – so there is no hassle getting it in the mail! And, we'll waive the application fee when you apply online.

Standardized Tests:
>   Plan to take, either the SAT or ACT test and request that your test results be forwarded to HU from the test agency. The SAT reporting code for HU is 4511, and the ACT code is 3637. *You may have the requirement for test scores waived upon review by the Admissions Committee. Students who have been out of high school for 4 years or more, and students who have already completed 30 undergraduate credits are waived from the standardized test.

Transcript:
>   Request that your school submit an official transcript of your high school work. If you have taken college courses, you must also submit other post-secondary transcripts as well. Transcripts will be sent directly to the Director of Admissions. We can provide a transcript request form for high school, college, or GED transcripts.

Letter of Recommendation:
>   Sometime the most compelling information regarding a student's potential is not captured in tests or transcripts – but rather in the words of people who know the student best. We request that you submit at least one letter of recommendation for you. It is advisable that a letter of recommendation come from a teacher or official at you school, employer, or other mentoring adult.

Application Fee:
>   The University charges a $30.00 application fee for processing of the application and materials. Your application cannot be reviewed until you have paid fee or provided a fee waiver.

Optional Materials:
>   *A Self-Written Essay:* You can write on any subject, but it will be beneficial to your application to comment on your academic or professional interests and ambitions.
>   *An Admissions Interview:* You may determine that the best way to convey your potential for success at the University is to meet with us in person to discuss your interests and goals, as well as explore the programs at the University. The admissions interview is an informational interview where you learn more about how the college may match your needs and interests.

>   HU has a rolling admission policy and will notify qualified applicants after immediate review of your completed application package. There is no application deadline at this time, and students will be accepted provided ample time is allowed to develop the student's schedule prior to the start of the semester. Full consideration will be give to candidates who

submit applications prior to June 15 for Fall enrollment and November 1 for Spring enrollment.

Acceptance Criteria: Students can demonstrate their academic potential through their high school record, scores on standardized tests, resumes and written recommendations. No one particular factor can measure a student's potential, therefore the University gives equal consideration to all aspects of your admissions application.

GRADUATE PROGRAM

The Graduate program at Harrisburg University is academically rigorous and workplace-relevant. The program sharpens existing professional skills and complements these with advanced technical expertise and knowledge, leadership and professional ethics. Working adults and full time students will appreciate the program's flexibility and adaptability to your current career demands.

Embracing the University's core learning approach, the graduate program combines relevant workplace experiences and one-on-one attention from faculty, in the context of the many professional resources and networks thriving in the city of Harrisburg. By incorporating opportunities from a dynamic professional climate, this program provides a strong balance of classroom learning with real world applications.

Corporate Faculty:
The graduate program is uniquely enriched by the role of corporate faculty. Like adjunct professors, these professionals complement our full time faculty and provide unique perspectives and expertise relevant to the University curriculum. Corporate faculty includes CEOs, project leaders, other executives, research scientists, health professionals, and others. They present current scenarios from day-to-day operations within their companies and organizations that provide real problem solving opportunities from the workplace.

Networking and Mentoring Connections:
Through our network of community partners, HU connects you to a variety of professional mentors and contacts. Through networking mixers and group activities arranged by the University, students will especially enjoy relationships that develop with young professionals and members of science and business associations.

Graduate Certificates are available in both IT Project Management and Learning Technologies. Certificates are generally 15 credits and are transferable for completion of the Master's Degree. Certificates allow individuals to select the most relevant courses to their professional needs and interests.

The Master's Degree is available in a one-year accelerated program, a two-year plan or part-time at your own pace. A convenient downtown location and a flexible evening schedule accommodate the busy lives of professionals and make this program very attractive. Aggressive students can quickly achieve their academic and professional goals by enrolling in 2-3 courses per semester.

NON-DEGREE AND RE-ENTERING STUDENTS

Students who have been absent from Harrisburg University of Science and Technology for less than 12 months may be admitted as a returning student. If more than 12 months have elapsed, a student must apply for reentry to the University.

TRANSFER PROGRAM

At HU, we believe in offering a direct path to complete your degree in a way that fits your life. Our transfer advisors evaluate the credits you've already earned and work with you to develop an appropriate graduation plan. Your customized plan will complement the work you've already done and give you new experiences in preparation for your unique career interests.

Customize Your Degree:
Through the Integrative Sciences Program, you don't have to conform to a rigidly established degree plan; you can develop an individualized graduation plan from among all the courses at the University. Because the IS Degree is interdisciplinary, transferring courses to this degree, gives you the most flexible application of your credits.

2+2 Transfer Programs:
The University has approved many local associate degree programs for seamless 2+2 transfer. We have developed unique bachelor degree programs that build off of the credits required for these associate degrees. Refer to our website to examine the 2+2 plans, and use these as a guide towards transferring credits. Students applying to HU who have completed an associate degree in one of the 2+2 programs will receive favorable review by the Admissions Committee. However, because students can transfer to HU at any time, the University does not require you to complete an associate degree first.

Credit for Work Experience:
We recognize that the classroom is not the only place students learn. In fact HU integrates significant experiential—*hands-on*—learning into the academic process. You can earn college credit for skills and knowledge you've already mastered through life experience. Our transfer evaluator will aid you in presenting your work experiences for credit evaluation.

EVALUATION OF SECONDARY SCHOOL CREDITS

The University will evaluate curriculum completed at the secondary school level for consideration of college credit or advanced standing at the University. The University will review the content, rigor, classroom exercises and evaluation methods pertaining to high school courses being reviewed for college credit. University faculty will evaluate curriculum and determine the level of recognition awarded by the University, under the advisement of the VP of Student and Academic Affairs. The University has developed the following options that may be used to reward students for completion of particular high school courses.

Advanced Placement in the Major:
This option allows the substitution of required courses. A high school course can be considered an allowable substitution for a required course in the chosen major. Therefore the student has satisfied the requirement, and is able to move ahead in completion of other requirements. This option allows the student to replace the substituted course with a free elective in the major. The student is still required to complete 120 undergraduate credits.

Exemption Exams:
        Students with high school experience in a particular subject area have the option to test out of related courses at the University. With permission of faculty, a student may sit for examination. Successful completion of the exam qualifies the student for exemption from the course. In this case, the student may participate in advanced standing in the major, and substitute another course, for the exempt course. In addition, the student may elect to receive credit for the exempt course after payment of appropriate tuition fees.

Transfer of Credits:
        Students who have successfully completed dual enrollment (concurrent enrollment, or college in high school) courses while in high school can transfer this credit to the university. Dual enrollment courses will be treated the same as transfer courses, whereas courses at a 100 level or greater, with a grade of C or better are eligible for transfer. Transferred courses count towards the total 120 credits needed for graduation. Transferred courses can satisfy course requirements from the major.

CLEP (College Level Exam Program) College Board:
        Students with high school experience in a particular subject area are encouraged to take advantage of this program that can be used to grant college credit and exempt students from required courses. CLEP credits can be used to satisfy elective or major credits, based on approval of faculty.

Transferring from HU to another Institution
        It is the responsibility of the student to check with their prospective institution(s) to identify if credits will transfer into their program. HU does not assume the responsibility nor can the university guarantee the transferability of the credits, this is at the discretion of the accepting institution. The Office of Records and Registration can assist you with transcript requests and the Office of the Provost can provide faculty credentials, if needed.

Continuing and Professional Education

The CPE division is responsible for all contract training, certificate, and professional development workshops for employers and individuals. They are approved by careerlinks and the military as well as Act 48 and Bridge as educational offerings. HU's Continuing Education Program is designed to fit the professional development needs of a wide variety of working professionals. HU tailors its CPE programs to achieve your goals.

The Continuing Education Program Workshop and Seminars address relevant issues and concepts so that teachers, businesses, and community organizations can achieve the professional credentials they need while learning about interesting and exciting subjects. If you have a particular training need, Continuing and Professional Development is willing to work with you.

HU partners with industry leaders, companies, and school districts to develop customized academic opportunities that explore the latest approaches and technology in order to prepare a knowledge-ready workforce.

Our 5-month "Fast Track" certificate is specifically designed for employees to receive intense training in one of our seven areas of study. As part of this special offering, employees' existing professional skills can be evaluated for academic credit through portfolio analysis. Through our "Regular Track" certificate programs, students can update or improve their skills in one of seven areas of study by achieving anywhere from 15 to 18 credit certificates. All credits are transferable into our bachelor's degree.

As a working professional, Harrisburg University of Science and Technology Continuing Education Program division has your needs in mind! Our flexible class schedule and convenient downtown location are just some of the proof.

For more information, contact ContinuingEd@harrisburgu.net or visit our website at http://www.harrisburgu.net/academics/professional/.

Tuition Fees and Expenses

All tuition, fees, expenses, and policies listed in this publication are in effect as of Summer 2005 and are subject to change without notice by the Harrisburg University of Science and Technology Board of Trustees.

Tuition:

Enrollment is not complete until fees are paid. Tuition is charged at the per credit rate as given below. Maximum charges start at 12 credits and remain for up to 18 credits. Undergraduate credits registered beyond 18 are subject to additional tuition costs at the per credit rate. Maximum charges begin at 9 credits and remain for up to 18 credits. Graduate credits beyond 18 are subject to additional cost at the per credit rate.

Tuition at Harrisburg University of Science and Technology includes all fees except those which are directly related to in class field trips or software in lue of textbooks.

Registration Fee Schedule per Semester*

	Full Time	Part Time per Credit
Undergraduate	$7,000	$583
Graduate	$7,000	$583

*Non-Reduced Unscholarshiped Tuition

Admission's Application Fee:

A $30.00 non refundable admission's application fee is in addition to tuition.

Special Course Fees:

Some courses have expenses above the cost of tuition that enhanced the instruction. These fees may cover the field trips, use of specialized equipment, materials and supplies, or professional support. These courses are indicated in the semester schedule with best estimate of additional fees noted.

Transcript Fees:

Students who request official transcripts may do so through the Office of the Registrar. Valid identification will be necessary to release records to those requested. Transcript preparation fees are $10.00 per mailing.

Payment Plans:

Students may meet tuition expenses by enrolling in a convenient budge plan with FACTS Tuition Management Company. This is not a loan program, there are no interest or finance charges assessed, and there is no credit check. Students may make payments via ACH, Credit Card, Check or Money order. To find out more information, please call (800) 609-8056 or visit the e-Cashier website online through www.HarrisburgU.net.

Refunds:

Students who withdraw from Harrisburg University prior to the end of the third week of the semester may be due a refund of money paid to the university.

The rate of refund for withdrawal from the University is based on total charges and is as follows:

Prior to and through the University's first week 100%
The second week   50%
The third week   25%
After the third week   0%

Tuition Refund Policy:

       Harrisburg University of Science and Technology is a private, not-for-profit institute of higher education. The entire semester tuition is considered fully earned at the end of the third week of classes. Tuition may be refunded up to and including the first week of class minus a three hundred dollar ($300) administration fee. For refund purposes, the semester begins on the first day of classes for that semester. There will be no refund or additional charges for students who drop and add an equal number of credit hours within the same semester if the per-credit rates are the same.

Student Financial Aid & Scholarships

The Office of Financial Aid helps qualified applicants who without assistance would be unable to pursue a college education. The University's dedication to this region will result in nearly all funding through our Office of Financial Aid being committed to students and families in financial need.

Application Process:
Financial-aid applications for new and transfer students will be included in University admissions materials mailed to all prospective students, and will be available through www.Hbg-Univ.org the University's website.

The PROFILE form of the College Scholarship Service (CSS) is used to calculate family contributions for all first-time aid applicants. Students may register for the PROFILE in the fall or spring preceding the academic year for which they are applying for aid.

Harrisburg University's Office of Financial Aid carefully reviews each PROFILE, frequently revising the CSS evaluation, with particular attention paid to such factors as income and business losses, other family members attending college, and family assets.

All students must also complete the confidential Free Application for Federal Student Aid (FAFSA) after January 1. Applications for currently enrolled students will be available through the Office of Financial Aid in December and are due by late April.

Returning students not currently enrolled should write to the Office of Financial Aid for an application. Applications from returning students, including the FAFSA, are due by April 25 for the fall semester and by November 1 for the Spring semester.

Students must apply each year for renewal of financial aid. The amount of the financial aid will reflect changes in University costs as well as changes in the financial profile of the student and family.

The Financial Aid Package:
Harrisburg University evaluates the PROFILE, tax returns and other information to determine financial need, which is the difference between the total cost of attending Harrisburg and the ability of the family to contribute to those educational costs according to set National and state policies. Harrisburg University's costs are tuition and fees charged to all students, and allowances for housing, meal, commuting expenses, plus an allowance for books and supplies, and other estimated personal expenses.

Harrisburg University calculates the amount a family, or the adult student, can contribute to a student's education by examining
1. parental income and assets;
2. benefits, such as those from an employer;
3. awards from outside agencies; and
4. student assets and expected savings from summer employment.

Financial aid is usually awarded to students in a three-part package which consists of:

1. money earned by the student through university employment, generally work-study funds;
2. educational loans taken out by the student or family; and
3. grants of scholarship money.

Eligibility for Scholarship Aid:
Students may apply for financial assistance at any time. They must be enrolled in an academic program leading toward an undergraduate or graduate degree or certificate, and show satisfactory progress toward the completion of degree or certificate requirements. The eligibility for transfer students will be prorated based on their class standing at the time of matriculation. Scholarships and grants do not have to be repaid.

Other Sources of Funding:
Eligible students can avail themselves of the National merit Scholarships, the National Achievement Scholarships, the Pennsylvania Higher Education Assistance Agency and PHEAA Scholarships, and outside scholarships offered by local foundations, clubs, and business organizations.

Combining Sources of Assistance:
Various kinds of financial assistance from agencies other than Harrisburg University are considered in calculating a student's financial award to ensure availability of assistance to as many eligible students as possible. Consequently, all students are asked to apply fro all federal and state grants for which they may be eligible. Should they receive assistance from public or private agencies, students must notify Harrisburg University's Office of Admissions. This applies even if assistance is received after the financial-aid application is completed of after a Harrisburg award is made.

Parent Loans:
Loans to parents, including the Federal Parent Loans for Undergraduate Students (PLUS), are available. Information about these loans, which usually carry lower interest rates, may be obtained from banks, saving associations, and other lending agencies in most communities.

Need-Based Aid:
Harrisburg University does not currently participate in the Federal Student Aid program, but plans to participate in the Title IV programs and the Pennsylvania State Grant program when eligible. Students will be awarded institutional scholarships based on financial need as determined by the information provided on the Free Application for Federal Student Aid and the university's Supplemental Financial Aid application. While every effort is made to provide students with the maximum level of assistance, some will need to pursue additional sources of funding to meet educational costs.

Private Loans:
Private or alternative loan programs allow borrowers to borrow up to the costs of education less any financial aid already awarded. Private lenders evaluate the credit worthiness of borrowers and in some cases, a credit-worthy cosigner is required for loan approval for those students ineligible for approval on their own.

Interest rates are typically variable and may be based upon the 91-day T-bill rate, LIBOR, or prime rate with additional margins. Upfront fees may be waived or financed, depending upon credit rating and program guidelines. Repayment options vary and may include: immediate repayment, interest-only repayment or deferred principal and interest payment.

Other Programs:
Veterans Administration Education Benefits
Office of Vocational Rehabilitation
Job Training Agencies
Employer Sponsorship

Satisfactory Academic Progress:
Harrisburg University's academic administration evaluates academic progress at the conclusion of the spring semester. Students who successfully achieve each standard continue to be eligible for financial assistance. These measures are separate and distinct from the policies governing academic warning, probation, and dismissal as set forth by the university.

The standards used for financial assistance are: 1) the student's grade point average, 2) the timeframe for completing the program of study 3) the percentage of attempted courses that result in successful completion.

Students who become ineligible to participate in financial aid programs as a result of not making satisfactory academic progress may file an appeal by submitting a letter outlining the nature of their appeal to the Director of Financial Aid. Documentation of the circumstances and updated financial information (if appropriate) must be attached and should include the student's name and student ID number. Appeals submitted without documentation will not be considered.

Students may file appeals based on the following circumstances:
Employment Obligations
Medical
Unusual Personal Circumstances

Notification of Eligibility:
Students will receive written notification of award eligibility from the Office of Financial Aid. This award letter will clearly show all aid the student will be receiving for the academic year. Students must notify the university in writing if they wish to reduce or decline the awards.

For additional information on financial aid, please contact the Director of Financial Aid Services at 717-901-5115.

Student Services

University Library:

Information literacy is central to the learning process at Harrisburg University of Science and Technology (HU). As such, faculty and librarians prepare students for competency in information literacy by introducing them to a wide array of information technologies, computer applications and library research concepts integrated throughout the curriculum and available on-demand electronically. HU accomplishes this by fostering an environment that emphasizes internal and external collaboration, experiential learning, and evidence-driven research in a learning community context. A main objective in becoming information literate is for all members of the HU community to value information *and* technology while discovering new ways to communicate and create knowledge.

Harrisburg University of Science and Technology will collaborate with area higher-education institutions for access to a variety of library databases and resources. Our students are able to physically and electronically use these library resources. In addition, our students will have access to the curricular-integrated information literacy program.

In the short term, HU students, faculty, and staff access collections through multiple partnerships and library cooperatives. This access to information is supplemented by selected on-site resources, professional assistance, and a robust, curricular-integrated information literacy program.

HU will provide access to resources in both print and electronic formats. Print resources will be limited to a small collection of reference material supporting both lower level and upper level courses.

Students, faculty, and staff will also have access to materials through the library's web page. The library of databases emphasize science and technology and serve as complements to those provided by the Harrisburg Area Community College Library System.

A partial list is presented here:
- *ScienceDirect*
- *SciFinder Scholar*
- *Web of Science*
- *Computer Database*
- *Nature*
- *Cambridge Scientific Abstracts* (specific titles below)
  - *Biological Sciences Database*
  - *Biology Digest*
  - *Biotechnology & BioEngineering Database*
  - *Complete Cambridge Science Collection*
  - *Computer Abstracts International Database*
  - *Environmental Sciences & Pollution Management Database*
  - *GeoRef*
  - *Science and Technology Digest*
  - *Technology Collection*

HU also provides an e-book collection that emphasizes science and technology and an electronic reserves service for faculty and students. This will allow seamless, electronic access to articles or book chapters not available through any of the library's existing databases or purchasing agreements.

HU students, faculty, and staff will have access to a wide variety of materials for use in course-related assignments, personal enrichment, or further study at any of the four Harrisburg Area Community College (HACC) campuses (all available through http://lib2.hacc.edu). The HACC Library System maintains traditional collections (books and periodicals) numbering more than 120,000 books, 700 periodical subscriptions and electronic collections to help support the HU curriculum.

- o Harrisburg Campus, McCormick Library: (717) 780-2460
- o Gettysburg Campus/Learning Resources Center: (717) 337-1644
- o Lancaster Campus Library: (717) 358-2986 or lanclibrary@hacc.edu
- o Lebanon Campus, The Pushnik Family Library: (717) 270-6328

Students may check out books for a period of two weeks; renewals may be made by telephone or online (if they are not overdue, or if another patron has not requested them). Reference books and periodicals may be used only in the library; however, photocopiers are available at all campus libraries. In addition to the HLS online book catalog, the HLS web site provides access to more than 60 electronic databases. Several of these databases include full-text access to magazines, newspapers and professional journals:

- o *ProQuest* (indexes 3,000 + publications)
- o *EBSCOhost* (indexes 2,500 + publications)
- o *Lexis-Nexis* (indexes 5,000 + publications)
- o *STAT-USA/Internet* (government databases of international trade)
- o *Encyclopedia Britannica*
- o *ERIC* (citations to journal articles and documents in education)
- o *PsycINFO* with *PsychARTICLES* (psychology journals)
- o *Hoover's Online* (business)
- o *ABI/Inform* (business journals)
- o *CINAHL* (nursing and allied health)
- o *Reference Suite@FACTS.com*
- o *Wilson Biography Plus Illustrated.*

Of particular interest to HU students will be HACC's science databases: ProQuest's Science Module; Today's Science, and Safari Technical Books Online.

There are several ways in which HU facilitates access to the above mentioned collections: through direct in-library use, via the Internet, through interlibrary loan, through services offered from HACC, and through assistance from an HU research specialist.

An HU Library Services web site will be developed for HU students, faculty, and staff. This site will provide access to collections, databases, programs, and services that support the HU curriculum. As noted above, faculty and students will have access to an electronic reserves system. HU is also exploring a virtual reference service that will provide on-demand, electronic research assistance.

Bookstore:
Bookstore@HarrisburgU.net

HU provides an online bookstore for its students to conveniently browse and purchase both required and supplemental course materials by semester or course. Students can pay online with a major credit card. Additional payment options include personal check via mail and financial aid. Contact the Office of Financial Aid Services for information regarding the use of financial aid dollars to purchase textbooks.

Career Exploration:

Underlying the university's professional placement services for graduates is its founding principle of preparing well-educated men and women to succeed in the region's economy and future development. As a result of that founding principle, the university and regional economic leaders are forging unique relationships that will continue and expand once the institution becomes operational. The university has consulted with local business leaders in determining the most critical needs for programs and the core knowledge that graduates will need. All students will be expected to participate in at least one internship, most of which will be in regional business and industry; these internships will expose students to the "real world" application of their educations and put them in contact with potential future employers. They also will expose regional employers to the students, as a potential future source of employees. In addition, the Harrisburg University SciTech Center will merge the academic content of the curriculum with its application in real emerging businesses. As students work in the center, they will develop skills that lead to success in emerging science- and technology-based businesses and will have opportunities to interact with local entrepreneurs.

The university's approach to career placement recognizes that students have four years to develop knowledge and skills, test them in class and work situations, and then apply them to their job search. Often students wait until too late to begin career planning. Harrisburg University of Science and Technology supports career planning throughout a student's tenure, beginning with recruitment and admissions. Career services span the following phases:

EXPLORE: Students often choose a major without fully comprehending all the implications. A perception of a particular occupation may be based on a glamorized view rather than a realistic look. Students will explore the academic requirements, the necessary skills and abilities, and the job outlook for the chosen field and also will explore the values, interests, and abilities associated with a selected occupation with their advisor. All student in the General Studies course Science, Mathematics, Technology and Society will begin to connect the studies of science to civic and workforce issues. Two specific courses in the STEP into HU program are available to help explore students' career options, majors, and talent areas (Appendix 8.)

FOCUS: Harrisburg University helps students who are unsure of their choice of majors to decide on their academic area of study. The university will help students in their second year explore additional aspects of a potential career and will help students answer important questions such as:

- What do you want to do with the studies you have chosen?
- Where do you want to work?
- With what type of people do you want to work?
- What rewards are you seeking from your work?

The Integrated Science Program of study allows students to explore or focus on specific areas of interest.

PREPARE: As students progress through their major but prior to the last semester before graduation, HU encourages them to learn about job hunting and applying to graduate schools. Students will learn how to make themselves look attractive to potential employers or graduate schools. The university will support students by offering internships, workshops on resume writing, interviewing, and job search skills, and previews of potential employers. The Senior Capstone course also helps students make additional connections to the world of work.

ACTION: HU will help students search for jobs or graduate school admissions nine months before they graduate. The university will support students by holding job fairs and offering on-campus interviews. The university also will support students who want to take graduate school entrance exams by offering study groups and practice tests. Seniors will have opportunities to engage in academic-related projects in the SciTech Center.

Career Services
Harrisburg University of Science and Technology will offer the following career exploration and placement services including two course offerings to help students as they navigate through their career options.

Counseling
Every student will be assigned to a career advisor and will have individual appointments with that career advisor to identify skills and interests and to determine necessary steps for building a successful career start. Career counseling may involve administration of a personality inventory to better understand a student's strengths. A career advisor's guidance will complement an academic advisor so that a student can successfully coordinate curriculum and career goals.

Workshops
Students will have the opportunity to participate in workshops which will provide information on resume writing, interviewing skills, pursuing further education, essay writing skills, and job searching.

Mock Interviews
Many students will not have had a formal job interview before coming to the university. Mock interviews will give students the practice they need to excel in interview situations. A career advisor will interview each student for 10-15 minutes on videotape, and afterwards review the interview style. Feedback on positive behaviors as well as potential improvements will be offered.

Resume and Cover Letter Critiques
The university will offer resume writing workshops. A career advisor will critique each student resume and cover letter in individual sessions.

Internships:

Harrisburg University of Science and Technology offers academic internships which are designed to focus on a special project with an emphasis on learning the work related to a particular field. These experiences can be paid, volunteer, and for academic credit. Internships will be structured in a manner to provide as much real work experience as possible.

Business Mentors Program:

The Business Mentor Program is a unique forum that allows students to build a network of contacts and career resources. During your first semester, HU connects students with an individual Business Mentor who is an active part of the Harrisburg area professional community.

The HU Business Mentors are experienced and successful professionals from business, government, and science and technology organizations who are willing to share their expertise with you as you move through your degree program.

The mentoring program is more than just matching students with individual mentors; students will also have opportunities to network with a variety of mentors and role models at professional events and mixers, building both confidence and contacts at the same time. After the first few weeks of classes, HU students will have one strong reference, coaching them through professional opportunities.

Student Academic Success Center:

The Student Academic Success and Advising Center is committed to provide our students with the resources needed to succeed. The center is prominently located on the first floor of 215 Market Street for easy access. The professional staff, along with our faculty and student affairs professionals can help a student's transition to college life and success from freshmen through senior year.

The Academic Success Center is equipped with six dedicated computers with math, reading, and comprehensive reading and writing programs to assess your skill level. The software also allows diagnostic evaluation of a student's strengths and weaknesses so that we can properly assign you to the most appropriate level of course work. Student or faculty may request specific assessments to help provide the best level of instruction possible.

New Student and Student Success Programs:
- **S**tudent **T**ransition **E**xpedition **P**rogram

The **STEP into HU** program is designed to help you make an easy and successful transition into college. These courses are scheduled on an as-needed basis for students who can benefit the most from additional preparation in academic areas needed for their major. Students will be scheduled in the STEP program during academic advising.

STEP is not intended to make up for lower test scores or serve as a review program; the purpose is to introduce students to techniques and experiences that make them more resilient and more independent in the university climate. Participation in STEP will result in: increased confidence, stronger study, test-taking, and research skills, and improved academic

readiness. Additionally, students will learn the importance of strong communication skills, time management, prioritizing responsibilities and making informed decisions.

- Summer Orientation

Summer orientation is a one day program scheduled in mid-August. In addition a similar orientation takes place in January prior to the Spring semester for newly admitted students for that semester.

During orientation students and their families will become familiar with university policies and services. Workshops on financial aid procedures, internships and business mentor program, and undeclared exploratory student policies will be available. The goal of the summer orientation program is to begin the transition to college life armed with the information and knowledge of services to make the transition successful.

Gramm-Leach-Bliley Information Security Program:
Harrisburg University of Science and Technology is committed to the ongoing protection of confidential financial information. The Federal Trade Commission has issued the Safeguards Rule under the Gramm-Leach-Bliley (GLB) Act, requiring HU to develop, implement and maintain a comprehensive information security program to ensure the privacy of certain categories of confidential financial information. For the purpose of HU's Information Security Program, "Confidential Financial Information" means all nonpublic personal information, whether in paper, electronic or other form, that HU obtains in connection with transactions involving financial products or services offered by HU, such as Perkins Loans and other loans given by HU to students. This Information Security Program establishes HU's policy for the ongoing protection of Confidential Financial Information and serves as written evidence of an information security program in compliance with 16 CFR §314.3(a).

Student Life

HU Ambassadors and Clubs:

  The HU Ambassadors Club was created in the fall of 2005 as an avenue for students to gather, share ideas, and help shape the future of their success at HU. The HU Ambassadors focus on leadership and academic success. Ambassadors are also involved by volunteering at university events to help promote and represent the student body.

Housing:

  Students who desire housing have several attractive options.

  The Harristown "International House" has several room, suite, and apartment style housing arrangements for the HU students which include laundry facilities, kitchen areas, private rooms, and group living spaces. A listing and tours of the rooms are available. Space is secured through the Director of Admissions on a first come basis.

  In addition to the "International House" the City of Harrisburg has a variety of independent living apartments and shared homes. For more information, contact the Admissions Office.

Health Services:

  The university will contract with Pennsylvania Board-certified physicians to provide basic health services such as assessment and treatment of illness and injuries, referrals to outside agencies when appropriate, gynecologic services, confidential HIV testing, administration of allergy injections, health counseling, blood pressure screening, and physical exams to its students on an appointment basis. Emergency illness or injury cases will be handled by Pinnacle Health Systems-Harrisburg Hospital.

Immunization Records:

  Harrisburg University of Science and Technology with the Pennsylvania Department of Health has recommended the following immunization records for all entering degree seeking students.
  MMR
  DTP/Td
  OPV/IPV
  Varicella
  Hepatitis B
  Meningococcal

  Medical Waiver – The vaccination requirement shall be waived if one or more required immunizations may be detrimental to the student's health or is otherwise medically contraindicated. A physician, physician's assistant, or nurse practitioner's written statement must be attached that specifies those immunizations that may be detrimental and the length of time that they are considered detrimental. The written statement must be submitted with a medical exemption form.

  Religious Exemption – Harrisburg University of Science and Technology honors a religious exemption to one or more of the above immunizations. A student must submit, in

writing, a statement that describes the beliefs in sufficient detail to allow a determination that (a) the beliefs are religious in nature (not philosophical) and (b) the beliefs are genuinely and sincerely held.

<u>Counseling Services:</u>

The university will provide access to basic academic counseling and support services. Student who struggle with depression, eating disorders, the effects of sexual assault or abuse, gay/lesbian/bisexual issues, and problems related to substance abuse, and crisis intervention will be directed to area mental-health caretakers. Additionally, the university will offer learning support services such as workshops or print materials on time management, note-taking, exam preparation, library research, motivation, and stress management skills.

It is the responsibility of every student, faculty member, and employee of Harrisburg University of Science and Technology to safeguard the well-being of students. Students needing help will be referred to the appropriate counseling services.

<u>Disability Support Services:</u>

The university is committed to providing equal opportunities in higher education to academically qualified students with disabilities. Students with disabilities will be integrated as completely as possible into the university experience.

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

University 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.

Academics

Degree Requirements:

To receive a degree, a student must meet the requirements of the curriculum in which the degree is to be awarded. Verification that the student has met those requirements is made by the University Registrar. The Vice President of Academic and Student Affairs also has the authority to waive a requirement under exceptional circumstances.

A cumulative grade point average of at least 2.00 in all work taken at Harrisburg University of Science and Technology is required for graduation.

A student admitted as a transfer from another college or university is normally required to have a 2.00 cumulative average at the time of entrance. A student may however be admitted with a quality point deficiency but will be required to earn sufficient quality points above a 2.00 at Harrisburg University of Science and Technology to offset the quality point deficiency at the time of entrance.

No more than 70 semester hours earned at a two year college can be applied to a bachelor's degree from Harrisburg University of Science and Technology. There is no limit to the number of credits that may be transferred from a four year institution, however, to qualify for a bachelorate degree a student must take a minimum of 32 credits in residency.

A student may receive two bachelorate degrees if she or he meets the requirements of each curriculum and earn at least 30 credits beyond the required curriculum requiring the greater number of credits. (150 credits)

Minors in a particular field require at least 15 credits including at least 6 credits in residency at the 300 and 400 level. The minor must include at least 9 credits that are not used to meet any other major program requirement.

Curriculum Requirements:

The curriculum requirements both include a number of credits and the specific course requirements are guidelines for the students of his or her academic advisor. The curriculum is subject to change and because of these changes adjustments may need to be made.

Catalog in Effect:

A student may choose to graduate under the catalogue in effect at the time they entered the University and any year forward to the year of graduation – full requirements of the chosen catalogue must be met except that adjustments can be made instances where courses are no longer available or where programs have been changed.

Progress toward a Degree:

HU classifies students based on the number of credits completed and reported to the Registrar. The classification is based on credits completed, not merely attempted and do not include IP, IC, or F grades.

Freshman   0 – 29 credits earned
Sophomore   30 – 59 credits earned
Junior   60 – 89 credits earned
Senior   90 – 120 credits earned

Transfer students without a degree are classified on the basis of credits accepted at Harrisburg University of Science and Technology.

Students who have earned a Bachelor's Degree and are working toward a second degree are classified as a senior.

Enrollment Status:
Student enrollment status is defined for certification purposes as either full time or part time. Full time undergraduate student enrollment is 12 credits for Fall or Spring and full time graduate student enrollment is 9 credits. Part time status is any number of credits less than 12 credits for Fall or Spring for an undergraduate student and less than 9 credits for a graduate student.

Class Attendance:
Students are expected to attend all class meetings as scheduled. Each instructor sets his or her policy with respect to class attendance, and excuses for absence from class are handled between the student and instructor. The instructor is expected to announce his or her policy at the beginning of the course. HU courses require participation and you cannot under normal circumstances participate if not present.

Faculty Advisors:
Harrisburg University of Science and Technology values the interaction and advise of faculty advisors to support student course selection, scheduling, career counseling, and general academic advising.
Upon admission to Harrisburg University of Science and Technology students are assigned a faculty member in their specific interest area or a faculty specialized to work with undeclared "exploratory students." Students meet at least twice a semester with their faculty advisors.

Academic Standing:
Grades are awarded to each student for academic credit completed at Harrisburg University of Science and Technology. Grades are assigned by those faculty who are responsible for the courses in which the student is enrolled, using the following grading scale which indicates the quality of the student's academic work.

Regular Letter Grades		**Special Grades** (explanation below)	
A	(Superior achievement)	W	(Withdrawal)
A-		I	(Incomplete)
B+		IP	(In Progress)
B	(Above average achievement)	WA	(Administrative Withdrawal)
B-		WM	(Medical Withdrawal)
C+		AU	(Audit)
C	(Average achievement)	TR	(Transfer Credit)
C-		NR	(Not Reported)
D+		P	(Pass)
D	(Minimum achievement)		
F	(Failure)		

Quality Points
When a grade of "A" through "F" is reported to the Registrar's office, a numerical quality point value is assigned to the letter grade to facilitate the calculation of the student's grade point average (GPA). The letter grades and their corresponding quality points are:

Letter Grade	Quality Points
A	4.00
A-	3.67
B+	3.33
B	3.00
B-	2.67
C+	2.33
C	2.00
C-	1.67
D+	1.33
D	1.00
F	0.00

Calculation of the Grade Point Average (GPA)

A student's GPA is calculated using the semester credit hours assigned to each course along with the quality points earned for the grade in the course. The semester GPA and the cumulative GPA are calculated using the same method.

The steps to calculate the GPA are as follows:

1. Compute the quality points earned for each course by multiplying the semester credit hours earned for the course by the quality points awarded for the grade in the course.
   Example: For a four (4) credit lab course in which the student earned a grade of "B-", the total quality points earned for the course would equal 10.68 (4 credits x 2.67 quality points).
2. Add the total quality points earned for all courses.
3. Add the total number of credits attempted for all courses for which a grade of "A" through "F" was received.
4. Divide the total number of quality points earned by the total number of credits attempted. This is the grade point average (GPA).

The semester GPA is calculated using the above steps for all courses completed for a single semester, while the cumulative GPA is calculated using the above steps for all courses completed at Harrisburg University.

Calculation of the Grade Point Average (GPA) - Example

Course	Credits	Grade	Quality Points	Total Quality Points
Course A	3	B	4.00	12.00
Course B	4	C	2.00	8.00
Course C	2	A-	3.67	7.34
Course D	3	C+	2.33	6.99
Total	**12**			**34.33**

GPA = 34.33 / 12 = **2.86**

Warning

Students with a CGPA of 2.00 or higher are in satisfactory academic standing. Students with less than satisfactory academic standing are subject to warning, probation, or dismissal according to the following rules:

Credits	CGPA	Result
0.5 – 16.0	Below 1.8	Warning Letter
16.5 – 32.0	1.75 – 1.99	Warning Letter
32.5 or more	Below 2.00	Probation for 1 semester (first time) or 2 semesters (second time)
32.5 or more	Below 2.00	Suspension for 1 semester following 2 semesters on probation

All students on academic warning, probation, and suspension will meet with their academic advisor prior to registration for the next eligible semester. First year students (0.5 – 16.0 credits) must maintain a minimum 1.8 GPA.

Special Grades

Special grades are used by the University for circumstances when regular letter grades are not appropriate. These grades are not included in the calculation of a student's grade point average (GPA).

W (Withdrawal) – This grade is recorded by the Registrar when the student has withdrawn from the course according the policy set forth by the University for withdrawing from a course. This grade is not included in the calculation of the GPA.

I (Incomplete) – A temporary grade given only in circumstances where the instructor decides that a student is unable at the end of the semester to complete the course due to circumstances beyond his/her control. Examples would include serious illness, family emergencies, etc. The student should request the incomplete grade from the instructor with documentation of the legitimate reason for the request. If granted, a grade of "I" should be submitted by the instructor to the Registrar, accompanied by a written plan outlining what the student needs to do to finish the requirements for the course, including the agreed upon deadlines for doing so. The student and instructor will also retain copies of the plan. When the student has completed all of the requirements for the course, the instructor will calculate the course grade and submit a change of grade request to the Registrar. If the course requirements are not completed by the end of the next semester (including the summer semester), the incomplete grade will convert automatically to a grade of "F" for the course.

IP (In Progress) – 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. A "Q" grade should be accompanied by a written plan and a schedule for completing the course within a specified time period.

WA (Administrative Withdrawal) – The "WA" grade can be given only by the Vice President for Academic Affairs or other designated University official. It is used when it is necessary for a student to leave the University under extenuating circumstances and when the normal withdrawal processes are not available to the student. A request for administrative withdrawal with accompanying documentation will be submitted to the Registrar. The "WA" grade can be submitted at any time during the semester. This grade is not included in the calculation of the GPA.

WM (Medical Withdrawal) – 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 Registrar with the approval of the Vice President of Academic Affairs. The student must submit well-documented evidence of the medical condition to be eligible for a medical withdrawal from the University. This grade is not included in the calculation of the GPA.

AU (Audit) – 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. This grade is not included in the calculation of the GPA.

TR (Transfer) – 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 and the credits are not included in the calculation of the student's grade point average (GPA).

NR (Not Reported) – This temporary grade is recorded by the Registrar when the instructor does not report a grade for the student for the course. The Registrar will advise the Vice President for Academic Affairs 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.

P (Pass) - The "P" grade is assigned by instructors for a student who completes successfully a course taken under the Pass/Fail option according to the University's Pass-Fail policy. Instructors may also assign this grade for courses where a regular letter grade is not appropriate, such as internships, field studies, research, etc. The grade may also be recorded by the Registrar when a student passes a course by proficiency examination.

Dean's List:
A student is eligible for the Dean's List after a given semester if he or she has:

1. Earned a semester GPA of 3.50 or higher, and
2. Completed at least 9 credits of course work, excluding those courses not used to compute the GPA.

Graduation Honors:
 Students who have earned consistently superior grades in their course work will be recognized for their achievements at graduation with the designation of Graduation Honors. The student's diploma and university record will carry the appropriate honors designation as follows:

Summa cum laude for a CGPA between 3.95 and 4.00
Magna cum laude for a CGPA between 3.75 and 3.94
Cum laude for a CGPA between 3.50 and 3.74

Transferring from HU to another Institution
 It is the responsibility of the student to check with their prospective institution(s) to identify if credits will transfer into their program. HU does not assume the responsibility nor can the university guarantee the transferability of the credits, this is at the discretion of the accepting institution. The Office of Records and Registration can assist you with transcript requests and the Office of the Provost can provide faculty credentials, if needed.

Repeat Courses:
 Students 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 GPA. Quality points and attempted credits will be awarded only for the repeated course in the determination of the permanent record GPA. Courses may only be repeated twice without the prior grade being used in the calculation of the GPA. After the third attempt, the two most recent grades for the course will be included in the GPA.

 Grades earned at Harrisburg University may not be replaced by grades earned for the same course at another institution of higher learning. If approved under HU's transfer credit policy, a student may retake a course at another accredited institution and transfer those credits to Harrisburg University for credit toward degree requirements. However, transfer credits are not included in the GPA, and the grade for the original course will remain in the GPA calculation for the student's permanent record.

Release of Grades:
 Reports of HU student's grades are not routinely sent to the student's parents or guardians. Parents or guardians of students under 18 years of age may obtain grades by writing to the Office of the Registrar. The grades of students over 18 years of age will be sent to their parents only with written consent of the student.

Withholding of Records:
 Student's records may be withheld if a request has been made by the appropriate University officials. Delinquent accounts with the University or affiliated organizations or instances regarding disciplinary action may be the cause this request. The printing of a transcript or registration may be withheld in this situation.

 This withholding of records can be rescinded only when the Office of the Registrar receives written authorization from the original University official stating that the student has fulfilled their obligation.

Academic Programs

UNDERGRADUATE
Biotechnology and Biosciences
>>> Applied Biotechnology
>>> Forensic Biotechnology
>>> Molecular and Microbial Biotechnology

Computer and Information Science
>>> Cyber Security
>>> Computer and Information Science
>>> New Media Design

e-Business and Management
Geography and Geospatial Imaging
Integrative Science
>>> Environmental Chemistry
>>> PreMed, PreVet, PreDental Studies
>>> Health and Disease Prevention

GRADUATE
IT Project Management
Learning Technologies
(under PDE review – Fall 2006)

UNDERGRADUATE

Bachelor of Science
Biotechnology and Biosciences:

The mission of the program in Biotechnology is to provide each student with a broad educational background in the field of Biotechnology and Biological Science followed by experiences linking classroom studies to the world of work. Through the successes of our graduates and our faculty research we will build a leading national program strong in teaching and learning, research, application and innovation, and community based academic service.

Biotechnology is a field specialty of biology which uses molecular investigations and scientific process to gain information on organic materials.

Students' studies in the Harrisburg University of Science and Technology Biotechnology and Bioscience Program will have hands on experiences in the laboratory and in the field which focuses on DNA and recombinant DNA methodologies, microbiology and environmental biology. Students with a degree in biotechnology and biosciences will be uniquely qualified for skilled laboratory investigations with industry, government and law enforcement agencies and will be well positioned for graduate work in areas of biology, biochemistry or molecular biology and other related fields of study such as forensic science. Students who successfully complete the biotechnology and bioscience program may also choose to enter into a professional school such as medical, dental or veterinary medicine as well as law school with a specific focus on intellectual property, biotechnology, or Patent law.

Three different tracks of investigation can be found in our Biotechnology degree program. Each track requires both a junior and senior year out of classroom experience

(internship or co-op and specific research project). Students focusing in a specific track will structure their junior and senior level experience in those specialty areas. In addition, two specific courses in forensic science are required for that concentration.

Workforce Demands:
        In 2002 the US Department of Commerce's Bureau of Industry and Security, Office of Strategic Industries and Economic Security and the Technology Administration's Office of Technology Policy (OTP) initiated it's first in depth assessment of the biotechnology and bioscience industry. The analysis and findings from this study indicate a strong vibrant and diverse economic outlook for areas where the knowledge and skills in biotechnology contributes. These areas include: improving human health, alleviating hunger, homeland defense (through vaccines and biometric devises), as well as forensic biotechnology and meeting the alternative energy needs of our nation.

Highlights from this report include:

- Patent date which indicates that in 2002, 33, 131 applications for biotechnology were produced or processed.
- International markets increased in both Europe and Asia.
- Both large and small firms engaged in biotechnology activities
- In 2001, 1.1 million employees engaged in biotechnology research and development. Research expenditures exceeded $41 billion.
- In 2001 firms were investing about twice as much in their biotechnology related lines of business as in their business as a whole.

The economic outlook for employees seeking degrees in the biotechnology field is robust.

Program Objectives:
To provide a broad range of basic laboratory skills applicable to the field of biotechnology.

To provide foundational concepts, mechanisms and principles which can be applied across the field of biology, biochemistry and biotechnology.

To provide a mastery of research skills both in the laboratory and using information technology.

To model independent and collaborative work environments.

To provide graduates with an understanding of the responsibility of their profession and the dimension of their obligation of knowledge.

To provide amply experiences to connect the classroom to the world of work

To challenge our students to think creatively, respecting diverse ideas, creating new models and becoming leaders in their profession and community.

*B*achelor of *S*cience
Biotechnology

Biotechnology & Biosciences
Program Overview

TOTAL 120 Credits for BS Degree in Biotechnology

Core course credits in the major	47
General education learning communities	45
Research, co-op, internship credits	18
Electives	<u>10</u>
	120 Total

Biotechnology & Biosciences
4 Year Program of Study

	Fall 2005	Spring 2006
Freshman	**Scientific Mind (6)** **GEND110** Integrative Sciences I Discrete Mathematical Structures **General Chemistry I (4) CHEM 150** **The Creative Mind (6) GEND100** English Composition Psychology	Organic Chemistry I(4) **CHEM 210** Intro to Biotechnology (3) **BTEC270** Cell Biology (4) **BIOL180** **The Learned Mind (6) GEND150** Philosophy Literature

	Fall 2006	Spring 2007
Sophomor	Introduction to Biochemistry (4) **BIOL340** Microbiology (4) **BIOL 330** Genetics (3) **BIOL320** **The Civic Mind (6) GEND200** US Government Communications	Biotechnology Application (4) **BTEC310** Introductory Statistics (3) **MATH 280** **The Political Mind (6) GEND250** History of Political Systems Economics

	Fall 2007	Spring 2008
Junior	Mathematical Modeling (4) **MATH380** Jr. Year Project (3) **BTEC398** **The Cultured Mind (6) GEND300** Cultures of the World Modern Cultures and Art	Biotechnology Techniques (3) **BTEC350** Elective (4) Molecular Biology (4) **BIOL 370** **Advanced Composition and Technical writing (3) GEND350**

	Fall 2008	Spring 2009
Senior	Elective (6) Internship (6) Senior Capstone (3) **BTEC499** **The Entrepreneurial Mind (3) GEND400** Philosophy	Biotechnology Seminar (3) **BTEC360** Senior Project (6) **BTEC498** **The Healthy Mind (3) GEND450** Health

Concentration Tracks:

1) Applied Biotechnology

  Students with an applied biotechnology concentration follow the four year sample program of study as shown. The three HU Advantage courses (Junior project, Senior project and senior capstone) are designed to ensure an applied approach to the degree objectives.

2) Molecular and Microbial Biotechnology

  Students choosing a molecular and microbial biotechnology concentration will follow the sample program of study with the following additions/modifications. Two specific courses in the field molecular and microbiology are required. The course Immunology (BIOL375) and the Applied Cell and Agro Culture (BTEC235) will be taken. In addition the HU Advantage courses (Junior project, Senior project, and Senior capstone) are focused on molecular and microbial aspects of biotechnology. Students with interest in pre-medical studies may choose this concentration.

3) Forensic Biotechnology

  The Forensic Biotechnology concentration requires two specific courses, Forensic Entomology (BIOL315) and case studies in forensic science. In addition students are strongly urged to work with their faculty mentor to develop the appropriate HU Advantage experiences.

Program Summary:

General Education Courses: 45 credits

Scientific Mind	6
Integrative Sciences I	
Discrete Mathematical Structures	
The Creative Mind	6
English Composition	
Psychology	
The Learned Mind	6
Philosophy	
Literature	
The Civic Mind	6
US Government	
Communications	
The Political Mind	6
History of Political Systems	
Economies	
The Cultured Mind	6
Cultures of the World	
Modern Cultures and Arts	
Advance Composition	3
and Technical Writing	
The Entrepreneurial Spirit	3
Philosophy	
The Healthy Mind and Body	3
Health	
	45 credits

Courses in Major: 47 credits

Cell Biology	4
General Chemistry	4
Organic Chemistry	4
Intro to Biotechnology	3
Biochemistry	4
Microbiology	4
Genetics	3
Statistics	3
Biotechnology Applications	4
Mathematical Modeling	4
Biotechnology Techniques	3
Molecular Biology	4
Biotechnology Seminar	3
	47 Credits

HU Advantage (Research, Co-op, and Internship: 18 credits

Jr. Year Project (BTEC 398)	3
Senior Project (BTEC 498)	6
Senior Capstone (BTEC 499)	3
Internships	6
	18 Credits

Electives: 10 credits

Bachelor of Science
<u>Computer and Information Science</u>

The mission of the Computer Program and Information Sciences is to provide each student with a broad educational background in Computer and Information Sciences followed by experiences linking classroom studies to the world of work. Through the successes of our graduates and our faculty research we will build a leading national program strong in teaching and learning, research, application and innovation and community based academic service.

Information Technology continues to shape our future and that of our regions, states and country. Technology related jobs and careers that focus on harnessing the theory and practice of computer technologies are becoming more and more in demand. Careers in computer and information sciences, management of information technologies, cyber security, network and information management, database management, internet specialist as well as the traditional engineering fields are expected to expand and drive the economy. A Harrisburg University degree in Computer and Information Sciences provides the academic foundation and the real world experience for the jobs of today and the future. All the students admitted to Harrisburg University of Science and Technology are eligible to declare Computer and Information Science as their major.

Our Computer and information Sciences degree is unique in that it will prepare you to participate in the technology marketplace and workforce through "*Practice Theory*". Our hands-on, experiential learning approach under the mentorship of faculty utilizes collaborative learning and stresses competencies such as critical thinking, communications, problem solving and teamwork. The HU Program is a rigorous blend of technical courses with our unique HU Advantage approach (Projects, community based research, senior projects and internships) embedded with our university competencies. We want each student to work closely with faculty to carefully tailor the experience to best fit your goals. Even if you are not certain how you might a CIS degree one thing you can be sure of is that that is not an industry or each that Information Sciences does not touch.

<u>Workforce Demands:</u>
The Bureau of Labor and Statistics has projected the future demand for information technology (U.S. Dec 1997, 1996, 2000C) for six core IT occupations including Computer and Information Sciences. These projections indicate that between 1998 and 2008 the United States will require more than 2 million new workers in the IT occupations. Employment opportunities in a variety of information science fields are expected to grow over the next 10 years with many new jobs resulting from new applications of information science jobs are expected to be in the top three fastest growing occupations in the US according to the U.S. Bureau of Labor Statistics. According to Computer and Information Technology Association of America there are
over 300,000 unfilled IT positions in the US with salaries ranging from $70,000 to $200,000.   HU is offering a program which prepares students to thrive in this growing market.

<u>Goals</u>:
This Program of Study leading to a Bachelorate Degree and its associate undergraduate certificates is designed to prepare students for employment in a diverse range of information

science Areas including programming, information management, network and cyber security and research and development.   Although most students matriculate
from Bachelorate degrees and enter the job market directly, our program also provides both the <u>Theory and Practice</u> to enter into a competitive graduate degree program. The HU Advantage encompasses attention to skills and competencies as well as junior and senior projects with community businesses to connect the classroom to the world of work.

<u>Program Objectives:</u>
Objective 1. - To provide our students with both the content and skills to success in the information technology workplace.
> *Through coursework in a variety of science disciplines and with faculty mentored direct study students will have been provided with a degree which allows them to solve problems using technology and participate in a technology related career.*

Objective 2. - To focus on application of knowledge as well as competencies such as problem solving and critical thinking, promoting innovation, teamwork and cohabitation, effective communication, civic engagement, ethical decision making and understanding global and societal influences.
> *Starting with the Freshman course entitled <u>Scientific Mind</u> through the Senior Project experience, students are using knowledge and deepening knowledge through connecting and applying what is learned in class.*

Objective 3. - To be accomplished when working independently and in teams
> *Both Junior and Senior Projects and the pedagogies of learning communities expose students to teamwork as well as independent work.*

Objective 4. - To insure a through preparation in the analytical and mathematical skills needed to succeed and understand in the complexities of computer interaction
> *Specific courses in the Major which include (just to name a few) courses which support analytical, mathematical, and computer interactions are: Programming Fundamentals, Discrete Mathematical Structure, Algorithms, Graph and Visual Computing as well as Communication Networks and Information Management.*

Objective 5. - To engage in the applications of computer and information technologies for the good work in our communities, state and nation.
> *The HU Advisory Program supports through the Junior Project service learning through application of professional knowledge to serve our communities.*

Objective 6. - To provide an educational experience where graduates will learn how to continually learn (Life long learning)
> *The Senior Capstone experience is none of reflection, integration of knowledge and self-motivation designed to promote life long learning. Our General Education courses focus on competencies and skills which support life long learning.*

Objective 7. - To provide graduates with an understanding of the responsibility of their profession and the ethical dimensions of decision making.
> *The HU competencies include ethical decision making which faculty will integrate within their offerings.*

Objective 8. - To provide ample experiences to connect the classroom to the world of work.

The entire HU Advantage Program (i.e. internships and community projects) as well as our collaborative active approach to learning supports connecting the classroom to the world.

Objective 9. - To challenge our students to think creatively, respecting diverse ideas, create new models and become leaders in their field.

Through Core registration of the course the <u>Entrepreneurial Mind and Spirit</u> (CS400) and with the Senior Project (CIS498) specific attention to thinking creatively and leadership are embedded in Senior year experiences. Creativity through GS100 is studied early in the academic experience and serves as a foundation for further curricular as well as co-curricular leadership roles.

Bachelor of Science

Computer and Information Sciences

Computer and Information Sciences
Program Overview

TOTAL 120 Credits for BS Degree in Computer and Information Systems

Core course credits in the major	45
General education learning communities	45
Research, co-op, internship credits	18
Electives	12
Total	120

Computer and Information Sciences
Sample 4 Year Program of Study

	Fall 2005	Spring 2006
FRESHMAN	**Scientific Mind (6)** **GEND 110** Integrative Sciences I Discrete Mathematical Structures Programming Fundamentals I (4) **CISc120** **The Creative Mind (6) GEND100** English Composition Psychology	Programming Fundamentals 2 (4) **CISc160** **The Learned Mind (6) GEND150** Philosophy Literature Elective
	Fall 2006	**Spring 2007**
SOPHMORE	Graphic and Visual Computing (4) **CISc290** **The Civic Mind (6) GEND200** US Government Communications Elective/Internship (3-6)	Operating Systems (4) **CISc 240** Programming Techniques and Languages (4) **CISc260** **The Political Mind (6) GEND250** History of Political Systems Economics Calculus (4) **IS220**
	Fall 2007	**Spring 2008**
JUNIOR	Communication Networks (4) **CISc360** **Computer and Network Security (4) CISc330** Jr. Year Project (3) **CISc398** **The Cultured Mind (6) GEND300** Cultures of the World Modern Cultures and Art	Intellectual Issues and Systems (4) **CISc340** Directed Study in CIS (3) **CISc390** **Advanced Composition and Technical writing (3)** **GEND350** Elective/Internship (3-6)
	Fall 2008	**Spring 2009**
SENIOR	Information Management (4) **CISc460** Senior Project (6) **CISc498** Senior Capstone (3) **CISc499** **The Entrepreneurial Mind and Spirit (3)** **GEND400** Philosophy 300	Software Engineering **CISc430** **The Healthy Mind (3) GEND450** Health 300 Elective/Internship (5)

<u>Undergraduate Certificate:</u>

Harrisburg University of Science and Technology is planning to provide the following coursework to fulfill an undergraduate technical certificate. Students are expected to enter the Certificate Program after completing a B.S. Degree or are currently working in an Information Technology field.

The Undergraduate Technical Certificates from HU are designed to allow you to:
- Hit the ground running in the designated focus field
- Explore your career options
- Certify ones expertise in a designated field
- Supplements your existing degree with a specific focus
- Enter into a HU Baccalaureate degree in those fields without credit loss

Computer and Information Technology
(18 Credits including a Community Based Students Research Project)
Programming Fundamental (4)
Graphic and Visual Computing (4)
Operating Systems (4)
Research Project (6)

Cybersecurity
(18 credits including Research Project)
Programming Fundamental (4)
Operating Systems (4)
Computer and Network Security (4)
Security Research Project (6)

<u>Concentration Tracks:</u>

The degree in Computer and Information Sciences has two possible concentrations. Each concentration requires compliance with the course of study as displayed on the sample 4 year plan. Those students who desire a specific concentration such as IT Project Management or Computer Security will be required to take the core courses in the major as shown on the program of study and <u>in addition</u> fulfill the following three requirements:
1. CISc390 must be undertaken with a faculty member who has specific expertise in that area
2. CISc398 project is in the specific expertise area
3. CISc498 is an internship experience in the business area specific to that area of study

In addition if elective courses are available in the specific area of study we strongly suggest students to enroll in those courses. Student desiring a concentration in IT Project Management are also required to take CISc 410.

<u>Program Summary:</u>

General Education Courses: 45 credits
Scientific Mind   6
     Integrative Sciences I
     Discrete Mathematical Structures
The Creative Mind   6

English Composition	
Psychology	
The Learned Mind	6
Philosophy	
Literature	
The Civic Mind	6
US Government	
Communications	
The Political Mind	6
History of Political Systems	
Economies	
The Cultured Mind	6
Cultures of the World	
Modern Cultures and Arts	
Advance Composition	3
and Technical Writing	
The Entrepreneurial Spirit	3
Philosophy	
The Healthy Mind and Body	3
Health	
	45 credits

Courses in Major: 45 credits

Programming Fundamentals I & II	8
Graphic and Visual Computing	4
Operation Systems	4
Calculus	4
Information Management	4
Communication Networks	4
Computer Networks and Security	4
Intellectual Systems	4
Programming Languages	4
Software Engineering and Project	6
Management	
Directed Study in CIS	3
	45 Credits

HU Advantage: 12 credits

Jr. Year Project	3
Senior Project	6
Senior Capstone	3
Internships	6
	18 Credits

Electives 14: credits

Bachelor of Science
E-Business & Management

The e-Business and Management Degree encompasses a unique integration of information technology with the emerging business, e-government, and management skills needed to move companies forward in an information technology environment. Harrisburg University of Science and Technology is uniquely positioned to offer this new undergraduate degree. The University campus is located in the state capital adjacent to a diverse array of government and business sites using e-business technologies. We plan to engage our students in helping local businesses, government offices, and community organizations utilize these new technologies to enhance marketing and management. The B.S. in e-Business and Management is designed to prepare our students for the global business environment and take advantage of electronic commerce opportunities in our new economy.

Workforce Demands:

According to Advancing the Business of Technology Association, the e-business technology sector is robust and growing. A mid-year analysis of employment data through 2005 shows that the high tech industry added jobs steadily employing a total of 5.72 million people in June 2005. The employment ranks grew 190,000 jobs or 3.4% in the first 6 months of 2005. (AeA Competitiveness Series, Volume 3, September 2005).

U.S. Technology exports also increased by 20 billion in 2005 and venture capital increased by 1.1 billion (10%). Each of these indicators, along with new position growth rates, provide a job market our students will have a competitive advantage in entering.

As the global marketplace expands into new business areas, our graduates will be sought after due to the attention to topics such as supply chain management, e-commerce, and e-government technology development.

Program Objectives:
- To provide an understanding of the scope, depth, and potential of e-Business systems
- To experience through project based learning experience e-Environment for product development
- To utilize e-Business solutions for a management, human resource technology solution

Program Overview

TOTAL 120 Credits for BS Degree in Computer and Information Systems

Core course credits in the major	45
General education learning communities	45
Research, co-op, internship credits (minimum)	12
Electives	20
Total	120

e-Business and Management
Sample 4 Year Program of Study

	Fall 2005	Spring 2006
FRESHMAN	**Scientific Mind (6)** **GS 110** Integrative Sciences I Discrete Mathematical Structures Intro to e-Business and Management (3) **eBus110**	**The Creative Mind (6) GS100** English Composition Psychology e-Business Technology Applications (3) **eBus210** Marketing Principles (3) **eBus230**

	Fall 2006	Spring 2007
SOPHMORE	Management Principles (3) **eBus 220** e-Commerce and e-Government (3) **eBus 310** **The Learned Mind (6) GS150** Philosophy Literature Elective	e-Sales and Sales Management (3) **eBus 330** Managerial Accounting (3) **eBus320** **The Political Mind (6) GS250** History of Political Systems Economics

	Fall 2007	Spring 2008
JUNIOR	Leadership in a Changing Environment (3) **eBus440** **The Cultured Mind (6) GS300** Cultures of the World Modern Cultures and Art Elective	Junior Project (3) **eBus398** Information Management (4) **CIS460** New Media Design (4) **CIS340** **The Entrepreneurial Mind and Spirit (3) GS400** Philosophy 300 Elective

	Fall 2008	Spring 2009
SENIOR	Business Law (4) **eBus430** **The Healthy Mind (3) GS450** Health **300** International Marketing and e-Commerce (3) **eBus420**	**Advanced Composition and Technical writing (3) GS350** Senior Project (6) **eBus498** Senior Capstone (3) **eBuse499** Elective (3-4)

* Electives are strongly urged to be used for internships

Program Summary:

General Education Courses: 45 credits

Scientific Mind	6
Integrative Sciences I	
Discrete Mathematical Structures	
The Creative Mind	6
English Composition	
Psychology	
The Learned Mind	6
Philosophy	
Literature	
The Civic Mind	6
US Government	
Communications	
The Political Mind	6
History of Political Systems	
Economies	
The Cultured Mind	6
Cultures of the World	
Modern Cultures and Arts	
Advance Composition	3
and Technical Writing	
The Entrepreneurial Spirit	3
Philosophy	
The Healthy Mind and Body	3
Health	
	45 credits

Courses in Major: 45 credits

Introduction to e-Business and Management	3
e-Business Technology Applications	3
e-Commerce and e-Government	3
Marketing Principles	3
Management Principles	3
Managerial Accounting	3
Discrete Math	4
New Media Design	4
Sales and Sales Management	3
Leadership in a Changing Environment	3
Information Management	4
International Marketing e-Commerce	3
Business Law	4
Junior Project	3
Senior Project	6
Senior Capstone	3
	45 credits

HU Advantage: 12 credits

Electives: 20 credits

Bachelor of Science
<u>**Geography and Geospatial Imaging:**</u>

The mission of the Geography and Geospatial Imaging degree program is to provide each student with a broad educational background in Geography and Geospatial Imaging degree program followed by experiences linking classroom studies to the world or work. Through the successes of our graduates and our faculty research we will build a leading national program strong in teaching and learning, research, application and innovation and community based academic service.

The Bachelor Degree and undergraduate certificate in Geography and Geospatial Imaging is integral to the wide range of information technologies. Applications of this emerging field are found in a variety of sciences ranging from geography and earth science to urban planning, architecture and ecology. Popular reviews of the field by Burrough and McDonnell in 1998 and Longley in 2001 trace the roots to the information revolution where database technologies and information systems including topical, spatial search data structures are used to solve problems and derive models for use in making predictions on terrain use, military surveillance, urban planning and many other earth and space uses. The field of geography and geospatial imaging draws from archaeology, architecture, cartography, computer science, environmental science, urban planning, remote sensing, geomatic engineering, and transport studies. We draw on them as the basis for spatial decision support across a wide range of industries and jurisdictions.

The use of geography and geospatial imaging technologies serve communities and neighborhoods as well as global projects and problems. Through GSI we show how spatial analysis is essential to solve problems and create insights into how people live and how their quality of life can be enhanced.

At Harrisburg University of Science and Technology the geography and geospatial imaging degree is unique in that it will prepare graduates to participate in the technology marketplace through "Practical Theory." Our hands on, project based experiential approach under the mentorship of faculty utilize a collaborative learning approach, state of the art software products and connects students to professional associations.

<u>Workforce Demands:</u>

In 2002 an estimated 175,000 people were employed in the US remote sensing and geospatial information industry which includes commercial firms, not for profit organizations, government agencies and academic institutions. The industry involves the capture, production, distribution and application of remotely sensed geospatial data and information. GSI is a rapidly growing segment of the much larger information technology industry—industrial associations predict a 9 to 14 percent increase in future industry growth per year (Photo-Grammetric Engineering and Remote Sensing, Jan. 2004). Since the September 11 attacks on the United States GSI and GIS information and database analysis has become an emerging critical area for national security. The University Consortium for Geographic Information Science (www.UCGIS.org) predicts steady growth in the areas of GSI and GIS in response to national security issues. As a consequence, applications of national security work to commercial areas and new markets are predicted to also grow at a steady rate.

<u>Program Objectives:</u>

Objective 1. - To provide students with both the content and experience to succeed in the geography and geospatial imaging related workforce.

> *Through a comprehensive study with embedded competencies (see specific course objectives) and our General Education program, this objective is fulfilled. We offer experience with the last software, coursework which focuses on basics as well as emerging fields and internship opportunities.*

Objective 2. - To focus on the application of knowledge as well as competencies such as problem solving, critical thinking, promoting innovation, teamwork and collaboration, effective communications, civic engagement, ethical decision making and understanding global perspectives.

> *Starting with the Freshman course entitled <u>Scientific Mind</u> and continuing through the Senior Project experience, students are using knowledge and deepening knowledge through connecting and applying what is learned in class. Specific competencies in each of the above areas are a focus of our program and discussed in the senior capstone experience.*

Objective 3. - To be accomplished when working independently and in teams.

> *Both Junior and Senior Projects and the pedagogies of the learning community model expose students to teamwork as well as independent work. Many courses have both independent and collaborative learning assignments.*

Objective 4. - To ensure through a rigorous preparation in the analytical and mathematical skills needed to succeed in the current and emerging GSI/GIS related fields.

> *Specific courses in the major which support analytical, mathematical and computer interactions are: Programming Fundamentals, Discrete Mathematical Structure, Algorithms, Graph and Visual Computing as well as Communication Networks and Information Management.*

Objective 5. - To expose students through work in laboratories and on projects and programs to the state of the art software applications critical to the field.

> *Through the use of software tools and algorithms in geomatics and ArcView as well as other commercially available applications students will have exposure to and experience with state of the art geographic and geospatial technologies.*

Objective 6. - To provide an educational experience where graduates will learn to continually learn (life long learning).

> *The Senior Capstone experience promotes life long learning. Our General Education courses focus on competencies and skills which support life long learning and are offered as both lower and upper division courses. We connect academic affairs, student affairs, residential and community based learning to support integration and acquisition of new knowledge.*

Objective 7. - To provide graduates with an understanding of the responsibility of their profession and the ethical dimensions of decision making.

> *The HU competencies include ethical decision making which faculty will integrate within their offerings along with consistent exposure to working professional and their standards of ethics.*

Objective 8. - To provide ample experience to connect the classroom to the world of work.

> *The entire HU Program and especially internships and community projects as well as our collaborative active approach to learning supports connecting the classroom to the world.*

Objective 9. - To challenge our students to think creatively, respect diverse ideas, create new models and become leaders in their field.

> *Creativity and leadership are embedded in Senior year experiences. Creativity through the core general education course GS 100 is studied early in the academic experience and serves as a foundation for further curricular as well as co-curricular leadership roles. We develop leaders through our student affairs, co-curricular activities and the entrepreneurial spirit through interactions with the SciTech Business Incubator.*

Bachelor of Science

Geography and Geospatial Imaging

Geography and Geospatial Imaging
Program Overview

TOTAL 120 Credits for BS Degree in Geography and Geospatial Imaging

Core course credits in the major	41
General education learning communities	45
Research, co-op, internship credits	18
Electives	<u>18</u>
	120 Total

Geography and Geospatial Imaging
4 Year Program of Study

	Fall 2005	Spring 2006
Freshman	**Scientific Mind (6)** **GS 110** Integrative Sciences I Discrete Mathematical Structures **Programming Fundamentals I (4) GGSI 120** **The Creative Mind (6) GS100** English Composition Psychology	Programming Fundamentals 2 (4) **GGSI 160** Introduction to GIS/GSI (3) **GGSI 140** Geography of the World (4) **GGSI 130** **The Learned Mind (6) GS150** Philosophy Literature
	Fall 2006	**Spring 2007**
Sophomore	Applied Geospatial Technology (4) **GGSI 220** **The Civic Mind (6) GS200** US Government Communications Elective/Internships	Cartography (3) **GGSI 210** Geography, Culture and Conservation(3) **GGSI 230** **The Political Mind (6) GS250** History of Political Systems Economics Elective
	Fall 2007	**Spring 2008**
Junior	Computer Networks and Security (4) **GGSI 300** Jr. Year Project (3-6) **GGSI 398** **The Cultured Mind (6) GS300** Cultures of the World Modern Cultures and Art	Spatial Statistics (4) **GGSI 340** GSI/GIS Policy (3) **GGSI 240** **Advanced Composition and Technical writing (3)** **GS350** Elective/Internships
	Fall 2008	**Spring 2009**
Senior	Satellite Remote Sensing (4) **GGSI 460** Senior Project (6) **GGSI 498** **The Entrepreneurial Mind (3) GS400**	Directed Study in GGSI (3) **GGSI 390** Senior Capstone (3) GGSI 499 **The Healthy Mind and Body (3) GS450**

<u>Program Summary:</u>

General Education Courses: 45 credits

Scientific Mind	6
Integrative Sciences I	
Discrete Mathematical Structures	
The Creative Mind	6
English Composition	
Psychology	
The Learned Mind	6
Philosophy	
Literature	
The Civic Mind	6
US Government	
Communications	
The Political Mind	6
History of Political Systems	
Economies	
The Cultured Mind	6
Cultures of the World	
Modern Cultures and Arts	
Advance Composition	3
and Technical Writing	
The Entrepreneurial Spirit	3
Philosophy	
The Healthy Mind and Body	3
Health	
	45 credits

Courses in Major: 41 credits

Programming Fundamentals I & II	8
Geography of the World	4
Introduction to GIS/GSI	3
Cartography	3
Applied Geospatial Technology	4
Computer Network and Security	4
Geographic Information Systems Management	4
Geography, Culture and Conservation	3
Spatial Statistics	4
Satellite Remote Sensing	4
GSI/GIS Policy	4
	45 Credits

HU Advantage: 18 credits

Jr. Year Project	6
Directed Study in GGSI	3
Senior Project	6
Senior Capstone	3
Internships	3-6
	18+ credits

Electives: 15 credits

Bachelor of Science

<u>**Integrative Science:**</u>

The mission of the Integrative Science program of study is to provide each student with a broad educational background in the sciences followed by experiences linking classroom studies to the world or work. Through the successes of our graduates and our faculty research we will build a leading national program strong in teaching and learning, research, application and innovation and community based academic service.

The integrative sciences degree represents connected learning among the traditional disciplinary sciences. The degree incorporates the strength of the individual science and technology offerings by Harrisburg University with the acute need for a broader-more integrated approach. As knowledge becomes more disperse and complex, this degree allows students, under the mentorship of a faculty advisor, to build their course of study to meet specific individual needs as well as the emerging needs of the economy. From this program of study students who come to Harrisburg University with various coursework completed can work with their academic advisor and faculty mentor to develop a degree completion program. Students interested in a future in education can also work with our academic advisors to develop 3 +1 or 4 + 1 plans with neighboring institutions. Although Harrisburg University of Science and Technology does not offer degrees in education nor certificates, we can provide specifically through our integrative sciences curriculum, the theory and practice, inquiry and collaborative active learning experiences to best prepare our future educators for teaching in the sciences. In addition, students in professional studies such as pre-medical, pre-dental, pre-law (intellectual properties-biotechnology law) and IT management can develop an academic plan to meet those professional goals.

Finally, these students entering the integrative sciences program can explore before choosing a major. Within the integrative sciences program a specific concentration track in environmental chemistry has been developed as well as a 20 credit certificate program.

<u>Workforce Demands:</u>

"The features of reality that science equips us to understand and shape genetics and health, environment, and information technology have become more central by the decade and will be yet more important in future years" (Yale report on college education, www.yale.edu/cycle). The Harrisburg University program in Integrative Sciences provides the coursework and teaching strategies to study science in an integrated manner.
In 2001, The Education and Human Resources Committee of the National Science Board was asked to review long term national workforce trends, to project what the future might be, and then-in revelation to existing federal policies-to suggest education needs. Of prime concern is that there is a high percent of freshmen who intend to major in science and technology fields but less than half of them actually complete the degree. There is a major impact to the nation, economy, and national security when we lost or do not attract students to the science, technology, engineering and mathematic fields.
The Harrisburg University program of study in integrative sciences is designed to meet the needs of students and the workforce by developing degree completion strategies and the ability to create interdisciplinary concentration such as our first concentration in environmental chemistry. In addition, students interested in exploring the sciences or who are undeclared can enter this degree program and take a variety of science courses to find their area of interest.

A note about science teacher education:

Improving science education is not a simple manner but the scientists, mathematicians, technologists, and engineers who will be employed by Harrisburg University of Science and Technology are committed to and have a responsibility for the development of our schools from elementary through college level science teaching.

Two major focuses of learning at Harrisburg University of Science and Technology, namely, 1. active, collaborative and problem solving based learning with embedded competencies and our 2. exclusive focus on the science and technology fields, positions the faculty at Harrisburg University will model the very best strategies for "learning in the sciences". Harrisburg University of Science and Technology will be able to serve undergraduates interested in science education with both content and pedagogy to successfully teach science. The integrative science curriculum followed by state required courses for certification has the potential to create a model educational approach to science teacher education. In cooperation with area colleges and universities – Penn State Harrisburg – we are developing an articulation agreement which will allow Harrisburg University graduates in Integrative Sciences to matriculate into a teacher's certification program at Penn State Harrisburg.

Goals:

The program of study leading to a Bachelors degree and its associated certificate in environmental chemistry is designed to prepare graduates for employment in a diverse range of fields in the sciences. Although most students are expected to matriculate from a Bachelors degree and enter the workforce directly, our program provides both the theory and practice to enter into a competitive graduate program. Students can utilize the flexibility of the degree to create an integrative curriculum for pre-medical, pre-education, and pre-law professional studies.

Program Objectives:

Objective 1. - To provide students with both the content and experience to succeed in a flexible, science and technology environment.

Through coursework in a variety of science disciplines and through faculty mentored directed study and our analytic yet flexible approach to the degree requirements students will have been provided with a program of study which allows integrative science majors to solve complex problems through a multi perspective approach.

Objective 2. - To focus on the application of knowledge as well as competencies such as problem solving, critical thinking, promoting innovation, teamwork, and collaboration, effective communications, civic engagement, ethical decision making and understanding global perspectives.

Through a comprehensive coursework and directed study with embedded competencies and our analytic yet flexible approach to the degree requirements students will have been provided with a degree which allows integrative sciences and solve complex problems through a multi perspective approach.

Objective 3. - To provide the foundation in the scientific method and process to continue in a more focused, specific professional area such as biotechnology law, patent law, medicine, dentistry and teaching.

With the help of their academic advisor, students can tailor this degree program to serve as a rigorous foundation to future professional studies. Students will have the

ability to choose coursework to strengthen a specific area of interest and prepare them for advanced work.

Objective 4. - To provide a path to studying in an integrative matter in the field of environmental chemistry.

A specific "track" or "concentration" in the integrative sciences degree is focused around environmental chemistry through coursework, directed studies, and project requirement.

Objective 5. - To be accomplished when working independently and in teams.

Through our collaborative, active learning pedagogical approach, students engage in group projects, presentations and product development along with individual assignments. Team work, collaborative and cooperation are stressed as means to successful complete assignments.

Objective 6. - To provide ample experience to connect the classroom to the world.

The Senior Capstone experience promotes life long learning. Our General Education courses focus on competencies and skills which support life long learning. We connect academic affairs, student affairs, residential and community based learning to support integration and acquisition of new knowledge.

Objective 7. - To challenge our students to think creatively, respect diverse ideas, create new models and become leaders in their field.

The HU competencies include ethical decision making which faculty will integrate within their offerings along with consistent exposure to working professional and their standards of ethics.

Bachelor of Science
Integrative Sciences

Integrative Sciences
Program Overview

TOTAL 120 Credits for BS Degree in Integrative Sciences

INSc course credits in major	39-52
General education learning communities	45
Research, co-op, internship credits	18
Electives/Internship	13
	120 Total

Integrative Sciences
4 Year Program of Study

	Fall 2005	Spring 2006
Freshman	**Scientific Mind (6) GEND110** Integrative Sciences I Discrete Mathematical Structures **The Creative Mind (6) GEND100** English Composition Psychology One course list A-D	Integrative Sciences II (3) **INSc 180** **The Learned Mind (6) GEND150** Philosophy Literature Two-three courses from list A-D

	Fall 2006	Spring 2007
Sophomor	Environmental Chemistry I (4) **CHEM 200** **The Civic Mind (6) GEND200** US Government Communications Two courses from list A-D	**The Political Mind (6) GEND250** History of Political Systems Economics Two-three courses from list A-D

	Fall 2007	Spring 2008
Junior	Jr. Year Project (6) **INSc 398** **The Cultured Mind (6) GEND300** Cultures of the World Modern Cultures and Art	**Advanced Composition and Technical writing (3) GEND350** Two-three courses from list A-D

	Fall 2008	Spring 2009
Senior	Senior Project (6) **INSc 498** **The Entrepreneurial Mind (3) GEND400** Two-three courses from list A-D	Senior Capstone (3) **INSc 499** **The Healthy Mind and Body (3) GEND450** Three courses from list A-D

Integrative Sciences Course Listings

Name   Code   Credits

List A—Computer Technology, Mathematics and Project Management

Name	Code	Credits
Programming Fundamentals I	CISc 120	4
Programming Fundamentals II	CISc 160	4
Intellectual Systems	CISc 240	4
Programming Techniques & Languages	CISc 260	4
Graphic Visual Computing	CISc 290	4
Computer and Network Security	CISc 330	4
Operating Systems	CISc 340	4
Communication Networks	CISc 360	4
Directed Study in CIS	CISc 390	3
Junior Project in CIS	CISc 398	6
IT Project Management	CISc 410	3
Software Engineering	CISc 430	4
Information Management	CISc 460	4
Senior Project in CIS	CISc 498	6
Senior Capstone in CIS	CISc 499	3
Calculus I	MATH 220	4
Web Design	CISc 300	4
Introductory Statistics	MATH 280	3
Mathematical Modeling	MATH 380	4
Managing IT Projects	ITPM 510	3
Creating & Managing IT Projects	ITPM 540	3
Introduction to e-Business Management	eBUS 110	3
e-Business Technologies and Applications	eBUS 210	3
Management Principles	eBUS 220	3
Marketing Principles	eBUS 230	3
e-Commerce, e-Government	eBUS 310	3
Managerial Accounting	eBUS 320	3
Sales & Sales Management	eBUS 330	3
International Marketing and e-Commerce	eBUS 420	3
Business Law	eBUS 430	4

List B—Chemistry

Name	Code	Credits
General Chemistry	CHEM 150	4
General Chemistry II	CHEM 160	4
Professional Ethics	ETHI 465	3
Organic Chemistry	CHEM 210	4
Organic Chemistry II	CHEM 220	4
Introduction to Biochemistry	BIOL 340	4
Environmental Chemistry I	CHEM 200	4
Environmental Chemistry II	CHEM 310	4
Junior Project in IS	INSc 398	6
Senior Project in IS	INSc 498	6
Senior Capstone	INSc 499	3

List C—Biology Life Sciences

Introduction to Biotechnology	BTEC 170	3
Cell Biology	BIOL 180	4
Biotechnology Application	BTEC 310	4
Forensic Entomology	BIOL 315	3
Genetics	BIOL 320	3
Forensic Science	BIOL 125	3
Microbiology	BIOL 330	4
Biotechnology Techniques	BTEC 350	3
Biotechnology Seminar	BTEC 360	3
Molecular Biology	BIOL 370	4
Immunology	BIOL 375	4
Directed Studies in Biotechnology	BTEC 390	3
Junior Project in BT	BTEC 398	6
Senior Project in BT	BTEC 498	6
Senior Capstone in BT	BTEC 499	3
Integrative Sciences II	INSc 180	3
Cancer & Its Social Impact	INSc 315	4
The Study of Disease	INSc 320	3
Principles of Ecology	INSC 330	4
Community Health and Research	INSc 340	4
Directed Study in BT	BTEC 390	3
Directed Study in IS	INSc 390	3
Epidemiology	INSc 410	3
Applied Cell and Agro Culture	BTEC 235	4

List D—Geography/Geospatial Imaging and Physics

Programming Fundamentals I	CISc 120	4
Geography of the World	GGSI 130	4
Intro to GIS/GSI	GGSI 140	3
Programming Fundamentals II	CISc 160	4
Cartography	GGSI 210	3
Applied Geospatial Technology	GGSI 220	4
Geography, Culture and Conservation	GGSI 230	3
GIS/GSI Policy	GGSI 240	4
Computer and Network Security	CISc 300	4
Spatial Statistics	GGSI 340	4
Directed Study in GGSI	GGSI 390	3
Junior Project in GGSI	GGSI 398	6
Satellite Remote Sensing	GGSI 460	4
Senior Project in GGSI	GGSI 498	6
Senior Capstone in GGSI	GGSI 499	3
Physics I	PHYS 210	4
Physics II	PHYS 260	4

Notes on Program:
List A includes Computer and Information Science and Mathematics
List B includes Chemistry and related areas
List C includes Biology and Life Sciences
List D includes Physics, Geography/ Geospatial Imaging and Physics

Graduation Requirements:

        Credit hours distributed in the following way:

        7 credit hours in INSc 180 (3) and INSc 200 (4)

        39 credits in the Integrative Sciences major with following minimum distribution requirements

                List A—2 courses

                List B—2 courses

                List C—2 courses

                List D—2 courses

The minimum 8 courses represents between 24 and 32 credits. The remaining credits adding to 39 are divided in the following manner: 2 courses (between 6-8 credits) are in one of the focused list areas. This represents a minimum total of 4 courses in that one area. Any remaining credits can be fulfilled in any of listed courses regardless of discipline or directed readings in integrative sciences.

Undergraduate Certificates:

Harrisburg University of Science and Technology is planning to provide the following coursework to fulfill an undergraduate technical certificate. Students are expected to enter the Certificate Program after completing a B.S. Degree or are currently working in an Environmental Chemistry field.

The Undergraduate Technical Certificates from HU are designed to allow you to:

- Hit the ground running in the designated focus field
- Explore your career options
- Certify ones expertise in a designated field
- Supplements your existing degree with a specific focus
- Enter into an HU Baccalaureate degree in those fields without credit loss

Environmental Chemistry Certificate

(17 Credits including a Co-op experience, Internship)

Integrative Science II	3
Environmental Chemistry I	4
Environmental Chemistry II or	
Principles of Ecology	4
Internship, Co-operative experience	6
	17 credits

Health and Disease Prevention Certificate

(20 credits including a Co-op experience, Internship)

Integrative Science II	3
The Study of Disease	3
Epidemiology	3
Community Health	4
Internship, Co-operative Experience	7
	20 credits

Post-Baccalaureate Premedical Certificate:

The Post-baccalaureate Premedical certificate program is designed for individuals with BS or BA degrees who have not had a science background, or who have been out of the academic environment for several years and desire to apply for medical, dental, podiatry school or other advanced degrees in the allied health fields.

In the least amount of time possible-HU academic advisors (including an advisor who is a member of the National Association of Health Advisory) will design an efficient pathway to receive a post-baccalaureate certificate in pre-medical studies which will provide the necessary prerequisite for medical and other professional schools in the health fields.

Certificate Requirements (Minimum 18 credits)
Courses required through HU or to transfer in include:

Cell Biology (either transfer credit or HU)
Physics I and II (either transfer credit or HU)
Chemistry, 3 semesters (either transfer credit or HU)
Mathematics (either transfer credit or HU)
Additional Life Science Courses (at HU)
Internship or Clinical Experience (3-9 credits)

In addition to the above, HU offers a variety of integrative science, medicine and society courses for those students who would like to increase the competitiveness of their application beyond the required certificate courses.

If a student enters with <u>none</u> of the following requirements then 34 credits are required to fulfill the certificate (one full year, 12 months). If significant credit is transferred to HU, then a minimum of 18 credits are required and students may have the ability to enroll in courses as electives in the medical field. The student with his/her academic advisor will develop an individualized academic plan to fulfill the MCAT requirement and the HU coursework with the students schedule needs in mind. Both full time and part time certificate programs are available. HU will provide a faculty committee letter (University composite letter) to the medical school of choice for each student who successfully completes the program.

It is important to note that the student with his/her academic advisor will develop a minimum of 18 credits, post-baccalaureate premedical program which best meets his/her needs. If a student enters the program with <u>none</u> of the credits required, a total of 34 credits are required to fulfill the certificate. If a student enters with significant credits in the math/science area, only 18 additional credits are required which include an internship or job shadowing experience.

HU is interested in supporting Alpha Epsilon Delta, the premier National Premedical Honor Society. AED can provide practice MCAT exams, visits to medical schools and guest speakers. The establishment of a student pre-medical club will be encouraged and supported by HU administration.

The MCAT Exam
All students in the HU post-baccalaureate premedical certificate are encouraged to complete the MCAT exam just prior to certification. HU advisors can suggest preparation courses and

review courses held by several nationally known agencies such as Stanley Kaplan and the Princeton Review.

How to Apply
STEP 1—Call HU admission and set up an appointment with an academic advisor (717.233.0902)
STEP 2—Secure your transcripts from your BA/BA granting institution
STEP 3—Bring your transcript with you to your appointment. We will design your individual plan
STEP 4—Fill out application form with advisor
STEP 5—Submit the application with a non-refundable $25 application fee
STEP 6—We will contact you by mail and hopefully we will see you next semester!

Concentration Tracks:
1) Environmental Chemistry
Students who wish to get a concentration in environmental chemistry must include the following courses as part of their degree program:
     Environmental Chemistry I
     Environmental Chemistry II
     Biochemistry or Principles of Ecology
     Directed Study-Environmental Chemistry topic

2) Pre-medical studies
Students who wish to purse advance professional degrees in medicine and dentistry are advised to include the following courses as a part of their degree program:
     Cell Biology
     General and Organic Chemistry
     Biochemistry
     Physics I and II
     Mathematical Modeling
In addition, students are advices to demonstrate a consistent record of volunteerism, service learning, and commitment to better mankind to enhance their competitiveness for medical and dental school admissions. Pre-medical advisors are available to work with you to prepare for the MCAT or other professional entrance exam.

Program Summary:

General Education Courses: 45 credits
Scientific Mind   6
     Integrative Sciences I
     Discrete Mathematical Structures
The Creative Mind   6
     English Composition
     Psychology
The Learned Mind   6
     Philosophy
     Literature
The Civic Mind   6
     US Government

Communications	
The Political Mind	6
History of Political Systems	
Economies	
The Cultured Mind	6
Cultures of the World	
Modern Cultures and Arts	
Advance Composition	3
and Technical Writing	
The Entrepreneurial Spirit	3
Philosophy	
The Healthy Mind and Body	3
Health	
	45 credits

Courses in Major: 39 – 52 credits

Integrative Sciences II	3
Environmental Chemistry I	4
See attached List A-D	39-52 Credits

HU Advantage: 18 credits

Jr. Year Project	6
Internship (minimum)	3
Senior Project	6
Senior Capstone	3
	18 Credits

Electives/Internship: 13 credits

GRADUATE

Master's of Science
IT Project Management

The mission of The Information Technology Project Management program is to provide each student with a focused, applied and rigorous experience in creating, developing, implementing and assessing IT projects and their products. Through the success of our graduates and with the support of faculty and our regional IT community members we will build a national reputation as a leading program in information technology management.

To produce a quality IT product on time and to the specifications of the customer, the skills and knowledge of a typical engineer or programmer are not nearly enough. Traditionally the IT professions have attracted individuals who work alone, isolated from the bigger picture of the whole intact projects they are working on and are content to code and design. With the emergence of off shore markets for these specific areas and the need to coordinate individuals at distal sites to work together for a successful product, the field of IT Project Management was created.

According to PMI, the premier institute for professional project managers, "The increasing competition within all industries and professions, organizations worldwide are embracing project management as a way of successfully completing projects, meeting business objectives and achieving organizational goals. Renowned organizations like IBM, AT&T, US Army and the National Aeronautics Space Administration (NASA) are employing project management to get the job done—and get it done right."

The master's degree in IT Project Management has been designed to provide real world applications, skills, case studies, and projects to connect the power of the information technology workforce with the aims of managing a successful, on time, quality product. The complexities of information technology product development requires a manager with specific knowledge and the personal and leadership skills to pull diverse populations working on specific aspects of the project together.

Workforce Demands:

IT Project Managers coordinate the work of teams and provide dependable products on schedule. Often the IT Project Managers coordinate the work of teams and individuals in different countries and time zones and provide dependable products on schedule. The average pay ranges from $96,000 to $130,000 for managers who can bridge the world of technology to business management (Forrester Research Inc., Business Week March 1, 2004). The outlook for good managers is they can essentially write their own ticket. In the past two years pay has jumped 14.3 percent (Business Week, March 1, 2004).

The IT industries are hungry for liaisons between customer and basic programmers and for managers who can run teams of programmers scattered around the world. While pay and employment for basic programmers has dropped 17.5 percent in two years according to Foote Partners, a consultant in New Canaan , Conn. US, project managers have seen their pay raise an average of 14.3 percent since 2002.

Goals:

The program of study leading to a Master's degree and graduate certificate is designed to prepare students for employment as an IT Project Manager and enhance their potential for career advancement opportunities in the field of project management, project coordinator, lead project engineer or IT business manager. Most students entering this graduate degree program and certificate will be currently working or have just recently completed a bachelorate degree in the area of Information Technology. Students with bachelorate outside of the IT field but who present themselves with extensive experience in application of information technology product and services will also benefit from the course of study. Once the degree requirements are completed, graduates may enter the workforce directly or enter a PhD granting degree program. The program of study provides both theory and practice to enter or advance in the job market or to apply to PhD granting institutions for further study.

Program Objectives:

Objective 1. - To provide our students with both the content and skills studied to succeed in the Information Technology Management workplace.

> *Through a comprehensive course of study the curriculum builds opportunity to link knowledge needed to successfully manage IT projects with application and skill development to "practice theory".*

Objective 2. - To focus on the application of knowledge as well as competencies such as problem solving, critical thinking, communications and ethical decision making to produce a quality IT product.

> *Starting with case study analysis and scenario playing through phase 1 and 2 of the student's project, with an IT manager as a mentor, competencies will be emphasized and evaluated on site.*

Objective 3. - To ensure an excellent preparation in managing an IT project from goals and objects through assessment and quality control.

> *Through specific courses and experiences in the area of project management, improving quality, project integration and risk management graduates will develop their competencies in those areas.*

Objective 4. - To develop self knowledge of ones leadership and team building capacities and strengthen each for successful human resource management.

> *The course and related experiences in the both organizational leadership PM 560 and Professional Communication PM 520 were developed to strengthen ones capacity and capabilities in leading change and groups, in team building and human resource management.*

Objective 5. - To develop an understanding of the professional standards and ethics governing the profession of information project management.

Through a connection with the Project Management Institution (PMI) and local IT managers, students will develop an understanding of the professional standards and ethics governing IT project management.

Objective 6. - To provide resources for continual-life long learning and acquisition of knowledge through affiliation with national and international professional organizations.

The Master's of Science Degree in IT project management is centered on self direction, motivation, preparation and engagement with all available resources from faculty, peers, business contacts and national associations in order to provide a continued network for self directed learning.

IT Project Management
Program Overview

TOTAL 30 Credits for Master's Degree in IT Project Management

IT Project Management
Accelerated Program

Fall 2005	Spring 2006
Managing IT Projects(3) **ITPM 150**	Professional Ethics (3) **ITPM 565**
Professional Communications(3) **ITPM 520**	Creating and Managing IT Projects (3) **ITPM 550**
Organizational Leadership(3) **ITPM 560**	Improving IT Project Quality (3) **ITPM 570**
Procurement, Contracts and Risk management(3) **ITPM530**	IT Project-Phase I (3) **ITPM 598**

Summer 2006
Project Management-Phase II (6) **ITPM 599**

2 Year Program of Study

Fall 2005	Spring 2005
Managing IT Projects (3) **ITPM 150**	Professional Ethics (3) **ITPM 565**
Professional Communications (3) **ITPM 520**	Organizational Leadership(3) **ITPM 560**
	Procurement, Contracts and Risk management(3) **ITPM530**

Fall 2006	Spring 2006
Creating and Managing IT Projects (3) **ITPM 550**	Project Management-Phase II (6) **ITPM 599**
Improving IT Project Quality (3) **ITPM 570**	
IT Project-Phase I (3) **ITPM 598**	

IT Project Management
Program Overview

TOTAL 120 Credits for BS Degree in Computer and Information Systems

Core course credits in the major	55
General education learning communities	45
Research, co-op, internship credits	12
Electives	8
Total	**120**

Integrated Sciences: IT Project Management
Sample 4 Year Program of Study

	Fall 2005	Spring 2006
FRESHMAN	**Scientific Mind (6)** **GS 110** Integrative Sciences I Discrete Mathematical Structures Programming Fundamentals (4) **CIS120** **The Creative Mind (6) GS100** English Composition Psychology	Programming Fundamentals 2 (4) **CIS160** **The Learned Mind (6) GS150** Philosophy Literature Integrated Sciences II (3) **IS 180** Managing IT Projects (3) **PM 150**
	Fall 2006	**Spring 2007**
SOPHMORE	Programming Languages (4) **CIS260** **The Civic Mind (6) GS200** US Government Communications Creating and Managing IT Projects (3) **PM 350**	1-2 courses from list B, C, or D **The Political Mind (6) GS250** History of Political Systems Economics Improving IT Product Quality (3) **PM 370**
	Fall 2007	**Spring 2008**
JUNIOR	Junior Project (6) **IS 398** Web Design Fundamentals (4) **IS 300** **The Cultured Mind (6) GS300** Cultures of the World Modern Cultures and Art	Mathematical Modeling (4) **BT 380** 2 courses from list A, B, C, or D **Advanced Composition and Technical writing (3) GS350** Elective
	Fall 2008	**Spring 2009**
SENIOR	Senior Project (6) **IS 498** Elective (4) One course from list A, B, C, or D (3) **The Entrepreneurial Mind and Spirit (3) GS400** Philosophy 300	Senior Capstone (3) **IS 499** Professional Ethics **(3) CIS 465** **The Healthy Mind (3) GS450** Health **300** Elective (4)

* Students may take up to 6 credits in 500 level coursework in PM in lieu of electives

<u>Part Time Study:</u>

Students will have the option to take various credit hours over the course of five years to fulfill degree requirements and maintain their financial responsibility as needed. Students must complete the degree in a five year period or re-apply at the end of five years for a specific program extension.

<u>Certificate Program:</u>

Graduate Certificate Offerings

The Master's Degree Level Certificate in *Information Technology Project Management* from HU is designed to:

- Train participants for careers in IT Project Management
- Provide expertise and knowledge in the areas such as defining project scope, objectives and priorities
- Establish resource needs, budget and schedules
- Utilize new project management software
- Assess quality
- Identify outsourcing potentials
- Certify one's expertise in a designated field
- Supplement an existing Bachelor's or Master's degree with a specific focus and expertise
- Enter into an HU Graduate degree in that field without credit loss

Information Technology Program Management
(18 credits including a Research/Application Project)
- Managing IT Projects (ITPM 150)-3 credits
- Project Procurement, Contracting and Risk Assessment (ITPM 530)-3 credits
- Improving Information Technology Product Quality (ITPM 570)-3 credits
- Organizational Leadership (ITPM 560)-3 credits
- Community Based IT Project-6 credits

Master's of Science
<u>Learning Technologies</u>

The Harrisburg University of Science and Technology Learning Technologies Masters of Science Degree is a 36 hour program which provides the leading edge in integration of instructional technology into learning environments and meets the needs of working professionals such as teachers, educational administrators, and trainers working in the public and private sector. The program is designed to critically explore how new technologies can be used effectively to enhance learning environments and prepare students for the future. A key element of the Harrisburg University of Science and Technology Learning Technologies Masters Degree is the use of technology to integrate and develop new ways of learning and understanding. Our Masters of Science in Learning is a blend of theory and practice which develops skills applicable to complex education problems. It enhances knowledge of computer application, software, online teaching, and assessment strategies.
In addition, the degree program combines a solid background in specific content areas with emphasis on the rapidly emerging technologies which are changing the delivery of instruction.

<u>Workforce Demands:</u>

Both the National Research Council of the US Congress and the American Association for the Advancement of Science has called for a vigorous effort to recruit teachers to teach science and technology based courses as inquiry and to use several different types of technology to support learning at all levels. The core of a renewed educated workforce rest in an approach to learning which encourages the integration of many disciplinary areas with technology delivery. The need for science, math, and technology integration into the various disciplines is also paramount to putting science and technology issues in social context. The aim of the HU approach is not to "cover the material" but to empower students with the abilities they will need to take problems apart and solve them as a means of learning innately. The use of technology, new media, specific software, distance learning, and assessment methods are key..

<u>Program Objectives:</u>
- To provide science and technology savvy faculty for our educational institutions
- To develop practicing teachers who have the knowledge and skills to capture and disseminate new technological approaches to support student learning
- To create a variety of critical thinking and technology approaches for faculty with specific disciplinary curriculum
- To develop master teacher or training and human resource professionals who use new technology to support employee training.
- To improve K-16 faculty instruction by the integration of technology into students' learning environments

Degree Outline – 12 months
Fast Track

Fall

LTMS	510	Instructional Design and Development	4
LTMS	520	Learning Research and Assessment	5
LTMS	598 or 599	Critical Issues in: Science Teaching	
		or: Technology & Curriculum	4
			13

Spring

LTMS	530	Grant Writing and Management	5
LTMS	540	Internet Research & Distance Learning Applications	4
LTMS	545	Educational Software and Curricular Integration	4
			13

Summer

LTMS	610 or 620	Community Based-Project: Science Teaching	4
		Or: Technology & Curriculum	
LTMS	630	Thesis	6
			10

Total   36

2-year plan Degree Outline
24 Month Program

Fall

LTMS	510	Instructional Design and Development	4
LTMS	520	Learning Research	5
			9

Spring

LTMS	598 or 599	Critical Issue	4

Summer

LTMS	610 or 620	Community based Project	4

Fall

LTMS	530	Grant Writing and Management	5
LTMS	540	Internet Research	4
			9

Spring

LTMS	545	Education Software	4
LTMS	630	Thesis	6
			10

Total   36

The Core Courses

510 Instructional Design and Development	4
520 Learning Research and Assessment	5
530 Grant Writing and Management	5
540 Internet Research and Distance Learning Applications	4
550 Educational Software for Curriculum Integration	4

22 core requirements

Courses in Specific Tracks

Science Technology

598 Critical Issues in Science Teaching	4
610 Community-based Project - Science	4
630 Thesis	6

Technology Curriculum Track:

599 Critical issue in Technology Integration	4
620 Community-based Project - Technology	4
630 Thesis	6

Total   36 credits

The 36 hour program includes core work in theory, applied coursework in practice, and specific project based work regardless of the student's particular interest. Students have great flexibility within a variety of topics for both the community based project and the topic of their thesis.

The minimum academic term is 14 weeks long (excluding holidays, examinations, and orientations) with a minimum of 15 contract hours for each credit earned. The M.S. degree requires a total of 36 credit hours beyond an earned Bachelor degree.

<u>Coursework in Major:</u>

Instructional Design and Development	4
Learning Research and Assessment	5
Grant Writing and Management	5
Internet Research & Distance Learning Applications	4
Educational Software and Curricular Integration	4
Critical Issues in: Science Teaching	4
Technology & Curriculum	4
Community Based-Project: Science Teaching	4
Technology & Curriculum	4
Thesis	6

General Education

The mission of the General Education Program is to prepare students to live and work in a world which is continually changing and to participate ethically in that transformation. The general education program at HU provides a common core of study in which students participate and engage as a community of learners with their faculty. The competency based offering in our general education learning communities allows students to "connect the classroom to the community" and sets the foundation for a life of learning.

Harrisburg University of Science and Technology has chosen to create the General Education Program in the form of Learning Communities.

Learning Communities:
Each of the general education offerings is designed in the form of a Learning Community. At HU students and faculty collaborate as learners and teachers in specially designated courses referred to as learning communities.

At HU, learning communities are academic offerings that are linked during an academic semester focused around an interdisciplinary theme and enroll a common cohort of students. Disciplinary content is studied *through* engagement in the theme. Students and faculty utilize a variety of active, collaborative and experiential approaches to learning to strengthen academic achievement as well as the development of competencies which transcend all disciplines.

HU's general education learning community offerings have the following characteristics:
**Interdisciplinary- they combine subjects generally taught as individual courses into one integrated course with a unifying theme.

** Most often team taught with one or more faculty from different disciplinary backgrounds. Often community members are guests to bring in the multiple dimension of the subject being studied.

**Theme Based- they tackle complex, contemporary intellectual inquiry

**Collaborative- they offer both faculty and students the chance to learn from, and teach, each other.

** Active- utilizing pedagogies such as cooperative learning, problem based learning, case study analysis as well as service learning and community based learning approaches.

Together, HU's general education learning communities provide structure to the fragmented learning many students acquire while working their way through a series of unconnected courses. Learning communities promote the active participation of students in their own learning and they foster intellectual and practical interaction between students, faculty and the wider local community. Our students will build on learning community collaborations to work individually with faculty and community mentors through internships, experiential learning and opportunities to explore graduate and professional study.

Learning Community Divisions:
Natural Sciences/Mathematics   total 6

Scientific Mind
Courses in the major (3o+)
Social Sciences   total 12
    Psychology
    US History
    Political Systems
    Economics
Humanities   total 18
    English Composition
    Literature
    Philosophy
    History
    Advanced Composition
Fine Arts   total 6
    Cultures of the World
    Modern Cultures and Art
Health and Fitness   total 3
    Health and Fitness

Although the general education requirements in the natural sciences require only 6 credits (Scientific Mind), this courses is supplemented with over 30 additional credits in the science and technology majors offered at HU.

Program Objectives:
To develop and demonstrate effective use of language and various communication media.
        The Creative Mind
        Advanced Composition and Technical Writing
        The Civic Mind

To develop mathematical and quantitative reasoning and analytical skills.
        The Healthy Mind and Body
        The Political Mind
        Scientific Mind

To develop an understanding of human behavior, society and culture with local, national and international dimensions.
        The Cultural Mind
        The Entrepreneurial Mind
        The Learned Mind

To develop an understanding of the natural sciences and how to apply them to solve societal problems.
        Scientific Mind
        Experiential learning (internship and Jr./Sr. projects)

To learn deeply by challenging oneself academically and creating a culture to support life long learning.
        General education
        The major
        Co-curricular activities

Designators

<u>Course Abbreviations:</u>

BIOL	Biology
BTEC	Biotechnology
CHEM	Chemistry
CISC	Computer and Information Science
EBUS	e-Business and Management
ENGL	English
ETHI	Ethics
GEND	General Education – Learning Communities
GGSI	Geography and Geospatial Imaging
INSC	Integrative Science
MATH	Mathematics
PHYS	Physics
PM	Project Management
PSYC	Psychology
SEMR	Student Success Center Seminar
ITPM	IT Project Management
LTMS	Learning Technologies

<u>Other University Abbreviations:</u>

HUST	Harrisburg University of Science and Technology
HU	Harrisburg University
POI	Permission of Instructor

Catalogue of University Courses

UNDERGRADUATE

BIOLOGY
BIOL 110 Anatomy & Physiology I (4 credits)
Pre-requisites: None
Co-requisites: None
Description: This course is the first part in a two-part series discussing the structural and functional makeup of the human body. The first part of this course will deal with learning the necessary medical and anatomical terminology. Emphasis will be placed on covering the details the developmental, histology and functioning of the muscular, circulatory, cardiovascular and endocrine systems.

BIOL 125 Forensic Science (3 credits)
Pre-requisites: None
Co-requisites: None
Description: This course explores the science and art of forensic investigations and the identification, proper collection and recognition of evidence. We will look at a variety of specialty areas such as firearms, tool marks, fiber tracing, hair paint and toxicology as well as photography. Together we will explore crime scenes, bring in experts in the field and continually use our critical thinking skills to produce alternative strategies and thinking creatively and outside the box. In this course you will learn the fundamentals of the science behind the crime. You will be presented with case studies as group projects and expected to provide several scenarios as well as evidence for your alternative.

BIOL 180 Cell Biology (4 credits)
Pre-requisites: Advanced High School Biology, BTEC 105, or POI
Co-requisites: None
Description: This course is primarily concerned with eukaryotic cells from their evolution, organization, differentiation and biosynthesis. In this course you will cover the simplicity and complexity of the macromolecules through energy, nutrition, order catabolism, and synthesis of cellular components. The course goal is to stimulate your learning of cellular mechanism and is expected to precede future offerings in molecular biology and biochemistry.

BIOL 215 Anatomy & Physiology II (4 credits)
Pre-requisites: BIOL 110
Co-requisites: None
Description: This course is a continuation of BIOL 110 Anatomy and Physiology I. The course will cover the immune system, lymphatic system, gastrointestinal tract and digestion, genitourinary system and the nervous system. The last portion of this course will deal primarily with an in-depth examination of all five senses.

BIOL 230 Anatomy & Physiology I & II (8 credits)
Pre-requisites: None
Co-requisites: None
Description: This course will consist of an integrated lecture/laboratory that will place emphasis on the overall structure and function of the human body. A systemic approach will be used to develop an overall understanding of how each of the various organ systems helps

maintain homeostasis. We will explore not only the normal functioning of each organ system, but we will also discuss microscopic anatomy, developmental biology and pathology.

BIOL 270 Crime Scene Investigation (4 credits)
Pre-requisites: None
Co-requisites: None
Description: This is a basic fundamental course in forensic death investigations. The areas of specialized focus will include the causes, manner, physical circumstances, and mechanisms of both natural and unnatural deaths. We examine death scenes, review investigations, and evidence pertaining to how people die. In addition, we will look at the various legal considerations and methods germane to concluding equivocal death determinations.

BIOL 300 Human Gross Anatomy (6 credits)
Pre-requisites: BIOL 180, BIOL 230, or POI prior to start of class
Co-requisites: BIOL 301
Description: This course is primarily concerned with learning about the intricate functioning of the human body through hands-on experience of actual cadaver dissection. This course will consist of a two hour lecture followed by a three hour laboratory. Lecture will be held at Harrisburg University and lab (co-requisite BIOL 301) will be held off-campus. Attendance is mandatory.

BIOL 301 Human Gross Anatomy Laboratory (3 credits)
Pre-requisites: BIOL 180, BIOL 230, or POI prior to start of class
Co-requisites: BIOL 300
Description: This laboratory intensive experience is designed as an advanced, detailed regional study of the gross structure of the human body including the back, upper limb, lower limb, thorax and abdomen, and head and neck. This laboratory experience will also provide direct application of gross anatomy to normal and selected pathologies that occur in the human body.

BIOL 315 Forensic Entomology (3 credits)
Pre-requisites: 45 credit hours completed and BIOL 180 or POI
Co-requisites: None
Description: The forensic entomologist can use a number of different techniques including insect species succession, larval weight, length and technical methods such as accumulated degree hour technique. You will learn about and, when practical, see standard procedures. This course is designed as a component in the forensic science concentration.

BIOL 320 Genetics (3 credits)
Pre-requisites: BIOL 180, CHEM 150, or POI
Co-requisites: None
Description: In this course we will learn-not just to memorize-but to connect the facts together to get a whole picture, apply the knowledge, and solve problems. This basic genetics course introduces students to not only the traditional elements of genetic biology but also to contemporary genetic issues due to technological manipulations and modern recombinant.

BIOL 330 Microbiology (4 credits)
Pre-requisites: BIOL 180
Co-requisites: None

Description: This course is an introduction to microbial cell structure, growth and physiology as well as basic laboratory techniques. We emphasize the relationship between host and parasite relationship especially as related to human disease, epidemiology and infection control. Students will learn about a broad range of infectious diseases including etiologic agent identification, modes of transmission and prevention.

BIOL 340 Introduction to Biochemistry (4 credits)
Pre-requisites: BIOL 180 and CHEM 150
Co-requisites: None
Description: This course provides an in-depth study into the life process and cellular elements governing the biochemistry of life. It is more than a survey of topics but a co-coordinated approach to our understanding of the molecular and cellular mechanisms governing metabolism, structure and function from a molecular view.

BIOL 370 Molecular Biology (4 credits)
Pre-requisites: CHEM 150 and BIOL 180
Co-requisites: None
Description: In this course we will describe the complicated process that goes on in living cells and organisms in terms of the law of chemistry and physics. We will examine the genetic message as it is carried in the form of DNA through transcription and translation as well as the biosynthesis of macromolecules. This course is a basic introduction which is designed to follow basic chemistry (general and organic) as well as biology coursework to help complete an understanding of life chemistry.

BIOL 375 Immunology (4 credits)
Pre-requisites: BIOL 180
Co-requisites: None
Description: In this course we will explore the innate and acquired specific aspects of the immune system. We will study how host defenses protect us and try to keep us disease free. Through an understanding of the nature of antibodies, lymphokines and specific cellular reaction we discover the power and limitation of the immune system.

BIOTECHNOLOGY
BTEC 105 The Art of Genes & Fusion (3 credits)
Pre-requisites: None
Co-requisites: None
Description: We will investigate using a variety of case studies and contemporary topics in Biotechnology and genetic engineering. We will look at the links of diseases and genes such as leukemia and cancer. In the process students will learn about molecular concepts regarding DNA, genes, proteins, and chromosome mapping. The students will see the importance of biotechnology in helping combat human diseases and disorders.

BTEC 170 Introduction to Biotechnology (3 credits)
Pre-requisites: None
Co-requisites: None
Description: This course is designed to provide a lens into the topics, scope, realities and the future of the biotechnology field. This is not a laboratory introductory course, but instead covers a variety of important and sometimes controversial topics such as cloning, stem cell

use and genetic (forensic) identification of individuals and their genetic traits. This course serves as a foundation for the laboratory classes and upper division courses.

BTEC 235 Applied Cell & Agro Culture (4 credits)
Pre-requisites: CHEM 210 and BIOL 180
Co-requisites: 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. We will explore through hand on laboratory experimentation with 'just in time' lecture the procedures and application of cell culture.

BTEC 265/365/465 Internship (TBD credits)
Pre-requisites: Permission of Internship Coordinator and completed paperwork
Co-requisites: None
Description: Internships engage students in putting theory to practice in the classroom of work. This form of experiential learning propels and applies education into the world of action where ideas are tested and career-ready skills developed. These immediate, concrete experiences in the workplace become the basis for "learning by doing" as students discover new opportunities to develop new skills and competencies. University students at the internship site acquire new knowledge and skills by successfully meeting interpersonal and intellectual challenges. A successful internship requires more than just 'going to work,' internships are part of a learning and reflection cycle. Throughout each internship, students work with individual faculty supervisors who together observe, and reflect on what was accomplished. Students integrate these reflections into a comprehensive internship portfolio which both showcases their specific achievements in the workplace and analyzes the quality of their learning throughout the internship. Students may engage in an internship to fulfill during their sophomore, junior, and senior project course or through the use of their elective credit. The prefix numbering of internships reflect the level of engagement and complexity of the placement. The credit value for an internship can range from 1-12 credits per semester. Please contact the Internship Director at 717.901.5142 for more information.

BTEC 310 Biotechnology Applications (4 credits)
Pre-requisites: CHEM 150 and BIOL 180
Co-requisites: None
Description: This course examines the cutting edge to identify various applications in the field of biotechnology at a molecular level which aid our understanding of cellular mechanisms. This course is not a laboratory intensive offer (BIOT 350 is laboratory intensive) but instead looks at the power and limitation, proper use and theoretical framework around the various biotechnology applications. We will examine biotechnology-related workforce growth and the various area corporations involved in the field.

BTEC 350 Biotechnology Techniques (3 credits)
Pre-requisites: CHEM 150, CHEM 160 and BIOL 180
Co-requisites: None
Description: This is a laboratory intensive course created to develop the skills and competencies and the fundamental manipulations and research procedures in biotechnology.

In our laboratory or research and commercial centers you will be exposed to a variety of relevant biotechnology techniques.

BTEC 360 Biotechnology Seminar (3 credits)
Pre-requisites: 60 credit hours completed
Co-requisites: None
Description: Our class meets once a week for three hours in order to discuss in seminar fashion current news worthy advances and applications in the field of biotechnology. We will use our time wisely by mixing a variety of activities such as primary article reviews, new postings on the internet and meeting with guest professionals. We may also plan to tour certain facilities involved in biotechnology. Each meeting we will read and discuss current articles available online.

BTEC 390 Directed Study (Biotechnology) (TBD credits)
Pre-requisites: 60 credit hours completed
Co-requisites: None
Description: Students are responsible for designing and selecting a topic germane to their program of study in which they will perform in depth reading, information research, and synthesis under the tutorage of a faculty member. The individual emphasis areas must be selected and approved by faculty mentor. The student and faculty will agree on a set of reading to be accomplished over the course of the semester. Student faculty meetings will occur every other week for a minimum of one hour. The directed study culminates in a synthesis and integration of the various readings into a 20 page integrative study. The paper must be submitted in draft form, reviewed by the faculty member with feedback and revised. The credit value for a Directed Study can range from 1-4 credits and will need to be approved by a faculty advisor.

BTEC 398 Junior Project (Biotechnology) (TBD credits)
Pre-requisites: Junior Status
Co-requisites: None
Description: The junior project challenges students to identify, investigate and analyze a particular topic and to examine how science and /or technology interact with societal structures and value systems. The community based research project which helps solve a problem is an ideal junior project. An objective is to enable HU graduates to connect and understand their role in the larger community of which they are a part. This project is usually undertaken in a student's junior year under the close mentorship of a faculty member and the community host. The credit value for a Junior Project can range from 3-6 credits and will need to be approved by a faculty advisor.

BTEC 498 Senior Project (Biotechnology) (TBD credits)
Pre-requisites: Senior Status
Co-requisites: None
Description: The Senior Project must be in the student's major area of study. This project should demonstrate application of the skills, methods, and knowledge of the discipline to solving a problem representative of the type to be encountered at the professional level. The Senior Project/Internship Experience activities encompass research, development and application, involve analysis or synthesis, and experimental or theoretical, emphasize a particular concentration in the major or combine aspects of several sub areas. This project is undertaken in a student Senior Year. The program is administered by the Director of

internship/Senior Project and is overseen by faculty members who participate as project advisors. The credit value of a Senior Project ranges from 3-6 credits and will need to be approved by a faculty advisor.

BTEC 499 Senior Capstone (Biotechnology) (3 credits)
Pre-requisites: Senior Status
Co-requisites: None
Description: The senior capstone course asks you to reflect on and integrate your academic experiences, both curricular and co-curricular. The course goals are three fold, to develop a portfolio of your work and self assessment, to demonstrate your proficiencies in the six HU competencies, and to prepare for final transition into the workforce or graduate study.

CHEMISTRY
CHEM 150 General Chemistry I (4 credits)
Pre-requisites: None
Co-requisites: None
Description: This course with laboratory provides a general introduction to the fundamental facts and principles of chemistry and serves as a pre-requisite for advanced courses. You will be introduced to chemical phenomena and principles, with an emphasis on developing an understanding of chemistry and an appreciation of what chemists do. You will learn to interpret chemical phenomena using chemical vocabulary and principles, and you will acquire skills in manipulating mathematical formulations that describe the chemical behavior of various substances. It is essential that you commit yourself to learning the basic vocabulary of chemistry.

CHEM 160 General Chemistry II (4 credits)
Pre-requisites: CHEM 150 or POI
Co-requisites: None
Description: CHEM 160 (and its companion course, CHEM 150) is designed to introduce the student to chemical phenomena and principles. This course with laboratory will give the students practice in critical thinking, reading, and writing as well as an opportunity to further develop collaborative skills in problem-solving and experimental design. The importance of chemistry in the "real world" and our everyday lives will be emphasized. To make the course a complete learning experience, laboratory experiments will be used to supplement the lecture because chemistry is an experimental science.

CHEM 200 Environmental Chemistry I (4 credits)
Pre-requisites: GEND 110 or POI
Co-requisites: None
Description: This course is a study with laboratory into the chemical nature of our environment. Through engagement with subjects like radon, air pollution and water quality we put a social context to the very complex and capacious problems facing citizens today as they make decisions related to issues involving environmental chemistry. This course engages students in projects and community based research so to link science to the process of social and public policy. Students choose issues that are of interest to them and connect to their daily lives. Students investigate and explore those issues throughout the semester and develop recommendations for addressing or alleviating the issue/problem as the final outcome of the project.

CHEM 210 Organic Chemistry I (4 credits)
Pre-requisites: CHEM 160
Co-requisites: None
Description: This four credit organic chemistry offering with laboratory is designed as a first level introduction into the carbon based reactions involved in life chemistry. It sets a background for advance study in analytic chemistry as well as biochemistry. Organic chemistry is simply defined as "the chemistry of carbon compounds" but the chemistry itself is not simple. You will be challenged. We will study fascinating and relevant elements of these components in both natural and synthetic reactions.

CHEM 220 Organic Chemistry II (4 credits)
Pre-requisites: CHEM 210 or POI
Co-requisites: None
Description: Organic Chemistry II (CHEM 220) is the second semester course of organic chemistry with laboratory which builds upon the principles learned in the first course (CHEM 210). It is designed to provide a foundation in the fundamentals of organic compounds, their structures, reactions, and underlying reaction mechanisms. Organic chemistry is a tool for many other disciplines including biology, environmental science, and medicine. Examples of how organic chemistry affects all of us each and every day will be shown. Laboratory experiences are designed to complement the lecture. Labs will be performed in small groups and will be student-designed.

CHEM 310 Environmental Chemistry II (4 credits)
Pre-requisites: CHEM 200 or POI
Co-requisites: None
Description: This laboratory intensive course is concerned with several 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. Students who wish to complete the concentration or certificate in environmental chemistry are required to take this course, others have the opportunity to take this course as an elective.

COMPUTER AND INFORMATION SCIENCE
CISc 100 Learning Programming Using Lego Mindstorms Robots (3 credits)
Pre-requisites: None
Co-requisites: None
Description: This course will provide an introduction to mobile robots and the fundamental concepts of programming by using Lego Mindstorms RCX robots. The course consists of lectures followed by hands on exercises to be performed in groups (two students each). There will be a substantial final project where students will showcase their creativity. The course main goals are obtaining both visual and textual programming skills as well as promoting social aptitudes such as leadership and teamwork. Prerequisites for this course: lots of creativity

CISc 120 Programming Fundamentals I (4 credits)
Pre-requisites: Basic Computer Skills
Co-requisites: None

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. This course is taught using the JAVA programming language. This course includes a laboratory component.

CISc 160 Programming Fundamentals II (4 credits)
Pre-requisites: CISc 120
Co-requisites: None
Description: This 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. This course is taught using the Java programming language. This course includes a laboratory component.

CISc 240 Operating Systems (4 credits)
Pre-requisites: CISc 160
Co-requisites: None
Description: This course provides an introduction to the design and implementation of operating systems. The student will be exposed to different operating systems on various computer platforms, and will be 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. Specific examples such as Windows XP, Unix, and Linux will be used. This course is taught using the C++ and/or Java Programming languages. This course includes a laboratory component.

CISc 260 Programming Techniques & Language (4 credits)
Pre-requisites: CISc 160
Co-requisites: 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. This course is taught using the C++, Java, C, and other comparative programming languages. This course included a laboratory component.

CISc 265/365/465 Internship (TBD credits)
Pre-requisites: Permission of Internship Coordinator and completed paperwork
Co-requisites: None

Description: Internships engage students in putting theory to practice in the classroom of work. This form of experiential learning propels and applies education into the world of action where ideas are tested and career-ready skills developed. These immediate, concrete experiences in the workplace become the basis for "learning by doing" as students discover new opportunities to develop new skills and competencies. University students at the internship site acquire new knowledge and skills by successfully meeting interpersonal and intellectual challenges. A successful internship requires more than just 'going to work,' internships are part of a learning and reflection cycle. Throughout each internship, students work with individual faculty supervisors who together observe, and reflect on what was accomplished. Students integrate these reflections into a comprehensive internship portfolio which both showcases their specific achievements in the workplace and analyzes the quality of their learning throughout the internship. Students may engage in an internship to fulfill during their sophomore, junior, and senior project course or through the use of their elective credit. The prefix numbering of internships reflect the level of engagement and complexity of the placement. The credit value for an internship can range from 1-12 credits per semester. Please contact the Internship Director at 717.901.5142 for more information.

CISc 290 Graphics & Visual Computing (4 credits)
Pre-requisites: CISc 160
Co-requisites: None
Description: This course introduces the essential topics in visual computing, graphics, and multi media. Emphasis is placed on programming and using 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. This course is taught using the C++ and/or Java Programming languages along with software packages. This course includes a laboratory component.

CISc 300 Web Design Fundamentals (4 credits)
Pre-requisites: 45 credit hours completed
Co-requisites: None
Description: In this course you will study, experiment, explore, and design a website using basic software. You will work individually and in teams to build, launch, and market a website for a community member or as a university project.

CISc 310 New Media Design (4 credits)
Pre-requisites: CISc 290 or POI
Co-requisites: None
Description: This course explores the fundamental theory and practice of new media. It can help prepare students for creative expression and technology application in all aspects of print media for effective message communication whether it be for a specific product, a game, or entertainment site, instruction or e-commerce. In this class we will use new and emerging interactive digital media to create, store, transmit, and sell products and services. We will work on a project to enhance a local employer to recruit and expand business.

CISc 330 Computer & Network Security (4 credits)
Pre-requisites: CISc 260 or POI
Co-requisites: None

Description: This course will cover the essential issues in computer (digital) and network security. 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 will be expected to develop a significant programming project in this area. This course is taught using the C++ and/or Java Programming languages. This course includes a laboratory component.

CISc 340 Intellectual Issues & Systems (4 credits)
Pre-requisites: CISc 160 and CISc 260
Co-requisites: 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. This course is taught using the C++, Java, LISP, or Prolog Programming languages. This course includes a laboratory component. Each week we will meet for three 60 minute sessions. Students are expected to complete 3 hours of homework each week.

CISc 360 Communication Networks (4 credits)
Pre-requisites: CISc 260
Co-requisites: None
Description: This course will introduce 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 will be expected to develop a significant programming project in this area. This course is taught using the C++ and/or Java Programming languages. This course includes a laboratory component.

CISc 390 Directed Study (Computer & Information Science) (TBD credits)
Pre-requisites: 60 credit hours completed
Co-requisites: None
Description: Students are responsible for designing and selecting a topic germane to their program of study in which they will perform in depth reading, information research, and synthesis under the tutorage of a faculty member. The individual emphasis areas must be selected and approved by faculty mentor. The student and faculty will agree on a set of reading to be accomplished over the course of the semester. Student faculty meetings will occur every other week for a minimum of one hour. The directed study culminates in a synthesis and integration of the various readings into a 20 page integrative study. The paper must be submitted in draft form, reviewed by the faculty member with feedback and revised. The credit value for a Directed Study can range from 1-4 credits and will need to be approved by a faculty advisor.

CISc 398 Junior Project (Computer & Information Science) (TBD credits)

Pre-requisites: Junior Status
Co-requisites: None
Description: The junior project challenges students to identify, investigate and analyze a particular topic and to examine how science and /or technology interact with societal structures and value systems. The community based research project which helps solve a problem is an ideal junior project. An objective is to enable HU graduates to connect and understand their role in the larger community of which they are a part. This project is usually undertaken in a student's junior year under the close mentorship of a faculty member and the community host. The credit value for a Junior Project can range from 3-6 credits and will need to be approved by a faculty advisor.

CISc 410 IT Project Management (3 credits)
Pre-requisites: 45 credit hours completed
Co-requisites: None
Description: This course introduces students who have a background in computers and information sciences to a variety of skills and roles of the IT project manager. We will learn the basic techniques of project management from setting goals and objectives through managing selection of IT support products and procurement.

CISc 430 Software Engineering (4 credits)
Pre-requisites: CISc 290
Co-requisites: None
Description: This course will introduce object-oriented software engineering concepts, methodologies and tolls, requirements analysis, specification, design and implementation of object-oriented 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, software validation. The student will be expected to develop a significant programming project in this area. This course includes a laboratory component.

CISc 460 Information Management (4 credits)
Pre-requisites: CISc 260
Co-requisites: 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 data base information. Emphasis is on software design using a relational database management system. Topics include: information systems, data base management systems, relational data bases, data base design, query languages (SQL), data warehousing, data mining, data base security, web site architecture and development (with data base 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 (Computer & Information Science) (TBD credits)
Pre-requisites: Senior Status
Co-requisites: None
Description: The Senior Project must be in the student's major area of study. This project should demonstrate application of the skills, methods, and knowledge of the discipline to solving a problem representative of the type to be encountered at the professional level. The Senior Project/Internship Experience activities encompass research, development and

application, involve analysis or synthesis, and experimental or theoretical, emphasize a particular concentration in the major or combine aspects of several sub areas. This project is undertaken in a student Senior Year. The program is administered by the Director of internship/Senior Project and is overseen by faculty members who participate as project advisors. The credit value of a Senior Project ranges from 3-6 credits and will need to be approved by a faculty advisor.

CISc 499 Senior Capstone (Computer & Information Science) (3 credits)
Pre-requisites: Senior Status
Co-requisites: None
Description: The senior capstone course asks you to reflect on and integrate your academic experiences, both curricular and co-curricular. The course goals are three fold, to develop a portfolio of your work and self assessment, to demonstrate your proficiencies in the six HU competencies, and to prepare for final transition into the workforce or graduate study.

EBUSINESS & MANAGEMENT
eBUS 110 Introduction to eBusiness Management (3 credits)
Pre-requisites: None
Co-requisites: None
Description: This introductory course begins with a survey of applications and delivery systems utilizing e-business and management expertise. We will explore the career options available to the technology manager and the business which utlize the skills and competencies of a modern e-manager. Students will be required to interview a local manager or business executive to gain insights into the field from a practitioner.

eBUS 210 Business Technologies and Applications (3 credits)
Pre-requisites: None
Co-requisites: None
Description: In this course we will develop an understanding of the various business technologies utilized to manage business, people, and information. We will explore models of successful e-business related to human resources managem,ent, knowledge management, and emerging newbusiness opportunities. We identify the benefits, opportunities, and competitive advantages of implementing an e-business solution as well as identifying key deployment and support. Consideration needed for a successful e-business and management product.

eBUS 220 Management Principles (3 credits)
Pre-requisites: None
Co-requisites: None
Description: In this course we will provide an analysis and synthesis of the traditional functions of management while looking toward changes brought about information technology solutions. Topics such as planning, organizing, leading, and controlling the environment as well as team approaches, collaborative program management, ethics, and diversity will be examined. E-management with telecommuting options will also be explored.

eBUS 230 Marketing Principles (3 credits)
Pre-requisites: None
Co-requisites: None

Description: An introduction to the basic function and strategies used in modern marketing campaigns from the concept to the audience and the product design. Topics include analyzing the market, brand awareness, communications media, and e-commerce methods. Basic marketing techniques and fundamentals of best practices are covered.

eBUS 265/365/465 Internship (TBD credits)
Pre-requisites: Permission of Internship Coordinator and completed paperwork
Co-requisites: None
Description: Internships engage students in putting theory to practice in the classroom of work. This form of experiential learning propels and applies education into the world of action where ideas are tested and career-ready skills developed. These immediate, concrete experiences in the workplace become the basis for "learning by doing" as students discover new opportunities to develop new skills and competencies. University students at the internship site acquire new knowledge and skills by successfully meeting interpersonal and intellectual challenges. A successful internship requires more than just 'going to work,' internships are part of a learning and reflection cycle. Throughout each internship, students work with individual faculty supervisors who together observe, and reflect on what was accomplished. Students integrate these reflections into a comprehensive internship portfolio which both showcases their specific achievements in the workplace and analyzes the quality of their learning throughout the internship. Students may engage in an internship to fulfill during their sophomore, junior, and senior project course or through the use of their elective credit. The prefix numbering of internships reflect the level of engagement and complexity of the placement. The credit value for an internship can range from 1-12 credits per semester. Please contact the Internship Director at 717.901.5142 for more information.

eBUS 310 e-Commerce & e-Government (3 credits)
Pre-requisites: eBUS 210 and 45 credit hours completed
Co-requisites: None
Description: In this course we study the underlying and emerging technologies that support and sustain e-commerce. We include basic e-government principles and internet e-commerce site development, as well as a primer on human behavior. In this course you will explore developing economic trends and emerging technologies to better understand the technical, business, governmental, and social processes that are shaping the electronic marketplace. We will hear from local leaders in the e-commerce business to develop local and global perspectives.

eBUS 320 Managerial Accounting (3 credits)
Pre-requisites: eBUS 220 and 45 credit hours completed
Co-requisites: None
Description: This course explores the basic accounting competencies needed in managing a business or product line. The course emphasizes applications of accounting strategies, decision making, and evaluation, along with establishing a conceptual framework to enable managers to be profitable and read with understanding ledgers, we will produce project accounting systems.

eBUS 330 Sales and Sales Management (3 credits)
Pre-requisites: eBUS 210 and 45 credit hours completed
Co-requisites: None

Description: In this course we will study the sales management strategies, approaches and best practices in creating an adaptive sales force. We will explore the human dimension of hiring and firing employees and looking proactively at how to market and sell in a global and technological environment but where people skills and competencies are vitally important. The productivity and assessment of the sales force, through motivation and training, will also be explored. Throughout the semester we will look at current events, market trends, and area as well as regional association for the various sales trades.

eBUS 398 Junior Project (e-Business) (TBD credits)
Pre-requisites: Junior Status
Co-requisites: None
Description: The junior project challenges students to identify, investigate and analyze a particular topic and to examine how science and /or technology interact with societal structures and value systems. The community based research project which helps solve a problem is an ideal junior project. An objective is to enable HU graduates to connect and understand their role in the larger community of which they are a part. This project is usually undertaken in a student's junior year under the close mentorship of a faculty member and the community host. The credit value for a Junior Project can range from 3-6 credits and will need to be approved by a faculty advisor.

eBUS 420 International Marketing and e-Commerce (3 credits)
Pre-requisites: eBUS 310 or POI
Co-requisites: None
Description: In this course we will examine current international business practices and infuse how electronic communications and e-commerce can help further the introduction of business products into global markets. We will explore the power of globalization and the problems associated with trade across boarders. The use of specific case studies centered around countries (Japan, China, India, and the Middle East) and industries such as Starbucks, Wal-Mart, and Enron will be used to serve as examples.

eBUS 430 Business Law (4 credits)
Pre-requisites: eBUS 110, Junior Status, or POI
Co-requisites: None
Description: This course represents a fundamental study of current, acceptable practices in business law. In this course we will explore the major types of law that pertain to business activities and start up companies including the legal environments in which business arise and the future direction desired. We begin this course with a reading of the Constitution and proceed to more specific details. We learn about the different types of laws with a focus on cyber law as it applies to us today. Through readings, class discussions, seminar, and case study analysis we derive the foundation of American business law.

eBUS 440 Leadership in a Changing Environment (3 credits)
Pre-requisites: 60 credit hours completed
Co-requisites: None
Description: Throughout ones career and personal life, changes occur. Those who can best deal with change to their advantage, who utilize change for the advancement of ideas and the organization will be able to lead an organization successfully and succeed. This course explores and examines the basic framework for change management, leadership styles, and

focuses on ethical leadership in times of change and crisis through use of case studies and use of personal change management.

eBUS 498 Senior Project (e-Business) (TBD credits)
Pre-requisites: Senior Status
Co-requisites: None
Description: The Senior Project must be in the student's major area of study. This project should demonstrate application of the skills, methods, and knowledge of the discipline to solving a problem representative of the type to be encountered at the professional level. The Senior Project/Internship Experience activities encompass research, development and application, involve analysis or synthesis, and experimental or theoretical, emphasize a particular concentration in the major or combine aspects of several sub areas. This project is undertaken in a student Senior Year. The program is administered by the Director of internship/Senior Project and is overseen by faculty members who participate as project advisors. The credit value of a Senior Project ranges from 3-6 credits and will need to be approved by a faculty advisor.

eBUS 499 Senior Capstone (e-Business) (3 credits)
Pre-requisites: Senior Status
Co-requisites: None
Description: The senior capstone course asks you to reflect on and integrate your academic experiences, both curricular and co-curricular. The course goals are three fold, to develop a portfolio of your work and self assessment, to demonstrate your proficiencies in the six HU competencies, and to prepare for final transition into the workforce or graduate study.

ENGLISH
ENGL 050 Basic English (3 credits)
Pre-requisites: None
Co-requisites: None
Description: This course is offered in summer, fall, and spring semesters to provide students who enter the university without college level composition skills the opportunity to develop the foundations necessary to succeed in subsequent university composition courses. Credits may not be used toward graduation requirements.

ENGL 100 Composition & Literature (3 credits)
Pre-requisites: None
Co-requisites: None
Description: This course is designed to develop students' abilities to write as they interpret works of literature. Students will carefully read selections from accomplished authors and will develop precision in their own writing. Students will be challenged to read literature so as to cogently explain how the use of literary techniques develops meaning and creates style and theme. Students will examine literature from various cultures, genres and periods of time. In addition, this course will develop expository, argumentative and research-based writing skills.

ENGL 101 Composition Fundamentals (3 credits)
Pre-requisites: None
Co-requisites: None

Description: This course is designed to develop composition skills and usage of different genre. Students will be challenged to reflect, create drafts, revise, and submit a variety of writing forms.

ENGL 105 English Composition (3 credits)
Pre-requisites: Placement through our assessment program
Co-requisites: None
Description: This is an undergraduate freshmen composition course. Introduction to college-level writing strategies with emphasis on critical reading and thinking skills. Six major writing assignments with reading from a variety of sources. The course requires two papers with a draft, comment, revision, draft cycle.

ETHICS
ETHI 465 Professional Ethics (3 credits)
Pre-requisites: 60 credit hours completed
Co-requisites: None
Description: In this course, we will cover contemporary concepts and fundamental issues in moral, ethical, and professional decision making. Through case analysis, we will organize our study around topics such as professional client relations, confidentiality, professional dissent, and professional virtue in a professional setting. We will explore resources our trade and professional organizations have available for professionals who are faced with ethical dilemmas in the work place.

GENERAL EDUCATION: LEARNING COMMUNITIES
GEND 100 The Creative Mind (6 credits)
ENGL 101 & PSYC 101
Pre-requisites: Placement through our assessment program
Co-requisites: None
Description: The examination and observation of the major principles, research, and applications of modern psychology. Topics cover will include the history and origins of psychology, motivation, emotion, learning, perception, intelligence, personality, and social behavior using psychology curriculum related to creativity. The class will undertake a variety of drafts and revisions of various composition genres.

GEND 110 The Scientific Mind (6 credits)
MATH 103 & BIOL 103
Pre-requisites: None
Co-requisites: None
Description: We live in a dynamic world of unprecedented reliance on science and technology to help answer such diverse questions as: How can we measure and prevent global warming, how can we ensure the diversity and conservation of species, how might we avoid and predict geological global catastrophes, and how can we utilize nanotechnology and biotechnology to save lives. The need for science literacy for all citizens is paramount and the need to connect science to society is just as great. In this course we lay the foundations for learning by contextualizing science and technology as a human endeavor and in a social dimension with emphasis on quantitative reasoning. We model our understanding of science through mathematical manipulation and understanding of probability and statistics. This six credit course sets the basic foundation through content, reason, consequences and advancement of the scientific enterprise. In order to meet these objectives we will take two different

approaches. The first approach is to look through the historical lens at the role of science and technology throughout recorded history. The second approach is through reading, research, and investigating contemporary issues "in-the-News". In addition, in this class the faculty will serve as an advisor to you through your first year with the help of your university advisor and help in your transition to college level work.

GEND 150 The Learned Mind (6 credits)
PHIL 205 & ENGL 207
Pre-requisites: ENGL 105 or GEND 100
Co-requisites: None
Description: This six credit Learning Community combines the reading and study of philosophy with a body of literature to support and learn from. This learning opportunity provided by both reading and reflecting followed by class discussion on the great philosophies of our time takes place in a discussion and seminar environment. Through a study of the people and their writings (literature) we learn from masters and learn to appreciate the power of their written word. We read classic works that try to grapple with the soul and minds of citizens throughout recorded history. Through literature we try to understand how people deal with expression of thought, organization, and logic in trying to answer capacious, complex, and unresolved questions. You will be exposed to a large number of writings and learn to carefully critique both the approach and manner of writing. A major goal for this course is to create an interest to read more. In addition to each of the specific course objectives this learning community which combines and integrates philosophy and literature has additional learning objectives beyond the individual courses.

GEND 200 The Civic Mind (6 credits)
GOVT 201 & CMSP 201
Pre-requisites: ENGL 105, GEND 100, or POI
Co-requisites: None
Description: In this course we will be introduced to both the persons and events that have contributed tot eh American way of life as well as to the political process and the institution of American politics. This course examines American culture, gender and minority rights and citizen participation. The rules and responsibilities of citizens are discussed and debated. We will utilize two important resources beyond the texts- our location as The Capital City for the State of Pennsylvania and current events as encountered through newspapers and media reports. Through the tutoring and practice of making speeches, students will increase their competency as a communicator in interpersonal, small group and public speaking context. Debates and case study analysis will help students put into oral communication medium their ideas and research related to the subject of American history and politics. Students will articulate their beliefs and discover how to become an advocate for locally, regionally, and nationally governmental affairs.

GEND 250 The Political Mind (6 credits)
GOVT 215 & ECON 201
Pre-requisites: ENGL 105, GEND 100, or POI
Co-requisites: None
Description: This Learning Community combines two courses, national political systems and economics to create a learning environment where learning about the relationships between policy and political party development as intrinsically tied to economics and economic philosophies. We begin with an investigation into major national documents such as The

Constitution and The Bill of Rights to discover the economic impact of policy. We will analyze the role of lobbyists as well as individual advocates on fiscal policy. A basic understanding of the American fiscal and monetary systems, and their relationship to political stability and the world economy will be explored. This Learning Community will require you to visit local political establishments, and talk to both political figures and community activists.

GEND 300 The Cultured Mind (6 credits)
ANTH 205 & HUMN 205
Pre-requisites: ENGL 105, 45 credit hours completed, or POI
Co-requisites: None
Description: This general education learning community integrates two courses which introduce students to a comparative study of culture as a key to understanding human behavior in different societies. Global, cross cultural perspectives, religious beliefs and the ways in which cultures change are examined. We will compare similarities and differences in the world's major societal types, examining social institutions. We will study family and kinship systems in cross cultural perspectives discussing the structure, cycle, and functioning of family and kinship systems in ethnography, including the family in western contemporary cultures. Key global issues in the contemporary world will be explored from various perspectives with a focus on social relations, cultural practices and political economic links among countries.

GEND 350 Advanced Composition & Technical Writing (3 credits)
Pre-requisites: 45 credit hours completed and ENGL 105 or GEND 100
Co-requisites: None
Description: The course is divided into two phases: Weeks 1-6 will be devoted primarily to learning essential skills as a technical writer; Weeks 7-14 will be devoted primarily to applying these skills in teams to produce a term project affiliated with a community service learning project or to design one of your choice. You'll be keeping a log of your activities throughout the semester to produce a self-evaluation at semester's end. You'll also complete numerous homework exercises to develop your knowledge of the complexities of technical communication and composition, including the practices of reading and editing, designing documents, and scrutinizing the ethos of documents. This course is computer-intensive. We will use a web discussion forum (or comparable site), word processing programs, Web page composers, file transfer protocol, and PowerPoint. Outside of class, you will need to access many of these programs to complete classwork, either by going to a lab after class hours or by working from a networked computer elsewhere.

GEND 400 The Entrepreneurial Mind (3 credits)
PHIL 300
Pre-requisites: 60 credit hours completed
Co-requisites: None
Description: We will study and compare key features of entrepreneurship from two important vantage points: business entrepreneurs and social entrepreneurship. We will look at the drive and creativity of those individuals who question the status quo, who explore new opportunities and who persevere through hardship to remake their world and ours. We will learn through stories, case studies, leading change and especially by talking with community entrepreneurs. Some of our examples will be taken from business as well as looking at the "ordinary" people who are doing remarkable work. An objective of this course will be to help

students identify their specific entrepreneurial spirit and how to best set goals to utilize their skills.

GEND 450 The Healthy Mind & Body (3 credits)
Pre-requisites: 60 credit hours completed
Co-requisites: None
Description: This three credit Learning Community will provide the foundations for a study into health issues facing us today. The course has three important and integrated components. First as a collaborative participatory learning community we will study, read and discuss in seminar fashion a variety of topics and subjects related to personal and environmental health. Topics to be discussed are listed on the week-by-week schedule. Secondly, we will develop, investigate and conduct an investigation into a personal health issue. Lastly we will synthesize the results of the investigation into a final public poster presentation. This component of the Learning Community stresses both oral and written communications on issues of science and public policy.

GEOGRAPHY AND GEOSPATIAL IMAGING
GGSI 130 Geography of the World (4 credits)
Pre-requisites: None
Co-requisites: None
Description: This introductory course has three broad goals and three specific ways of looking at the geography of the world. First we'll explore through a weekly laboratory and recitation period the vocabulary needed to understand the science, specific sites, regions, cities and environments of the world. Students will successfully complete a geography "test of place" at the end of the semester or they may elect (at any time) to test out of this recitation section after successful passing of the "test of place" knowledge of world geography. Secondly we will look broadly at the various geographies including cultural, economic and political borders. The final goal is an introduction into the use of modern digital technologies and future trends in the field.

GGSI 140 Introduction to GIS/GSI (3 credits)
Pre-requisites: None
Co-requisites: None
Description: This course includes the principles, techniques and practices of geographic and geospatial imaging and how these techniques lead to our understanding of how geography is represented and space images constructed. Since we can observe so little of the earth directly, we rely on a host of methods for learning about the rarely accessible regions of the globe and place these regions amongst the whole. One way to observe the space (land, sea and air) is through three dimensional diagrams with horizontal and vertical axis. From spatial and geographic images we can build models, representations which can be overlaid by both time and imperial or experimental data. In this course we explore the basic foundations of geographic and geospatial imaging. This is an introduction course with both theory and laboratory practice.

GGSI 210 Cartography (3 credits)
Pre-requisites: GGSI 130 or POI
Co-requisites: None
Description: This course is designed to study the fundamental processes of modern cartography. We explore topics such as scale, function, representation, and map projections

and connect these topics with GIS and geographic remote satellite sensing applications. We also look at the use of digital cartographic information in creating models and strategies using US Department of Agriculture and Commerce as well as other databases.

GGSI 220 Applied Geospatial Technology (4 credits)
Pre-requisites: GGSI 140 or POI
Co-requisites: None
Description: In this course we will bridge theory and practice to build competency in using AcrInfo, ArcView and ArcEditor through ArcGIS. The AcrGIS system is a scalable system of software for geographic data to build geographic literacy. Students will learn the basics of editing, analysis and modeling along with cutting edge data models and management. The system is designed for multiple uses from small niche specialties in a community to global modeling of geographic data. We will learn how data management analysis and conversion tools are applied to a variety of different settings. With these very basic tools we will perform data conversion, generalization, aggregation overlaps, buffer creations and statistical calculations. This course meets in the computer laboratory for all class sessions.

GGSI 230 Geography, Culture, & Conservation (3 credits)
Pre-requisites: GGSI 140 or POI
Co-requisites: None
Description: In this course we will study, through case study analysis, the cultural regions of the world through the use of GIS mapping. We will also explore how the technologies have provided us evidence for activism regardless of the issue or perspective for conservation or use of our national resources. In this course we connect natural resource use to culture and how culture has played an important role in land use and conservation. This three credit course tries to make connections and integrate land, people and culture through extensive use of case studies, role playing and use of simulations. This course provides a broad range of sub disciplines within geography and shows that cultural and conservational geography are best thought of in an integrated manner with the classic views of geography and the modern geospatial imaging technologies.

GGSI 240 GIS/GSI Policy (4 credits)
Pre-requisites: GGSI 140 and GGSI 220
Co-requisites: None
Description: Through the use of geographic information systems and geospatial information systems examples we explore the current policy on managing data for public administration and public policy. Students will utilize their 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 governmental (and also private to some degree) public policy. In the days following September 11, 2001 the urgency to put into place ethical yet aggressive policies for GIS information and its accessibility has dramatically increased. As terrorism on many levels continues to dominate foreign policy, so too are the resources of GIS/GSI put to bear to gain information for national defense purposes. In this course we use our knowledge of GIS/GSI systems to explore emerging public policy, professional standards, ethics and future directions of geographic data.

GGSI 265/365/465 Internship (TBD credits)
Pre-requisites: Permission of Internship Coordinator and completed paperwork
Co-requisites: None

Description: Internships engage students in putting theory to practice in the classroom of work. This form of experiential learning propels and applies education into the world of action where ideas are tested and career-ready skills developed. These immediate, concrete experiences in the workplace become the basis for "learning by doing" as students discover new opportunities to develop new skills and competencies. University students at the internship site acquire new knowledge and skills by successfully meeting interpersonal and intellectual challenges. A successful internship requires more than just 'going to work,' internships are part of a learning and reflection cycle. Throughout each internship, students work with individual faculty supervisors who together observe, and reflect on what was accomplished. Students integrate these reflections into a comprehensive internship portfolio which both showcases their specific achievements in the workplace and analyzes the quality of their learning throughout the internship. Students may engage in an internship to fulfill during their sophomore, junior, and senior project course or through the use of their elective credit. The prefix numbering of internships reflect the level of engagement and complexity of the placement. The credit value for an internship can range from 1-12 credits per semester. Please contact the Internship Director at 717.901.5142 for more information.

GGSI 340 Spatial Statistics (4 credits)
Pre-requisites: GGSI 140 and GGSI 210 or POI
Co-requisites: None
Description: In this course three themes emerge as we discover the power of spatial imaging systems. These themes are: How should time and space be represented within a GIS system, how do communities and agencies collaborate for effective data collection and interpretation; and what new ways have emerged in which networks are changing how we communicate and disseminate information throughout new and established networks.

GGSI 390 Directed Study (Geographic & Geospatial Imaging) (TBD credits)
Pre-requisites: 60 credit hours completed
Co-requisites: None
Description: Students are responsible for designing and selecting a topic germane to their program of study in which they will perform in depth reading, information research, and synthesis under the tutorage of a faculty member. The individual emphasis areas must be selected and approved by faculty mentor. The student and faculty will agree on a set of reading to be accomplished over the course of the semester. Student faculty meetings will occur every other week for a minimum of one hour. The directed study culminates in a synthesis and integration of the various readings into a 20 page integrative study. The paper must be submitted in draft form, reviewed by the faculty member with feedback and revised. The credit value for a Directed Study can range from 1-4 credits and will need to be approved by a faculty advisor.

GGSI 398 Junior Project (Geographic & Geospatial Imaging) (TBD credits)
Pre-requisites: Junior Status
Co-requisites: None
Description: The junior project challenges students to identify, investigate and analyze a particular topic and to examine how science and /or technology interact with societal structures and value systems. The community based research project which helps solve a problem is an ideal junior project. An objective is to enable HU graduates to connect and understand their role in the larger community of which they are a part. This project is usually undertaken in a student's junior year under the close mentorship of a faculty member and the

community host. The credit value for a Junior Project can range from 3-6 credits and will need to be approved by a faculty advisor.

GGSI 460 Satellite Remote Sensing (4 credits)
Pre-requisites: GGSI 140, GGSI 290 and 60 credit hours completed
Co-requisites: None
Description: Remote sensing through the use of satellites is the science of acquiring and analyzing information about objects or phenomena from a distance. Humans have since recorded history sought to develop the technological means to increase our ability to see and record the environments in which we live. Remote sensing allows us to see what our eyes cannot. Remote sensing is recognized as a valuable tool for analyzing, viewing, characterizing and making decisions in real time. Today, we define satellite-borne sensors to 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 landform (weather) and tracking systems.

GGSI 498 Senior Project (Geographic & Geospatial Imaging) (TBD credits)
Pre-requisites: Senior Status
Co-requisites: None
Description: The Senior Project must be in the student's major area of study. This project should demonstrate application of the skills, methods, and knowledge of the discipline to solving a problem representative of the type to be encountered at the professional level. The Senior Project/Internship Experience activities encompass research, development and application, involve analysis or synthesis, and experimental or theoretical, emphasize a particular concentration in the major or combine aspects of several sub areas. This project is undertaken in a student Senior Year. The program is administered by the Director of internship/Senior Project and is overseen by faculty members who participate as project advisors. The credit value of a Senior Project ranges from 3-6 credits and will need to be approved by a faculty advisor.

GGSI 499 Senior Capstone (Geographic & Geospatial Imaging) (3 credits)
Pre-requisites: Senior Status
Co-requisites: None
Description: The senior capstone course asks you to reflect on and integrate your academic experiences, both curricular and co-curricular. The course goals are three fold, to develop a portfolio of your work and self assessment, to demonstrate your proficiencies in the six HU competencies, and to prepare for final transition into the workforce or graduate study.

INTEGRATIVE SCIENCE
INSc 105 Field Studies in Natural Science (3 credits)
Pre-requisites: None
Co-requisites: None
Description: In this class we wil become familiar with the natrual world through discussion, multimedia, and field experience. Our exploration of the natural world will take us from shores of the Susquehana River to stellar nurseries where new stars and planets are being born. The journey together will build the foundation for deeper studies in science to come and personal ownership of our own discoveries.

INSc 115 The Chemistry of Life (3 credits)
Pre-requisites: None
Co-requisites: None
Description: What's Organic about Organic Chemistry? This is one of the many discussions that we will have in the O.C. (Organic Connection). Why is organic chemistry important for you as a future nurse, lawyer, teacher, scientist, or an informed citizen? To answer this question, organic chemistry in the context of everyday life will be presented. Teamwork and outdoor expeditions will keep you moving and thinking this summer while studying the chemistry of life.

INSc 120 The Scientific Method and Public Opinion (4 credits)
Pre-requisites: None
Co-requisites: None
Description: Public option is often dictated by preconceived notions, tradition and superstition. This class will use 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; many superstitions and wives tales. Data mining techniques will be employed followed by a discussion and application of the appropriate quantitative methods to explore the phenomena under scrutiny. This class will have field trips, one overnight. Relations with local hospitals and police officials will be developed for access to data.

INSc 140 Integrative Science I (3 credits)
Pre-requisites: None
Co-requisites: None
Description: Living things live side by side with humans, many of them hidden from our day to day lives yet thriving among our 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 above our heads all assist in the understanding both the world around us and our place within it. Students will be introduced to the natural world through science and science's tools of observation, and thereby learn to ask the questions that expand their minds and ignite their innate sense of wonder and curiosity. The natural world is where we live and this class will teach us about our home.

INSc 180 Integrative Science II (3 credits)
Pre-requisites: INSc 140 or POI
Co-requisites: None
Description: This course represents the second in the integrative studies sequence required as part of the core. In this course we continue the use of active, collaborative approaches to help connect mechanisms, ideals, patterns, and numeracy measures amongst fields which are often thought of as distinct and separate. We will explore the nature of such vital elements as molecules of life, the earth and cosmos, diversity and biodiversity, evolution and strategies for successful ecosystems. Student generated ideas and research will be highlighted in our end of the semester poster session.

INSc 265/365/465 Internship (TBD credits)
Pre-requisites: Permission of Internship Coordinator and completed paperwork
Co-requisites: None
Description: Internships engage students in putting theory to practice in the classroom of work. This form of experiential learning propels and applies education into the world of

action where ideas are tested and career-ready skills developed. These immediate, concrete experiences in the workplace become the basis for "learning by doing" as students discover new opportunities to develop new skills and competencies. University students at the internship site acquire new knowledge and skills by successfully meeting interpersonal and intellectual challenges. A successful internship requires more than just 'going to work,' internships are part of a learning and reflection cycle. Throughout each internship, students work with individual faculty supervisors who together observe, and reflect on what was accomplished. Students integrate these reflections into a comprehensive internship portfolio which both showcases their specific achievements in the workplace and analyzes the quality of their learning throughout the internship. Students may engage in an internship to fulfill during their sophomore, junior, and senior project course or through the use of their elective credit. The prefix numbering of internships reflect the level of engagement and complexity of the placement. The credit value for an internship can range from 1-12 credits per semester. Please contact the Internship Director at 717.901.5142 for more information.

INSc 315 Cancer & Its Impacts (4 credits)
Pre-requisites: 45 credit hours completed or POI
Co-requisites: None
Description: In this course we will study and learn the biological and human perspective to the medical condition we call CANCER. Through the introduction of the disease model the epidemiology and biological basis for treatment and prevention we will connect the disease to its social impact. A portion (1 credit) of our learning community will be devoted to working with person's living with cancer or learning from them thought a variety of experiential learning activities. The course is designed for the biology and premedical student in mind as well as the non-science major who is interested in connecting the physiology of health and disease to the human spirit.

INSc 320 The Study of Disease (3 credits)
Pre-requisites: BIOL 180, 45 credit hours completed, or POI
Co-requisites: None
Description: In this course we will study the human body in health and disease with a focus on the contemporary causes of human pathology. In this course we present information on metabolic and infectious disorders that effect major body systems. The study is both by system organ structure and metabolic or genetic aspects of disease from simple to complex.

INSc 330 Principles of Ecology (4 credits)
Pre-requisites: BIOL 180, INSc 180 or POI
Co-requisites: None
Description: This course examines the 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. Students explore 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 sued to illustrate what has been learned about the natural world.

INSc 340 Community Health & Research (4 credits)
Pre-requisites: 45 credit hours completed
Co-requisites: None

Description: This four credit Learning Community will provide the foundations for a study into the new relevant community health issues facing area residents. The course has three important and integrated components. First as a collaborative participatory Learning Community we will study, read and discuss in seminar fashion a variety of topics and subjects related to community health, environmental health and research practices. Topics to be discussed are listed on the week-by-week schedule. Secondly, we will develop, investigate and conduct a community based research project mentored by the faculty or a business/agency partner. Lastly we will synthesize the results and implications of the research into a final public and poster presentation. This component of the Learning Community stresses both oral and written communications on issues of science and public policy. (Content, process, and competency).

INSc 390 Directed Study (Integrative Science) (TBD credits)
Pre-requisites: 45 credit hours completed
Co-requisites: None
Description: Students are responsible for designing and selecting a topic germane to their program of study in which they will perform in depth reading, information research, and synthesis under the tutorage of a faculty member. The individual emphasis areas must be selected and approved by faculty mentor. The student and faculty will agree on a set of reading to be accomplished over the course of the semester. Student faculty meetings will occur every other week for a minimum of one hour. The directed study culminates in a synthesis and integration of the various readings into a 20 page integrative study. The paper must be submitted in draft form, reviewed by the faculty member with feedback and revised. The credit value for a Directed Study can range from 1-4 credits and will need to be approved by a faculty advisor.

INSc 398 Junior Project (Integrative Science) (TBD credits)
Pre-requisites: Junior Status
Co-requisites: None
Description: The junior project challenges students to identify, investigate and analyze a particular topic and to examine how science and /or technology interact with societal structures and value systems. The community based research project which helps solve a problem is an ideal junior project. An objective is to enable HU graduates to connect and understand their role in the larger community of which they are a part. This project is usually undertaken in a student's junior year under the close mentorship of a faculty member and the community host. The credit value for a Junior Project can range from 3-6 credits and will need to be approved by a faculty advisor.

INSc 410 Epidemiology (3 credits)
Pre-requisites: Junior Status
Co-requisites: None
Description: This course is a study of 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 a study of epidemiology we learn the medical and scientific investigative skills needed to critically think, strategize, and predict new epidemics and control current ones. We will use mathematics to "model" disease progression.

INSc 498 Senior Project (Integrative Science) (TBD credits)
Pre-requisites: Senior Status
Co-requisites: None
Description: The Senior Project must be in the student's major area of study. This project should demonstrate application of the skills, methods, and knowledge of the discipline to solving a problem representative of the type to be encountered at the professional level. The Senior Project/Internship Experience activities encompass research, development and application, involve analysis or synthesis, and experimental or theoretical, emphasize a particular concentration in the major or combine aspects of several sub areas. This project is undertaken in a student Senior Year. The program is administered by the Director of internship/Senior Project and is overseen by faculty members who participate as project advisors. The credit value of a Senior Project ranges from 3-6 credits and will need to be approved by a faculty advisor.

INSc 499 Senior Capstone (Integrative Science) (3 credits)
Pre-requisites: Senior Status
Co-requisites: None
Description: The senior capstone course asks you to reflect on and integrate your academic experiences, both curricular and co-curricular. The course goals are three fold, to develop a portfolio of your work and self assessment, to demonstrate your proficiencies in the six HU competencies, and to prepare for final transition into the workforce or graduate study.

MATHEMATICS
MATH 080 Basic Mathematics (3 credits)
Pre-requisites: Placement through our assessment program
Co-requisites: None
Description: Designed for students with an algebra background or who have 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. Prepares the student for Elementary Algebra. Credit may not count towards graduation requirements.

MATH 210 Discrete Mathematics (3 credits)
Pre-requisites: Algebra II or equivalent
Co-requisites: None
Description: The topics covered will draw on current examples found in the natural world , nature and our environment, to enumerate the presence of vectors and the usages of different matrices, number sets and operations. We will look at cases taking into account probability and using real examples, chance and statistical relevance. Graphs of several types, and diagram of logic and reasoning will be explored. Student will be in an active, collaborative environment using a group and team approach.

MATH 220 Calculus I (4 credits)
Pre-requisites: High School Algebra II and Trigonometry
Co-requisites: None
Description: Calculus starts with the study of functions including the review of exponential, arithmetic, and trigonometric functions as well as graphs, tables, and formula manipulations. In this course we set the foundations and functions of calculus and then extend and integrate them to differential equations, anti derivations, curves, and variables. Through practice questions we relate the power of calculus to solve biological, chemical, and physical problems.

MATH 280 Introductory Statistics (3 credits)
Pre-requisites: High School Algebra II and Trigonometry
Co-requisites: None
Description: 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. Applications of statistics to hypothesis testing. The purpose of this course is to provide students with a broad, general knowledge and understanding of statistics. The emphasis of this course in on the utility and practical application of statistics rather than on the mathematical derivation of statistical principles.

MATH 380 Mathematical Modeling (4 credits)
Pre-requisites: MATH 280
Co-requisites: None
Description: Applications of mathematics to real-world problems drawn from industry, research, laboratories, the physical sciences and engineering, and the scientific literature. Techniques used in this course may 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 will broaden and strengthen the exposure of interested students to applications of mathematics frequently seen in industry, science, and government. Students planning to pursue careers in industry, science, or government will synthesize mathematical skills appropriate to these fields from topics learned in a variety of more elementary mathematics courses.

PHYSICS
PHYS 210 General Physics I (4 credits)
Pre-requisites: High School Physics and Algebra II
Co-requisites: None
Description: In this course we will discuss, study and practice solving problems related to the major tenants of physics such as the scientific method, motion, energy, electricity, magnetism, waves, and sounds. The course is designed to provide students with a background in several of the major tenants, ideas and theory which form our understanding of the physical sciences. As part of this course you will explore the major organizations, subject websites, governmental institutions and private sector industries and educational programs connected with our major topics. The course will include some math applications including principles of algebra II and some geometry.

PHYS 260 General Physics II: A Life Science Perspective (4 credits)
Pre-requisites: PHYS 210
Co-requisites: None
Description: General Physics II: A Life Science Perspective is a descriptive introduction to the basic concepts of physics which have specific application to human health in general and to the medical and paramedical professions in particular. Primary attention will be paid to the physics of various functions of the human body, and to the physics of commonly used instruments and equipments. As part of this course you will explore the major organizations,

governmental institutions and private sector industries and educational programs connected with our major topics.

PSYCHOLOGY
PSYC 101 Introduction to Psychology (3 credits)
Pre-requisites: None
Co-requisites: None
Description: 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 theme in which to uncover basic psychological processes. Students will have the opportunity to study a specific psychological disorder as a means of applying theory to actual behavior.

UNIVERSITY COURSES
SEMR 100 Academic Success Seminar (1 credits)
Pre-requisites: None
Co-requisites: None
Description: This course focuses on college skills related to goal setting, time management, research skills, and transition issues. This one credit bearing course meets for six weeks throughout the semester and provides time for students to become comfortable with college level expectations, be mentored by a faculty member, and adjust to college life.

GRADUATE

ETHICS
ETHI 565 Professional Ethics (3 credits)
Pre-requisites: 60 credit hours completed
Co-requisites: None
Description: In this course, we will cover contemporary concepts and fundamental issues in moral, ethical, and professional decision making. Through case analysis, we will organize our study around topics such as professional client relations, confidentiality, professional dissent, and professional virtue in a professional setting. We will explore resources our trade and professional organizations have available for professionals who are faced with ethical dilemmas in the work place.

IT PROJECT MANAGEMENT
ITPM 510 Managing IT Projects (3 credits)
Pre-requisites: Bachelors degree in IT or IT business field or appropriate work experience
Co-requisites: None
Description: This course introduces students to a variety of skills and roles of the IT project manager. We will learn the basic techniques of project management from setting goals and objectives through managing selection of IT support products and procurement. This course serves both as an introduction and survey for students pursuing the graduate degrees or for undergraduate seniors interested in IT Management.

ITPM 520 Professional Communication for the IT Project Manager (3 credits)
Pre-requisites: Bachelors degree in IT or IT business field or appropriate work experience
Co-requisites: None

Description: In this course we will learn about effective communications for the IT managers as well as practice the skills at each class meeting. Effective communications starts with identifying the audience as well as the most appropriate communication medium. We will learn how to effectively communicate in a variety of settings from a persuasive viewpoint to that of non verbal communication as well as negotiation genre. Conflict resolution, small group and interpersonal communication are practiced to best support the information technology project manager's leadership and success.

ITPM 530 Procurement, Contracts, & Risk Management (3 credits)
Pre-requisites: Bachelors degree in IT or IT business field or appropriate work experience
Co-requisites: None
Description: Each project from the conception of the ideas to the bidding and implementation process has both risk and reward. In this course you will learn the basics of procurement, contract negotiations and risk aversion and management. Through real life experiences, text reading and case study analysis the fundamental tenants of procurement and contract sourcing for success are role played and discovered in a hands on real world scenario. Through risk aversion strategies we learn how to minimize risk and increase project success.

ITPM 540 Creating & Managing IT Projects (3 credits)
Pre-requisites: ITPM 510
Co-requisites: None
Description: This course uses the Microsoft Project 2000 Software, created to build an IT management system. In this course you will practice as you learn-by-doing using the most widely used project management software system available. You will learn functions, monitor alternative usages and maintain data as we build our project from the ground up. This is a comprehensive, semester long project building experiential learning course where "practiced theory" is our motto for learning.

ITPM 550 Managing Systems Integration Projects (3 credits)
Pre-requisites: ITPM 510 and ITPM 540
Co-requisites: None
Description: This course is designed to introduce students to the integration processes needed for successful information technology project management. We explore how planning, scheduling and measurement of quality as well as budgeting and cost control are interdependent and parallel processes during the life of the information technology project. This course looks at the quantitative indicators of managing a project and should be studied for those who have completed ITPM 510 and ITPM 540. We will look at sound budgeting practices and cost control measures.

ITPM 560 Organizational Leadership (3 credits)
Pre-requisites: Bachelors degree in IT or IT business field or appropriate work experience
Co-requisites: None
Description: This course is designed to build the IT project managers organizational leadership abilities. We will develop, through active participatory classroom discussions and exercises, the skills and knowledge to lead organizational transformation and change, negotiate conflict resolution and build relationship and human capital. We will specifically look at business ethics and professional codes of conduct.

ITPM 570 Improving IT Project Quality (3 credits)

Pre-requisites: ITPM 510, ITPM 540 and ITPM 550
Co-requisites: None
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. In this course you will learn the various techniques to understand the quality control processes and quality assurance measures as demonstrated in industry standards and protocols. The IT project managers responsibility to insure quality, insure appropriate protocols are in place and are maintained with the highest degree of confidence are central to a successful project and project manager.

ITPM 598 IT Project: Phase I (3 credits)
Pre-requisites: ITPM 510 and ITPM 530
Co-requisites: None
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. This is not an easy task. Experience, knowledge, and perseverance are qualities of a successful IT manager. In this first phase of the IT project you will lay the foundations, team assignments, scheduling, and budget for a semester long project.

ITPM 599 IT Project: Phase II (6 credits)
Pre-requisites: ITPM 598
Co-requisites: None
Description: This experience is developed as the implementation phase of the IT Project Management Phase I. The detailed plans and strategies developed in Phase I of your course objective is to implement and evaluate your IT project and product. Most students will be working in an area business, local organization or community agency to implement the project developed with them in ITPM 598.

LEARNING TECHNOLOGIES
LTMS 510* Instructional Design and Development (4 credits)
Pre-requisites: BA/BS Degree or POI and Basic Computer Skills
Co-requisites: None
Description: This is a core course for the MS degree in Educational Technologies which provides an introduction to the theory and practice of educational technology relevant to both curriculum integration, training and adult education as well as school settings. The intent and goal of the course is to provide a general understanding of instructional theory and the various media which enable educators to make good choices in the type and degree of technology integration.

LTMS 520* Learning Research and Assessment (5 credits)
Pre-requisites: BA/BS Degree or POI
Co-requisites: None
Description: The course focuses on two areas of scholarship: 1) What we know about how people learn and 2) How do we know what people know (assessment). Research on cognition has become an emerging field in both neurobiology and neuropsychologyy and we will look at both aspects of cognitive learning theory in this class. We also will study a variety of classroom assessment techniques and program assessment strategies with a focus on

formative evaluation. In this class you will develop your personal handbook of assessment methods and approaches based on your individual learning objectives.

LTMS 530* Grant Writing and Management (5 credits)
Pre-requisites: BA/BS Degree
Co-requisites: None
Description: This course provides the tools and experience in reading, responding, writing, and managing a grant. In this course we will identify a grant you are interested in pursuing, research other grants of interest, and identify key response points that match the finders requirements and desires. You will develop a budget, assemble resources, and needed infrastructure to make your proposal competitive. The development and writing phases of a grant is only the beginning, we will identify what is needed to be reviewed as robust assessment and evaluation program. Managing people, ideas, and commitments are critical aspects of grant writing and management.

LTMS 540* Internet Research and Distant Learning Approaches (4 credits)
Pre-requisites: BA/BS Degree or POI
Co-requisites: None
Description: The rapid technology changes over the past few years has lead to the development of a wide range of student learning options. The scale of the change students and teachers have had to embrace cannot to over emphasized. To date over 12 million students are engaged n a variety of internet research assignments and course completion options from high school through graduate study. In this class you will explore, create, test, and assess the reliability of internet sources and distance learning resources. A personal four part distance learning project will be developed throughout the semester to get practical experience.

LTMS 550* Educational Software for Curriculum Integration (4 credits)
Pre-requisites: BA/BS Degree or POI
Co-requisites: None
Description: This course provides the theory and practice of identifying, testing, and assessing a variety of software products for use in both a typical classroom or training session as well as non-traditional environments such as traffic control centers or courtrooms. In this course you will develop a plan for applying a software solution to problems as well as identifying the strengths and weaknesses of the use of various software solutions.

LTMS 630* Thesis (6 credits)
Pre-requisites: 20 credit hours and faculty advisor approval
Co-requisites: None
Description: Student develops a framework, plan, proposal, research, and manuscript within a specific research area: technology application or science and technology integration which will be conducted over the course of one or two semesters which offers evidence of quality, rigor, and an understanding of the research problem process concepts and theories underlying the students are articulated, the problem clearly identified stated and approved by the faculty advisor. A significant literature review is required and presented prior to approval along with the methods to be used to conduct the research and delineate the core issues and responses.
* Under PDE review Fall 2006

Faculty

Susan Barrows
Associate Professor of Integrated
Science/Chemistry
Degree: PhD
University of Minnesota
Field: Organic Chemistry

W. David Burns
Professor of General Studies
Degree: MS
Rutgers University
Field: Political Science

Joseph Cannon
Associate Professor of Computer and
Information Sciences
Degree: PhD
Nova Southeastern University
Field: Computer Information Systems

Eric Darr
Vice President for Administration and Finance
Degree: PhD
Carnegie Mellon University
Field: Organizational Behavior and Theory

Christina Dryden
Assistant Professor of Integrative Sciences
Degree: PhD
Old Dominion University
Field: Chemistry/Oceanography

Robert Furey
Associate Professor of Integrative Sciences
Degree: PhD
University of Tennessee
Field: Animal Behavior and Ecology

Karen Kashmanian Oates
Vice President for Academic and Student
Affairs
Degree: PhD
George Washington University
Field: Biochemistry

Mehdi Noobaksh
Associate Professor of General Studies
Degree: PhD
University of Texas at Austin
Field: International Politics

Luis Paris
Assistant Professor of Computer and
Information Sciences
Degree: PhD
University of Mississippi
Field: Computer Science

Raad Saleh
Associate Professor of Geospatial Sciences and
Engineering
Degree: PhD
University of Wisconsin – Madison
Field: Civil and Environmental Engineering

Melvyn Schiavelli
University President
Degree: PhD
University of California, Berkeley
Field: Organic Chemistry

Richard Tomlinson
Assistant Professor of General Studies
Degree: MS
Shippensburg University
Field: Psychology

Michaele Totino
Assistant Professor of General Studies
Degree: JD
Villanova University, School of Law
Field: Law

Mary Ann Wagner
Associate Professor of Biotechnology
Degree: PhD
MCP Hahnemann University
Field: Molecular and Cellular Biology

James Young
Director for IT and Library Services
Assistant Professor of Information Technology
Degree: PhD
George Mason University
Field: Educational Technologies

Yolander Renea Youngblood
Associate Professor of Biotechnology
Degree: PhD
University of Florida
Field: Botany (Biotechnology)

Corporate Faculty

Steve Birmingham
Degree: MSE
University of Pennsylvania
Field: Management of Technology

Robert Donaldson
Degree: MS
University of Alberta
Field: Computer Science

Jennifer Gruber
Degree: MS
Saint Joseph Hospital
Field: Biology

Graham Hetrick
Degree: BA, LFD, BCFE
Certified Medical Investigator III
York College of Pennsylvania
Field: Forensic Crime Scene Investigator

Steve Korzekwa
Degree: BA
University of North Texas
Field: Geography

Penn Lemmonds
Degree: MS, PMP
Shippensburg University
Field: Business Administration

Lisa Paige
Degree: PhD
Bryn Mawr College
Field: English

Mrunalini Pattarkine
Degree: PhD
Indian Institute of Technology
Field: Biochemistry

Albert Sarvis
Degree: MS
Ohio University
Field: Geography

University Policies

Appropriate Use of Information Technology
Intellectual Property
Violations of the Academic Code of Conduct
Violations of the Non-Academic Code of Conduct
Disciplinary System
Family Educational Rights Privacy Act (FERPA) Policy
Credit Card Policy
HIV/AIDS Statement
Inclement Weather and School Closing Policy

Appropriate Use of Information Technology Policy

    I.   **Introduction**
   II.   **Purpose**
  III.   **Responsibilities**
  IV.   **Compliance**
   V.   **Enforcement and Disciplinary Procedures**
  VI.   **Procedure to Update and/or Amend**

    I.   **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].

   II.   **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."

B. Defines the rights, responsibilities, and standards of conduct for Harrisburg University, its faculty, administrators, staff, students, and other authorized users with regard to the use of IT.

---

[1] Computers, computer systems, networks, electronic communications systems, data storage media, facilities, peripherals, servers, routers, switches, equipment, software, files, or accounts.

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.

III. Responsibilities
A. 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.

B. Harrisburg University 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 with regards to diversity.
  iv. Developing and implementing security policies and standards.

C. 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.

IV. Compliance
A. Harrisburg University reserves the right to capture, preserve, and/or inspect any information transmitted through, stored in its computers, or used on any IT

---

[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.

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.
  iii. It is necessary to protect the integrity, security, or functionality of Harrisburg University's IT resources.
  iv. It is necessary to protect the Harrisburg University from liability.
  v. It is permitted or required by law.

V.   Enforcement and Disciplinary Procedures

  A. 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.

VI.   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 members employed for pay at the university, plus instructors and those 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, he/she is considered as staff with regard to intellectual property developed as a result of his 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 by him/her that he/she sells, assigns or licenses, 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) in constant 2004 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.

In any given year the equivalent figure for a particular amount of money in constant 2004 dollars will be obtained by multiplying that amount of money by the ratio of the most recent quarterly Disposable Personal Income Deflator divided by the average monthly Disposable Personal Income Deflator for the year 1984.

Policy Provisions

This section states the policies concerning ownership of intellectual property created at the institute. 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) in constant 2004 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 institute.

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 institute, 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.

Violations of Academic Code of Conduct

Students at Harrisburg University of Science and Technology are engaged in preparation for professional activity of the highest standards. Each profession constrains its members with both ethical responsibilities and disciplinary limits. To assure the validity of the learning experience colleges and universities establish clear standards for student work.

Work submitted in fulfillment of academic assignments and provided on examinations is expected to be original, by the student submitting it, and for that specific course. In any presentation, creative, artistic, or research, it is the ethical responsibility of each student to identify the conceptual sources of the work submitted. Failure to submit original work and/or to identify sources of knowledge, data and/or facts is dishonest and is the basis for a charge of cheating or plagiarism, which is subject to disciplinary action.

Cheating includes but is not necessarily limited to:

1. Plagiarism, explained below.
2. Submission of work that is not the student's own for papers, assignments or exams.
3. Submission or use of falsified data.
4. Theft of or unauthorized access to an exam.
5. Use of an alternate, stand-in or proxy during an examination.
6. Use of unauthorized material including textbooks, notes or computer programs in the preparation of an assignment or during an examination.
7. Supplying or communicating in any way unauthorized information to another student for the preparation of an assignment or during an examination.
8. Collaboration in the preparation of an assignment. Unless specifically permitted or required by the instructor, collaboration will usually be viewed by the university as cheating. Each student, therefore, is responsible for understanding the policies of the department offering any course as they refer to the amount of help and collaboration permitted in preparation of assignments.
9. Submission of the same work for credit in two courses without obtaining the permission of the instructors beforehand.

Plagiarism includes, but is not limited to, failure to indicate the source with quotation marks or footnotes where appropriate if any of the following are reproduced in the work submitted by a student:

1. A phrase, written or musical.
2. A graphic element.
3. A proof.
4. Specific language.
5. An idea derived from the work, published or unpublished, of another person

<u>Violations of the Non-Academic Code of Conduct</u>

A. **Computer-related Violations.** Use of computer equipment and/or time for unethical, illegal or harmful activities. Any violation of Harrisburg University of Science and Technology's Computer Usage policies constitutes a violation of this Code of Conduct.

B. **Damage to Property. Purposely and Intentionally** causing damage to University premises or property or causing damage to the premises or property of others.

C. **Interference or Non-Compliance with Disciplinary Procedures.** On official request to appear and/or provide information before one of the duly constituted disciplinary officers or bodies of the University, a student must appear and provide truthful information before that officer or body. Violations of this section also include interference with the discharge of the functions of any disciplinary hearing officer or body convened under this policy.

D. **Dishonesty and Deception.** In addition to the forms of academic dishonesty set forth earlier in this Code, all other acts of dishonesty are also violations of this Code of Conduct. The following are examples of the types of conduct which are prohibited:
   1. Furnishing false information to any University official or faculty member at any time, including, but not limited to, during the application and enrollment process, as well as while a student at the University.
   2. Withholding relevant information from any University official under circumstances when it is reasonable to expect a student to offer information, even if not specifically requested.
   3. Forging, altering or misusing any document, record or instrument of identification.

E. **Disorderly Conduct.** Conduct which causes a public alarm, annoyance, disruption or hazard on University premises or at a University-sponsored or University-supervised function. Such activities also include, but are not limited to, conduct which is intended to or results in the disruption or obstruction of teaching, research, administration, disciplinary proceedings, or other University activities, on or off campus, or which prevents or obstructs University personnel from performing their duties.

F. **Failure to Comply.** Failure to comply with published University policies, residence hall regulations, administrative dispositions, disciplinary sanctions or directions of University officials authorized and acting pursuant to their prescribed duties.

G. **Firearms, Explosives and Weaponry.** Possession or use of explosives, firearms, other weapons (including, but not limited to, air pistols and air rifles), dangerous chemicals, or objects intended to be perceived as explosives, firearms, weapons or chemicals, **or objects or devices designed to cause bodily harm** in or upon University-owned or University-supervised property. Violations under this section also include the irresponsible possession or careless and dangerous use of any other object in such a way as to threaten or endanger any person or property.

This prohibition includes, but is not limited to, the possession or use of handguns, rifles, shotguns, ammunition, knives over 6 inches in length (other than those possessed for, and used in, food preparation), gas or spring powered pellet or BB guns, paint guns, slingshot devices, and firecrackers/fireworks. This prohibition also includes, but is not limited to, the irresponsible possession or careless and dangerous use of any other object or substance in such a way as to threaten or endanger the safety of any person or property.

Further, the discharge of any weapon on the Harrisburg University of Science and Technology campus, or in the City of Harrisburg, is illegal and poses an obvious threat to the lives and safety of members of the campus community, as well as the greater Harrisburg community.

The only exception to the prohibition on the possession of weapons is for properly appointed law enforcement personnel who are performing their professional duties and are acting in the course and scope of their employment.

H. **Hazing.** An act which endangers or has the potential for endangering the mental or physical health or safety of a student or others, or which destroys or removes public or private property, for the purpose of initiation, admission into, affiliation with, or as a condition for continued membership in, a group or organization, including athletic teams. Any violation of the Pennsylvania anti-hazing law (Act 175 of 1986) shall also be considered a violation of this section.

I. **Harassment and Physical Harm.** Causing physical harm to another person, as well as threatening, intimidating, harassing, coercing or engaging in any other form of conduct which threatens or endangers the physical, emotional and/or psychological health or safety of any person or which results in harm to any person or which is intended to provoke violence by another.

J. **Intolerance.** Any violation of any section of the Code of Conduct which is motivated by the sex, race, color, religion, sexual orientation, ethnicity or national origin of another person is repugnant to the principles of tolerance and respect required for effective learning in an academic community and shall enhance the severity of any sanction to be imposed for a violation of the Code of Conduct.

K. **Theft and/or Possession of Stolen Property.** Theft is the unlawful taking of University property or the property of others, public or private, with the intent to deprive the University or person of the property. Possession of stolen property includes taking possession of or receiving such property, knowing it to have been stolen.

L. **Trespass.** Trespass is the entry or the attempt to enter any University facility without lawful authority or, except with such authority, against the will of the occupant or the individual in charge of the facility. Trespass also includes, but is not limited to, the unauthorized possession, duplication, or use of keys or other entry control systems to gain access to any University building or facility and the failure to leave a facility at the request of the occupant(s) or the University.

M. **Violations of Law.** Violation of any federal, state, or local law is also a violation of this Code of Conduct.

N. **Attempting or Assisting Code Violations.** Any student who assists another person in committing an act which violates this Code of Conduct or who attempts to commit a violation of this Code shall be considered to have violated this Code to the same extent as if he or she had committed the violation.

O. **Drug Free Schools and Campuses Acts**

The Federal Drug Free Schools and Campuses Act requires the university to provide students with information about drug policies, standards of conduct that prohibit illegal drug and alcohol use, a description of applicable legal sanctions, a description of drug or alcohol support services and a description of the health risks associated with the use of illicit drugs and the abuse of alcohol. Harrisburg University of Science and Technology adheres to the Drug Free School and Campus Act.

Drug use can directly affect a student's educational goals. Drugs interfere with the learning process by disrupting the brain's ability to take in, sort out and synthesize information. Alcoholism and drug addiction are obvious health risks associated with drugs and alcohol. But students should note some other risks:
    psychological dependency
    mental health problems
    stress
    driving under the influence
    causing physical in jury to self and/or someone else because of the impairment
    loss of self-control
    distorted sense of reality
    physical problems (hardening of the arteries, heart palpitations, cirrhosis of the
liver, pancreatic cancer, brain disease, lung disease, loss of memory, irritation of the
respiratory tract, nausea, dizziness, perception problems)

The possession, use, or distribution of illicit drugs and alcohol at Harrisburg University of Science and Technology is prohibited. Any violation of this policy can result in the person/persons involved being charged under applicable State and Federal law as well as being disciplined by the university.

P. **Alcoholic Beverages**

The Pennsylvania Crimes Code (Section 6308) clearly provides that it shall be unlawful for a person less than twenty-one years of age to purchase, attempt to purchase, consume, or to transport any alcohol, liquor, malt or brewed beverages within the Commonwealth. Students will be cited for violation of this law. Students must recognize their responsibilities under the law.

The university community urges students to maintain good conduct and obey laws on and off campus, but it cannot be responsible for enforcing laws at off-campus, non-University sponsored activities. However, the university reserves the right to take

disciplinary action against students who violate laws during off-campus activity.

Q. **Narcotics and Drugs**

The administration of the university fully supports the established laws regarding the use of narcotics and drugs. It is in no position to condone any violation of such laws.

Because drug problems are often complex, the university will make every effort to help students with such problems. However, students must remember that drug problems discovered in the normal course of administrative operations will be treated as disciplinary matters.

Nationally, there is the National Institute of Drug Abuse hotline, 1-800-662-HELP, or the website www.drughelp.org for up to date information and referral sources.

Harassment and Misconduct

Harrisburg University of Science and Technology, consistent with its efforts to foster an environment of respect for the dignity and worth of all members of the university community, holds that harassment, including sexual, of students and employees is unacceptable and impermissible conduct.

All members of the University community, including students, are responsible for knowing this policy.

Academic and other administrators are responsible for referring to the Vice President for Academic and Student Affairs complaints of alleged or actual sexual harassment including incidents where reprisal for reporting sexual harassment has occurred.

University personnel have been designated to provide information, support, and assistance for issues of sexual harassment and institutional climate that adversely affects and discriminates against students and employees on the basis of gender contact the Office of Academic and Student Affairs for further information.

These persons will hold inquiries and private discussions, helping the individual understand all options available, and supporting decisions about what action, if any to pursue. A complaint may be pursued through an informal and/or a formal process. All complaints are referred to the University Equity Officer and the Office of Academic and Student Affairs.

The informal process seeks to mediate a resolution of the complaint. The formal process may carry with it warning, suspension, or other appropriate sanction.

R. **Student to Student Misconduct Policy**

Harrisburg University of Science and Technology will not tolerate violence toward and abuse of persons, including sexual harassment, rape and other sexual offenses. When there is probable cause to believe that violations of university regulations prohibiting harassment and assault have occurred, the university may pursue strong judicial action

through its own channels. The penalties for such behavior will be severe, including the possibility of suspension from the university and notification of local law enforcement authorities.

 A person charged with misconduct may be prosecuted under Pennsylvania Criminal statutes and disciplined under the Student Code of Conduct. The university may pursue judicial action in all cases even if the criminal justice system authorities decide not to prosecute because of insufficient evidence or by choice of the victim.

All members of the university community are encouraged to immediately report incidents of student to student misconduct to university or local police and to the Office of Academic and Student Affairs. The student victim of misconduct sexual or otherwise and/or any credible witnesses will be afforded care and support in any disciplinary proceeding that follows. The consent of the victim or credible testimony of a witness is necessary for the university judiciary process or criminal process to proceed.

Definition of Sexual Misconduct

A. Peer Sexual Harassments includes intentional persistent, malicious, lewd or other verbal or physical behavior with sexist or sexual connotations which annoys, bothers, disconcerts or embarrasses another by communication via direct verbal communication or other media, such as but not limited to e-mail, telephone or printed material. Specific types of sexual harassment include, but are not limited to, those items listed below; they do not limit the scope of the charges that may be brought to only these acts.
1. verbal harassment or abuse
2. subtle pressure for sexual activity
3. sexist remarks about a person's clothing, body, or sexual activities
4. unnecessary touching, patting or pinching, leering or ogling of a person's body
5. constant brushing against a person's body
6. demanding sexual favors accompanied by implied or overt threats
7. physical assault

B. Rape is generally defined as forced sexual intercourse, vaginal, oral or anal, that is perpetrated against the will of the victim. The assailant may be a stranger or acquaintance. The type of force may include physical violence, coercion, or threat of harm to the victim. Charges of rape may also be considered if the sexual offense involves penetration as in sodomy, oral copulation, and rape by a foreign object.

C. Other sexual misconduct may include indecent exposure, the unwanted touching of an intimate part of another person such as, but not limited to, sexual organ, buttocks or breast. The tearing off of a victim's clothes or touching an intimate part of the body against a person's will is also considered a sexual offense.

Process and Penalties
    All forms of harassment by students, are violations of the Student Code of Conduct, and a student found responsible by the student judicial process is subject to suspension or dismissal from the university and notification of law enforcement authorities.

    Any student, or non-student member of the university community, is subject also to

charges through the criminal justice system for those acts that violate legal statutes. A student found guilty of sexual offenses by legal statutes may also be subject to suspension or dismissal from the university.

Victim's Rights in Sexual Offenses, Rape and Harassment Hearings

Hearing procedures:
We will make every effort to provide: confidentiality, support such as a Rape Crisis Center advocate, an environment free of intimidation or harassment by the alleged perpetrator or others, the option for a change of living arrangements for the victim or for the alleged perpetrator while all campus proceedings transpire, to have an attorney present and be advised by an attorney at all steps of the process at the student's personal expense, to select a person to accompany him/her through all university judicial processes or in criminal proceedings as allowed by the court, and to make up any academic work missed while participating in the university judicial processes or criminal proceedings.

The 1992 Ramstad Amendment
Accordance to the 1992 Ramstad Amendment to the Higher Education Reauthorization Act
A. Campus authorities must treat victims with respect.
B. Campus authorities must make clear to victims their rights and legal options, and fully cooperate with them in exercising those rights.
C. Victims of sexual assault have the right to have sexual assaults investigated by civil and criminal authorities.
D. Victims of sexual assault have a right to be free from pressure to not report these crimes, or to report them as lesser offenses.
E. Victims of sexual assault have a right to the same representation, and ability to have others present in campus proceedings, as campus authorities permit the accused.
F. Victims of sexual assault are entitled to have cooperation in obtaining medical evidence.
G. Victims of sexual assault are entitled to be informed of any federal or state rights to test sexual assault suspects for communicable diseases.
H. Victims of sexual assault have the right to access to existing campus mental health and victim support services.
I. Victims of sexual assault have the right to be provided with housing that guarantees no unwanted contact with alleged sexual assailants.
J. Victims of sexual assault have the right to live in campus housing free of sexually intimidating circumstances, with the option to move out of such circumstances.

Disciplinary System

Authority

The Disciplinary System of the University is vested in the President's and the faculty and they shall be held responsible for the proper exercise thereof. This responsibility is delegated to individuals and organizations within the University, under the purview of the Vice President for Academic and Student Affairs.

Definitions

    I.   The term "University premises" includes all land, buildings, facilities, and other property in the possession of or owned, used, leased or controlled by the University (including direct adjacent streets and sidewalks).

    II.   The term "complainant" means any member of the University community who accuses a person or organization of a violation of the Harrisburg University of Science and Technology Code of Conduct.

    III.   The term "parties" means the complainant and respondent.

    IV.   The term "student" includes all persons taking courses at the University. Persons who are not officially enrolled for a particular term but who have a continuing relationship with the University are considered "students".

Procedures

    I.   Filing a Complaint. Any member of the University community may file a complaint against any student or student organization for alleged misconduct. A complaint asserting a violation of the Code of Conduct shall be submitted in writing to the Disciplinary System Administrator ("DSA"). The statement must contain the name of the person or organization alleged to be responsible, the basic facts or circumstances of the Code of Conduct violation, and when the violation occurred. Any complaint should be submitted as soon as possible after the event takes place, usually within 72 hours.

    II.   Resolving a Complaint. Upon receiving a complaint from a member of the University community alleging a violation of the Code of Conduct, the DSA or his/her designee shall investigate to determine if the Complaint has merit, and if so take the necessary steps to notify the Complainant and respond to the allegations.

Hearing Bodies

When a student or student organization has been accused of a Code of Conduct violation and said violation has not been resolved through a mutually agreed upon administrative procedure, formal resolution options are available to address the charge(s). Such a formal resolution be pursued, the Complaint shall be heard by a Hearing Board and the student or student organization shall be provided with the proper University procedure for conducting a hearing on this matter.

    I.   Hearing Boards

        A.   Composition. Each Hearing Board is composed of three members: one student, one member of the faculty, and one chairperson. The chairperson shall be appointed by the DSA.

B. Responsibilities of the Hearing Board. Each member of a hearing board shall listen to and consider all relevant information presented to it. Each member has the right to ask questions of any party or witness appearing before it. Members of the board shall participate in deliberations of the board and each member's vote shall count equally in establishing the majority necessary to establish the truth of the matters before it.

C. Conduct of Members of the Board. No member of a hearing board shall discuss the merits and substance of a case with any person who is not a member of the board. Any member of the board shall disqualify himself or herself in a particular case if for any reason he or she cannot maintain impartiality. Any member of a hearing board, including the chair, who, in the judgment of two or more members of the board, is unable to maintain impartiality shall be removed by the chair. No member shall disclose to anyone other than members of the board the degree of harmony or unanimity of the board, or the opinions or votes of any member of the board.

Disciplinary Sanctions

The sanctions which may be imposed individually or in combination on a student or organization found to have violated the Code of Conduct include, but are not limited to, the following:

I. Sanctions for Violations of the Academic Provisions of the Code of Conduct
   NOTE: Normally, a student found responsible for intentionally violating the academic code will receive a failing grade for the course, and may be suspended from the University for one semester or longer depending on the **circumstances.**
   A. Warning. Written notice to the student that continuation or repetition of conduct found to be in violation of University regulations may cause more severe disciplinary action and which may include additional sanctions.
   B. Required withdrawal from the course.
   C. Suspension from the University. A student suspended from the University may not participate in classes or other University activities and may not be on University property for a definite period of time as set forth in the notice of suspension.
   D. Expulsion. Permanent termination of student status.
   E. Revocation and/or withholding of diploma. If a student has graduated from Harrisburg University of Science and Technology before violations of the Code of Conduct are discovered or before a determination of violations is complete, the University reserves the right to revoke the diploma and/or degree conferred, or to withhold the conferring of a degree or diploma otherwise earned for a specified period of time.

II. Sanctions for Violations of the Non-Academic Provisions of the Code of Conduct
   A. Fines, Restitution and Other Remedies
      1. Fines. Monetary amounts appropriate to offenses and levied on individuals or organizations.
      2. Restitution. Reimbursement for damage to or misappropriation of property. Reimbursement may take the form of appropriate service or an assessment to repair or otherwise compensate for damages.
      3. Denial of University facility use for a stated period of time.

4. Mandatory attendance at counseling assessment sessions and/or educational seminars and completion of educational papers.
5. Community Restitution. May include work detail, grounds keeping duties, research and/or service.

B. Warning. Written notice to the student or organization that continuation or repetition of conduct found to be in violation of University regulations may cause more severe disciplinary action which may include additional sanctions.

C. Conduct Probation. A specified period of time requiring maintenance of exemplary conduct. Conduct probation may include the following:
1. For the individual, denial of visiting privileges to stated University facilities, or exclusion from participation in specified activities of the University and maintenance of exemplary conduct for the period of conduct probation as set forth in the notice of probation.
2. For the organization, exclusion from specified activities sponsored by the organization or the University and maintenance of exemplary conduct for the period of conduct probation set forth in the sanction letter.
3. Violations of conduct probation shall be reviewed by the DSA and shall be referred to a hearing officer for determination and imposition of further sanctions. A student or organization accused of violating the terms of conduct probation shall have the opportunity to address the hearing officer and to answer the allegations, but shall not be entitled to any of the other practices or procedures described in the Disciplinary System.

D. Parental Notification. The University reserves the right to contact a student's parents according to the Family Educational Rights and Privacy Act (FERPA), which states that institutions of higher education are permitted to disclose to students' parents or legal guardians "information regarding any violation of any federal, state or local law, or of any rule or policy of the institution, governing the use or possession of alcohol or a controlled substance...if the student is under the age of 21 and the institution determines that the student committed a disciplinary violation with respect to such use or possession."

E. Stayed Suspension.
1. Stayed suspension allows individuals to return to classes, however if a violation occurs of any aspect of the Code of Conduct during a definite period of time as set forth in the notice of stayed suspension, the stay on this suspension may be lifted and the suspension will become effective immediately, in addition to any other sanctions imposed for the new violation(s).
2. Stayed suspension allows organizations to continue to conduct group-sponsored activities or participate in University-sponsored activities as a group, however if a violation occurs of any aspect of the Code of Conduct during a definite period of time as set forth in the notice of stayed suspension, the stay on this suspension will be lifted and the suspension will become effective immediately, in addition to any other sanctions imposed for the new violation(s).

F. Suspension
1. For the individual, exclusion from classes, activities of the University, and/or use of facilities or other property of the University for a definite

period of time as set forth in the notice of suspension. Conditions for readmission may be specified.
  2. For the organization, removal of the right to conduct group-sponsored activities or to participate in University-sponsored activities as a group for a definite period of time as set forth in the notice of suspension.

 G. Expulsion.
  1. For the individual, permanent termination of student status.
  2. For the organization, permanent termination of organization's status and privileges.

 H. Revocation and/or withholding of diploma. If a student has graduated from Harrisburg University of Science and Technology before violations of the Code of Conduct are discovered or before a determination of violations is complete, the University reserves the right to revoke the diploma and/or degree conferred, or to withhold the conferring of a degree or diploma otherwise earned for a specified period of time.

 I. Such other sanctions as may be appropriate in the judgment of the University.

 J. More than one of the sanctions listed above may be imposed for any single violation.

III. Implementation of Sanctions

 A. Sanctions shall go into effect no later than 72 hours after a decision has been made.

Exceptions: A sanction shall be operative immediately if the hearing officer(s) or hearing board determines that it is necessary (a) to ensure the safety and well-being of any member of the Harrisburg University of Science and Technology community or preservation of University property; (b) to ensure the student's own physical or emotional safety and well-being; or (c) if the student poses a substantial threat of disruption of or interference with the normal operations of Harrisburg University of Science and Technology.

 B. Interim Suspension. In certain circumstances, the President or his or her designee, may impose an interim suspension prior to a hearing before either a hearing officer or a hearing board.
  1. Interim suspension may be imposed only: (a) to ensure the safety and well-being of any member of the Harrisburg University of Science and Technology community or preservation of University property; (b) to ensure the student's own physical or emotional safety and well-being; or (c) if the student poses a substantial threat of disruption of or interference with the normal operations of Harrisburg University of Science and Technology.
  2. During the interim suspension, students shall be denied access to the campus (including classes) and all other University activities or privileges for which the student might otherwise be eligible, as the President or his or her designee or the disciplinary system administrator may determine to be appropriate.

IV. Appeals

 A. The complainant, respondent or University may appeal the decision reached by a hearing officer or hearing board. A decision reached by a hearing officer or a hearing board may be appealed within five (5) days of the date of the decision. Such appeals shall be in writing and shall be delivered to the DSA. The appeal

shall consist of a plain, concise and complete written statement of the grounds for the appeal.

    B.   The DSA will determine if the written appeal meets the standards set forth for grounds for appeal. If the standards for appeal are not met, the current sanction(s) is final and not subject to further appeal. Appeals may be based only on the following grounds:
1. Stated procedures were not followed.
2. The sanctions imposed were excessive/lenient for the violation.
3. New and relevant evidence, not available at the time of the original hearing, has arisen.

    C.   Appeals Board. The Appeals Board will hear appeals of the decisions made by hearing boards or hearing officers. Except in cases of expulsion, Appeals Board decisions are final.

    D.   Composition of the Board. The Appeals Board shall consist of three members:
1. Chair. A member of the faculty of the whole not previously involved in the case shall serve as the chair.
2. Board members. One faculty member and one student shall serve as board members. No person who served as a hearing officer or member of a hearing board in the same case shall serve as an appeals board member.

    E.   All persons involved in the appeal will be provided with University procedure on conducting appeal hearings and the process.

V.   Records of Disciplinary Action. All disciplinary sanctions and reports shall become part of a student's education record retained by the University. Except for disciplinary matters resulting in the sanctions of suspension or expulsion, records of disciplinary action are expunged from a student's education record following graduation. Except for cases of suspension or expulsion, records of disciplinary action involving groups is expunged from the organization's record after three (3) years.

VI.   Miscellaneous Provisions
    A.   Because the goals and objectives of the Code of Conduct differ from those of the civil and criminal justice systems, in factual situations which have given rise to both violations of the Code of Conduct as well as violations of any local, state or federal law, the Harrisburg University of Science and Technology Disciplinary System proceedings may move forward without regard to the pending civil litigation, criminal arrest and/or prosecution.

    B.   Proceedings under the Code of Conduct may be carried out prior to, simultaneously with, or following civil or criminal proceedings off-campus. On campus adjudication does not preclude or limit a student's access to the state and federal judicial systems.

    C.   Any procedural provision of the Disciplinary System may be waived by the complainant and/or respondent.

    D.   Misconduct occurring off campus may be subject to adjudication in the University's disciplinary system if it is deemed to adversely affect the University community and its principles.

    E.   Evidence of misconduct possessed by students found responsible for violating the Code of Conduct (such as alcohol, contraband, drugs, drug paraphernalia) may be confiscated by the University, and not returned, and turned over to local authorities if the situation warrants.

Family Educational Rights Privacy Act (FERPA) Policy

Harrisburg University (HU) will collect a considerable amount of information about our students over the time you're attending HU. Almost all of this information will be contained in records protected by the Family Educational Rights Privacy Act (FERPA), a federal statute signed into law in 1974. Under the law, students have the right to review their records and to challenge anything in them that is perceived to be inaccurate or misleading. FERPA regulations also stipulate that HU cannot release information from your records to anyone but you ... without your written consent, except to the extent that the FERPA policy authorizes disclosure without consent. You should also be aware of the following:

HU Directory Information:

The University can disclose directory information about our students unless you specifically inform us in writing that this type of information should be released.
Directory information includes:
• *student's name*
• *address*
• *telephone number*
• *class year, major field of study,*
• *dates of attendance*
• *degree (s) and/or awards received*
• *participation in officially recognized University activities*

Information for the Media:

Finally, the College takes great pride in recognizing the good work of our students. If you are interested in having your accomplishments at Harrisburg University publicized, please provide the name of your local newspaper below. You should also indicate whether or not we may release your photograph to the public. Be aware too, we will not release anything more than the directory information described above without seeking your written permission.

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

Credit Card Policy

Harrisburg University 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 Harrisburg University of Science and Technology 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."

HIV/AIDS Statement

Harrisburg University of Science and Technology is committed to creating an environment that supports the intellectual and personal development of all members of its community. A primary goal of the university is to ensure that the quality of life for its students, faculty, and staff is conducive to and facilitates the learning process regardless of status. Harrisburg University of Science and Technology recognizes the concern of its students, faculty, and staff about the Human Immunodeficiency Virus (HIV) and its role in the development of Acquired Immunodeficiency Syndrome (AIDS). As a result, we have adopted the following policy statement for the education and protection of the campus community.

AIDS is a result of infection with HIV. Persons who are HIV-positive or who live with AIDS are susceptible to bacteria, fungi, and diseases that would not normally affect others so adversely. The virus breaks down and eventually destroys the immune system. Although several therapies are available, currently there is no cure for HIV or AIDS; therefore, comprehensive education is recognized as the key strategy in AIDS prevention.

The university is taking an active role in making current information available with our advising faculty and staff to the members of its community about the transmission of HIV and the means to minimize the risk of developing AIDS. Harrisburg University of Science and Technology will have an educated constituency that is aware of prevention, risk behaviors, coping strategies, and other related issues surrounding HIV and is supportive of HIV prevention policies.

Inclement Weather and School Closing Policy

The university will make every attempt to provide advanced notice for all school closings in a timely manner. We will post all closings on the alert section of the university website and provide information to local radio and TV stations. The university switchboard will also have information, however with a high volume it may be difficult to get to the message. In the case that classes are cancelled due to weather, it will be up to your individual faculty member whether to make up the date or try to integrate the work into the course in another way. If we lose several days, the university reserves the right to add days to the course schedule.