College of Technology

The mission of the College of Technology is to prepare the technology leaders of tomorrow for global industry and commerce. The college will achieve its mission through the following activities:

- Deliver high quality education that leverages the intellectual curiosity of individuals to serve their chosen professions and society at large;
- Engage in research into new and innovative applications of existing and emerging technology;
- Function as a leading resource for the life-long learning needs of traditional and nontraditional students; and
- Enable underprivileged and underrepresented segments of society to fully participate in the rewards of technology.

The College of Technology is focused on key areas in technology and merchandising that have the power to improve products and operations, and that are in high demand by businesses and organizations around the world. These include construction, computer, mechanical, electrical power, logistics and information systems technologies as well as consumer sciences, merchandising and technical leadership.

Role of the College
The College of Technology has been part of the University of Houston for over 60 years and is well-known in the community for its contributions to the education of traditional and nontraditional students. The faculty play a leading role in providing and guiding the implementation of high quality, leading-edge technology education in Texas and in the nation. Our graduates are often leaders in their fields and are employed all over the world.

The College of Technology is organized as three departments: Engineering Technology (ET), Human Development and Consumer Sciences (HDCS), and Information and Logistics Technology (ILT). The faculty of these departments are involved in a wide spectrum of scholarly activity. Research in the Department of Engineering Technology focuses on the management and conservation of energy sources, heat transfer, materials and manufacturing, computer graphics, construction management, construction materials, surveying, environmental issues, neural networks, applications of fuzzy logic, control theory and applications, power quality, and high frequency amplification. Faculty in the Department of Human Development and Consumer Sciences research subjects in multiple talents, workforce preparation in merchandising, distance education, training and development, marketing education, and E-tailing. Faculty research in the Department of Information and Logistics Technology is concentrated on improving education in the areas of technology literacy, business and office education, supply chain management, data warehousing, grid computing, project management, distance learning, and graphic communications education.
of the degree requirements and courses offered by these departments.

Accreditation
The degrees in Computer Engineering Technology, Electrical Power Technology, and Mechanical Technology are accredited by the Technology Accreditation Commission of the Accreditation Board for England and Technology, 111 Market Place, Suite 1050, Baltimore, Maryland, 21202, 410-347-7700.

Undergraduate Programs

Engineering Technology (ET)
Computer Engineering Technology
Construction Management Technology
Construction Management Technology-Surveying and Mapping
Electrical Power Technology
Mechanical Technology

Human Development and Consumer Sciences (HDCS)
Consumer Science and Merchandising

Information and Logistics Technology (ILT)
Information Systems Technology
Logistics Technology
Technology Leadership and Supervision

Graduate Program
For information on the Master of Science and Master of Technology programs in Technology, refer to the Graduate and Professional Studies catalog (www.uh.edu/grad_catalog) and the College of Technology web page: www.tech.uh.edu.

Computer Facilities
Computer resources in the College of Technology support students and faculty in teaching/learning, research, development, and administration. Computer facilities housed in the college include:

• Connections to university computing resources and applications through the UH network.
• Windows XP, Macintosh, and UNIX workstations with a variety of software applications.
• Special purpose computer-based facilities such as the computer-aided manufacturing laboratory, the PC networking laboratory, the Graphic Communication Technology Laboratory, and the Advanced Applications Development Laboratory.

E-mail Policy
The College of Technology will use your UH e-mail alias as the primary means to contact you and keep you informed on important university information and information from your faculty and department. For additional information on your UH e-mail alias, please contact the IT Support Center at 713-743-1411 or go online to www.u.edu/infotech.

Academic Advising
The goal of the Academic Services Center in the College of Technology is to ensure that each student has access to competent and consistent academic advising at all stages of the student’s college career.

All incoming freshmen and transfer students are required to go through orientation, where pertinent policies and procedures are introduced and potential problems are discussed. Orientation for the college is handled in conjunction with the Dean of Students Office and is required for all new technology students. Once the student has been given an overview of the university and college, the undergraduate advisor of the student’s major helps the student with initial schedule planning and registration. Thereafter, advisors are available on an ongoing basis to answer questions and provide guidance.

Academic advising is important:
— upon entering (freshman or transfer);
— to change a major;
— to declare a minor;
— to clarify any academic policy or procedure;
— to file a degree plan;
— to file petitions (Note: a petition is not considered valid until it is signed by the department chair and the college dean); and
— at the beginning of the semester before graduation, to verify all requirements for graduation.

Degree Plan
After selecting a major field of study, and not later than the beginning of the junior year (60 semester hours), students should request that a degree plan be prepared through the Academic Services Center. Students declaring a minor must file a minor degree plan. Students must meet all requirements of the catalog under which they are graduating. The official degree plan remains in effect unless a 13-month break in enrollment occurs.

Change of Major
Students must have a 2.00 minimum cumulative grade point average to change their majors to any of the college’s degree programs, except Information Systems Technology which requires a 2.5 grade point average for all college level work attempted.

Students with less than a 2.00 cumulative grade point average are encouraged to obtain academic advising in their intended major; however, they are not eligible for admission to the major until the required grade point average is attained.

To apply for a change of major, consult the Academic Services Center website www.tech.uh.edu.

Prerequisites and Corequisites
Prerequisites and corequisites as specified under the course listings are strictly enforced by the College of Technology. For the most current listings of prerequisites and corequisites go to the online course catalog at www.hu.edu. Students who have taken prerequisites at other schools should make sure those courses are transferred and evaluated by the Office of Transfer Admissions, and if necessary, evaluation by petition by departments, before classes begin.

Technology
Students are responsible for taking prerequisites to courses in which they enroll. If course “A” is a prerequisite to course “B,” it means that course “A” must be taken first. If course “A” is listed as a corequisite of course “B,” courses “A” and “B” must be taken together. **Students may be dropped regardless of drop deadline, from any class if the student lacks a prerequisite or corequisite.** Students may not drop a course that is a corequisite for another course unless they also drop the corresponding course. Students should be aware that prerequisites are cumulative; if course “A” is listed as a prerequisite to course “B,” then any course that is a prerequisite to course “A” also must be completed before the student enrolls in course “B.”

**Student Responsibility**

Each student is expected to take the responsibility for knowing university and college academic regulations as they are listed in the *Undergraduate Studies* catalog, including the requirements for the degree program, appropriate course work, and the course prerequisites.

Students are expected to verify their class schedules each semester and to take the responsibility for having any necessary corrections made within the established time periods listed in each schedule. Students should retain all documents of registration and course adjustments (drop/add), as well as any other transactions affecting enrollment during their period of study at the university.

**Readmission from Suspension**

Any student suspended from the college for academic or disciplinary reasons is ineligible to enroll in classes during the designated period of suspension. After that specified period, students may apply for readmission. Readmission from suspension is neither automatic nor guaranteed. The student must express the desire for readmission and request initiation of the readmission process by completing a “Readmission from Suspension Petition,” which can be picked up from the Academic Services Center, Room 385 T2.

It is the student’s responsibility to see that ALL college transcripts from ALL universities or colleges (UH and transfer schools) are included with the petition. If the student is in active enrollment at a community college or university, the student should request a progress report from the instructor and attach it to the petition.

The deadline dates for submitting the petition are as follows:

- **Fall Semester:** July 1
- **Spring Semester:** December 1
- **Summer Semester:** May 1

A student readmitted from academic suspension enters on probation. The following requirements must be met to avoid further academic action:

- Students must meet with an advisor each semester.
- Students may enroll in no more than 12 semester hours during the fall and spring semesters, and no more than six semester hours during the summer semester.
- Students must not earn any “I” or “F” grades.
- A minimum semester GPA (2.0) must be earned each semester while on academic probation.
- Additional conditions may be required.

**Academic Grievance Policy**

Occasionally, justifiable grievances may arise concerning the violation of university, college, or department academic policies or procedures. The College of Technology is committed to resolving these grievances in a fair and orderly manner. As a result of this commitment, the college has established procedures for resolving these grievances.

An academic grievance results from actions taken against a student by a member of the faculty, whether full-time or part-time, staff, or administration that violate a university, college, or department academic policy or procedure. Because assigning a grade or evaluating a student’s work performance involves the faculty’s professional judgment and is an integral part of the faculty’s teaching responsibilities, a grade or an evaluation is not the basis for a justifiable grievance unless violation of explicit university, college, or department policy can be shown to have affected the grade or evaluation.

No person shall be subjected to retaliation for having utilized or having assisted others in the utilization of the grievance process.

- A grievance is initiated by discussing the matter with the party involved. If the grievance is not resolved, the process continues by discussing the matter with the department chair. [If the case directly involves a department chair, the student shall discuss the grievance initially with the Associate Dean.]
- If the grievance continues to be unresolved, a written grievance shall be initiated by submitting a written complaint to the chair of the department involved or to the Associate Dean if the chair is a party of the grievance.
- The student who does not receive a satisfactory resolution at the department level shall file an appeal with the Office of the Dean for a hearing by the College Grievance Committee.

The procedures an undergraduate student must follow are available in writing in the office of each department in the college, in the Academic Services Center (385-T2), and in the Office of the Dean (300-T2).

**Scholarships**

All undergraduate students are encouraged to apply for College of Technology scholarships. Some College of Technology scholarships are based on academic merit, some are based on financial need, and some are based on a combination of merit and financial need. The scholarship donor and the college establish the specific criteria for each scholarship. Students need only fill out one application to be considered for all College of Technology scholarships for which they are eligible. This application is available online at [www.tech.uh.edu](http://www.tech.uh.edu). In addition, College of Technology has relationships with many outside orga-
nizations who award scholarships to our students. All College of Technology students are provided application information and informed of these deadlines throughout the semester. For more information, visit the Academic Services Center, room 385-T2, or see the College of Technology website at www.tech.uh.edu.

Scholastic Organizations

*Phi Epsilon Omicron* is an honor society for students majoring in Human Development and Consumer Sciences. Prospective members must have earned 42 semester hours (12 semester hours in residence) with a minimum 3.00 cumulative grade point average.

*Sigma Lambda Chi* is the honor society for students in the Construction Management major. Prospective members must have attained at least junior class standing and have completed at least 24 semester hours of credit at the University of Houston with a minimum 2.80 cumulative grade point average.

*Tau Alpha Pi* is the honor society for engineering technology majors who have completed a minimum of 24 semester hours in the department of Engineering Technology. Students must have maintained a minimum 3.30 grade point average at this university.

Student Organizations

The College of Technology offers opportunities for participation in activities outside the formal classroom structure. Each organization has its own activities and requirements for membership.

Student organizations in the college include the following:

- American Society of Mechanical Engineers
- Association of Information Technology Professionals
- Gay, Lesbian and Diversity (GLAD)
- Institute of Electrical and Electronics Engineers
- Instrument Society of America
- International DECA (Delta Epsilon Chi)
- Society of Manufacturing Engineers
- Student Industrial Distribution Organization
- Students in Construction-Related Industries
- Training and Development Organization (TDO)

Core Curriculum

All bachelor’s degrees require completion of a core curriculum.

<table>
<thead>
<tr>
<th>Core Curriculum Requirements</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication: English rhetoric and composition</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics: College level algebra or approved equivalent</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics/Reasoning</td>
<td>3</td>
</tr>
<tr>
<td>Natural Sciences</td>
<td>6</td>
</tr>
<tr>
<td>Humanities</td>
<td>3</td>
</tr>
<tr>
<td>Visual &amp; Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>Social &amp; Behavioral Sciences</td>
<td>6</td>
</tr>
<tr>
<td>(3 hours must be writing intensive)</td>
<td>6</td>
</tr>
<tr>
<td>U.S. History</td>
<td>6</td>
</tr>
<tr>
<td>American Government</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
</tr>
</tbody>
</table>

Please note that some majors have specific requirements in the core curriculum. Refer to the specific major in the department section of this catalog for specific requirements.

For a baccalaureate degree in the College of Technology, requirements vary from major to major, but students must complete a minimum of 120 semester hours (36 advanced semester hours) including residency requirements and the university core curriculum requirements as stated in the Academic Regulations and Degree Requirements section of this catalog. For specific degree requirements refer to the appropriate department section of this catalog. Further information on core eligibility and on courses that satisfy core curriculum requirements can be obtained by consulting the core curriculum website www.uh.edu/academics/corecurriculum, the current class listings, or an academic advisor.

Transfer Students

To earn a baccalaureate degree from the College of Technology, students must complete a minimum of 15 advanced semester hours of courses in the department of their approved major at the University of Houston.

Technology Minors

Students may not receive official university recognition in a single degree for having earned both a major and a minor in the same field of study.

The minimum requirements for a minor in the College of Technology are:
1. Fifteen to eighteen semester hours including nine advanced hours.
2. Six of the nine advanced hours must be in residence.
3. A 2.00 minimum cumulative grade point average in all courses attempted in the minor field at the University of Houston.

For additional requirements and other information regarding minor courses of study, refer to the specific department section of the catalog and consult the office of the department in which the minor is offered.

Department of Engineering Technology (ET)

Chair: Enrique Barbieri

Professors Enrique Barbieri, Heidar A. Malki, Gopal B. Reddy

Associate Professors Farrokh Attarzadeh, Farouk G. Attia, Luces M. Faulkenberry, Fred D. Lewallen, Bernard McIntyre, Wajih Shireen

Assistant Professors Vineet Aggarwal (Visiting), Driss Benhaddou, Deniz Gürkan, Sang-Hoon Lee, Lingguang Song

The Engineering Technology Council of the American Society of Engineering Education has provided the following definition of Engineering Technology:

**Engineering Technology** is the profession in which knowledge of the applied mathematical and natural sciences gained by higher education, experience, and practice is devoted to application of engineering principles and the implementation of technological advances for the benefit of humanity.
Engineering Technology education for the professional focuses primarily on analyzing, applying, implementing, and improving existing technologies and is aimed at preparing graduates for practice in that portion of the technological spectrum closest to the product improvement, manufacturing, and engineering operational functions.

The Department of Engineering Technology provides cutting-edge educational opportunities in Computer, Electrical, and Mechanical Engineering Technology programs and Construction Management Technology. All of these programs, except Construction Management Technology, are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology, 111 Market Place, Suite 1050, Baltimore, Maryland, 21202, 410-347-7700.

To qualify for a Bachelor of Science in the College of Technology, students must complete university core curriculum requirements plus college and departmental requirements for a specific program as stated in this section of the catalog.

Curricula offered by the department emphasize the latest technological developments. Students perform meaningful, practical laboratory experiments to verify and reinforce their knowledge. Computer-related courses in all majors provide students with practical experience using computers and associated software. Upon graduation, students in the Engineering Technology department are ready for employment in their field and can continue to grow and advance in their field, because they have the skill to:

• Analyze and solve industrial problems;
• Communicate effectively, whether speaking or writing;
• Work effectively in a team setting using current leadership and business practices; and
• Learn and apply new technology.

The department also has a research mission to discover new ways to apply basic science and technology discoveries to applications useful to business and industry.

Students pursuing a degree plan in the ET Department must complete the following university requirements:

University Core Curriculum 42 semester hours

Communication (6 semester hours)
  Encl. 1303. Freshman Composition I
  Encl. 1304. Freshman Composition II OR Trans 3372. Communicating Science, Engineering and Technology Issues and Trends Within the Global Workplace

History (6 semester hours)
  Hist 1376 or 1377, 1378 or 1379

American Government (6 semester hours)
  Pols 1336, 1337

Social and Behavioral Sciences (6 semester hours)
  see individual degree plans

Humanities (3 semester hours)
  Three semester hours selected from core approved list

Mathematics (6 semester hours)
  see individual degree plans

Natural Sciences (6 semester hours)
  Three semester hours selected from core approved list

Visual/Performing Arts (3 semester hours)
  See individual degree plans

Construction Management Technology (CMT)
This program includes topics directed towards managing construction projects, interpreting codes and specifications, administering contracts, estimating costs, and scheduling project activities.

The objective of the Construction Management Technology program is to provide graduates with knowledge and skills that are valued and sought by the construction industry profession. Commercial, residential, industrial, and highway/heavy sectors of the construction industry need entry-level professional employees who are knowledgeable and skilled. Graduates must have knowledge of construction materials and methods, structural systems, soils, site development, surveying, and contract administration; be capable of interpreting codes, plans, and specifications; and have skills for planning, estimating, scheduling, and evaluating project performance. The program’s curriculum provides fundamental and advanced coursework that incorporate current standards and technology for managing and providing quality construction. Software is applied in curriculum courses to prepare students for careers that require a knowledge of computer estimating and scheduling.

Construction Management Technology graduates should have knowledge and problem-solving skills to:

1. Determine costs for construction activities and projects, establish construction schedules, and apply time value of money concepts for evaluation of alternatives;
2. Evaluate project schedule and cost performance;
3. Interpret construction material properties and standards;
4. Produce and interpret drawings; interpret codes for concrete, steel, and timber construction;
5. Apply design concepts for site development (soils and foundations, water distribution, waste-water collection, and storm-water drainage); and
6. Perform managerial functions.

The program is committed to attaining the following goals:

• Provide a career-oriented program that prepares students for productive and professional employment in the construction industry.
• Emphasize inclusion of recent technological advancements into the technology/construction management curriculum in the areas of management, scheduling, estimating, cost-control, and other construction courses.
• Provide a learning environment where students apply state-of-the-art technological equipment and software.
• Prepare graduates to pursue graduate degrees and life-long education. Provide students with an opportunity to prepare for entry into the Master of Technology in Construction Management Technology program.

At the Master of Technology level, students will receive advanced education, preparing them to be construction management leaders in industry or faculty members in colleges and universities. For more information on the graduate program, please refer to the Graduate and Professional Studies Catalog.

Students pursuing a major in Construction Management Technology must complete the following requirements in addition to the university core and general college requirements.

Construction Management Technology Requirements

ACCT 2331. Accounting Principles I–Financial 
CNST 1301. Construction Materials and Methods 
CNST 2341. Construction Documents 
CNST 2361. Construction Management I 
CNST 2461. Surveying I 
CNST 2365. Site Development 
CNST 3301. Construction Equipment and Methods 
CNST 3321. Mechanical and Electrical Systems 
CNST 3331. Construction Planning and Scheduling 
CNST 3402. Legal Aspects of Construction 
CNST 4305. Construction Safety Management 
CNST 4311. Structural Steel and Timber Construction 
CNST 4312. Construction Finance Management 
CNST 4331. Construction Management II 
CNST 4351. Construction Estimating 
CNST 4372. Soil Mechanics and Foundations 
CNST 4381. Reinforced Concrete Construction 
MECT 2354. Introductions to Mechanics 
MECT 3355 Strength of Materials 
MECT 3155 Strength of Materials Lab 

Business and Management Electives (Select 3 SH minimum)

TELS 2360. Business Law 
TELS 3345. Human Resources in Technology 
TELS 3355. Project Leadership 
TELS 3365. Team Leadership 

Technology and Other Requirements

MATH/Reasoning (13 SH which includes university core) 
MATH 1313. Finite Mathematics with Applications 
MATH 1330. Precalculus 
MATH 1431. Calculus I 
TMTH 3360. Applied Technical Statistics 

Natural Sciences (8 SH which includes university core) 
PHYS 1301/1101. Introductory General Physics I and Lab 
PHYS 1302/1102. Introductory General Physics II and Lab OR 
GEOL 1330/1130. Physical Geology and Lab 

General Technology and College Core (12 SH)

CNST 1350. Graphics I 
TELS 3340. Organizational Leadership and Supervision OR 
HECS 3300. Organizational Decisions in Technology 

MECT 3363. Technical Communications OR 
TELS 3372. Communicating Science, Engineering, and Technology Issues and Trends Within the Global Workplace 

ITEC 1301. Introduction to Computer Application Technology 
Social/Behavioral Sciences (3 SH which includes university core) 
ECON 2304. Microeconomics OR 
ECON 2305. Macroeconomics 
3 hours core approved writing intensive social science 

Degree awarded: Bachelor of Science 
Major: Construction Management Technology

Construction Management Technology - Surveying and Mapping (CMT/SM)

Instruction in the surveying and mapping concentration emphasizes theoretical principles as well as practical applications of advanced surveying and mapping techniques, related computational procedures, geodesy, map compilation, and photogrammetry. Surveying and Mapping, in its broadest sense, includes making precise measurements of the earth’s surface using sophisticated optical and electronic instruments, determining the boundaries between adjacent landowners, working as a field engineer for a general contractor establishing the location of new construction, establishing transportation routes, and mapping the earth’s surface. The program is committed to attaining the following goals:

• Provide an educational experience that prepares the student for the challenges of the surveying and mapping profession.
• Employ state-of-the-art technologies in the surveying and mapping curriculum.
• Provide opportunities for the student to exhibit creativity, leadership and team-building abilities, cultural appreciation, and an understanding of global and social issues.
• Incorporate interdisciplinary concepts and problem-solving exercises in the program.
• Provide broad educational experience including communication skills, mathematics and basic sciences, and preparation for life-long learning.

Construction Management Technology-Surveying and Mapping Requirements

ACCT 2331. Accounting Principles I–Financial 
CNST 1301. Construction Materials and Methods 
CNST 2341. Construction Documents 
CNST 2361. Construction Management I 
CNST 2365. Site Development 
CNST 2461. Surveying I 
CNST 3161. Surveying Practicum 
CNST 3331. Construction Planning and Scheduling 
CNST 3362. Surveying II 
CNST 3363. Surveying III 
CNST 4305. Construction Safety Management 
CNST 4312. Construction Finance Management 
CNST 4351. Construction Estimating 
CNST 4363. Legal Aspects of Surveying 
CNST 4364. Surveying IV 
CNST 4369. Survey Analysis 
TELS 2360. Business Law 
MECT 2354. Intro to Mechanics 
MECT 3341. Computer-Aided Drafting I 
MECT 3355, 3155. Strength of Materials, Laboratory
people who can diagnose, and to help design structures and build-engineering problems, to aid in medical tests and hardware and software aspects of computers are covered in detail. Graduates of Computer Engineering Technology are qualified for immediate employment in a variety of industries as sales representatives, field specialists, interface designers, software specialists, and digital applications specialists.

Majors in Computer Engineering Technology may use no grade below C– in junior and senior level ELET courses to satisfy major degree requirements.

Students pursuing the Computer Engineering Technology major must complete the following requirements, in addition to university core and general college requirements.

**Major Requirements**

ELET 1300, 1100. Electrical Circuits I, Laboratory
ELET 1301, 1101. Electrical Circuits II, Laboratory
ELET 2303, 2103. Digital Systems, Laboratory
ELET 2305, 2105. Semiconductor Devices and Circuits, Laboratory
ELET 3301. Linear Systems Analysis
ELET 3302, 3102. Communications Circuits, Laboratory
ELET 3303. Operational Amplifier Applications
ELET 3305, 3105. Microprocessor Architecture, Laboratory
ELET 3325. Embedded Systems
ELET 4308, 4108. Senior Project, Laboratory
ELET 4321, 4121. Computer Networks, Laboratory
Pre-approved Electives. Select 9 semester hours from the following:

- ELET 4300. Unix Operating System
- ELET 4302. Data Communication Systems
- ELET 4309. Object-Oriented Applications Programming
- ELET 4315. Telecommunications
- ELET 4325. Advanced Microcomputer Networks

Approved ELET elective (3 advanced semester hours)

**General Technology**

ELET 2300. Introduction to C++ Programming
TELS 3340. Organizational Leadership and Supervision OR
HDCS 3300. Organizational Decisions in Technology
TELS 3363. Technical Communications
MEET 1364. Materials and Processes
MEET 3341. Computer-Aided Drafting I OR
Approved MEET elective

Free electives (3 semester hours)

**Technology and Other Requirements**

Mathematics (17 semester hours)

- MATH 1310. College Algebra
- MATH 1330. Precalculus
- MATH 1431. Calculus I
- MATH 1432. Calculus II
- TECH 3366. Applied Numerical Methods

Natural Sciences (11 semester hours which includes university core)

- PHYS 1301, 1101. Introductory General Physics I and Lab
- PHYS 1302, 1102. Introductory General Physics II and Lab
Electrical Power Technology (EPTE)

The goal of the Electrical Power Technology program is to provide students with a high quality applications-oriented undergraduate education based on state-of-the-art technological equipment associated with electrical technology. This goal is achieved through several objectives such as continuing to update specific courses in the program to ensure relevance to the latest industrial changes, supporting the development of appropriate computer facilities, promoting the integration of advanced technology in all courses, and encouraging professional growth and development of the faculty. The program is designed to satisfy the educational needs of the urban Houston community by providing a climate that fosters self-awareness, personal growth, and a desire for life-long learning.

Students completing a major in Electrical Power Technology receive a strong foundation in measurement systems, analog and digital signal conditioning, microprocessor hardware and software, industrial electronics, and rotating machinery. Students have the opportunity to select additional coursework in either control systems, power electronics, or electrical power. Although analog electronics remain important, one of the newest and fastest growing areas is in the application of computers for control; this may be controlled within some manufactured product or control of some manufacturing process. The manufacturers of electrical systems and machines need electrical power technologists who are familiar with machines and machine controls, both traditional and computer-controlled. The electrical industry provides and controls the transformers, motors, generators, switch gear, and protection equipment required to power homes, businesses, and industries. Electrical power technologists plan electrical systems and modifications to existing electrical systems that generate and use large amounts of electricity required for distribution networks that are economical, safe, and functional.

Graduates of the Electrical Power Technology major understand, design, analyze, and work effectively in industrial settings utilizing product/process control systems and electrical power systems. Graduates are working in petrochemical companies, food manufacturing, steel processing, utilities, electrical equipment, sales, manufacturing and testing, and a host of other diverse industries.

 Majors in Electrical Power Technology may use no grade below C− in junior and senior level ELET courses to satisfy major degree requirements.

Students pursuing a major in Electrical Power Technology must complete the following requirements, in addition to university core and general college requirements:

**Major Requirements**

- ELET 1300, 1100. Electrical Circuits I, Laboratory
- ELET 1301, 1101. Electrical Circuits II, Laboratory
- ELET 2301, 2101. Poly-Phase Circuits and Transformers, Laboratory
- ELET 2303, 2103. Digital Systems, Laboratory
- ELET 2305, 2105. Semiconductor Devices and Circuits, Laboratory
- ELET 3301. Linear Systems Analysis
- ELET 3305, 3105. Microprocessor Architecture, Laboratory
- ELET 3307, 3107. Electrical Machines, Laboratory
- ELET 3312, 3112. Programmable Logic Controllers and Motor Control Systems, Laboratory
- ELET 4303. Computer-Based Power Distribution and Transmission
- ELET 4305. Project Management and Economic Considerations for Power Systems
- ELET 4317. Computer-Based Electrical System Protection and Safety
- ELET 4319. Electrical Power Systems and Industry Practices
- Approved Electives (6 semester hours):
  - ELET 4304. Control Systems
  - ELET 4310. Alternative Electrical Energy Sources
  - ELET 4311. Computer-Based Communications and Security Issues for Electrical Power Systems
  - ELET 4326. Power Converter Circuits
- Approved ELET elective (3 advanced semester hours)
- General Technology Requirements:
  - ELET 2300. Introduction to C++ Programming
  - TELS 3340. Organizational Leadership and Supervision OR Hocs 3300. Organizational Decisions in Technology
  - TELS 3363. Technical Communications
  - MECT 1364. Materials and Processes I
  - ITEC 1301. Introduction to Computer Application Technology
- Free Elective: 3 semester credit hours

Social Sciences (6 semester hours)

Degree awarded: Bachelor of Science
Major: Electrical Power Technology

Mechanical Technology (METE)

This program includes courses that are directed at both computer-aided manufacturing and computer-aided design and drafting. Individuals interested in manufacturing technology apply fundamental principles of mechanical design and manufacturing processes to new and existing manufacturing systems. Courses focus on manufacturing planning and management, automated manufacturing systems, quality control, and robotics. Computer-aided design and drafting is an essential component of the design procedure; courses focus on computer graphics and applied mechanical design.

The goal of the Mechanical Technology major is to provide students with a well-rounded fundamental
and application-oriented education focused on the knowledge of existing and new developments in Mechanical Technology. Graduates of the baccalaureate degree will develop the theoretical and practical knowledge and skills necessary for appropriate careers in local and national industries. To achieve this mission, the Mechanical Technology program is committed to attaining the following goals for all students:

• Provide a career-oriented program that prepares students for productive employment.

• Emphasize the latest technological advancements in computer-aided drafting, computer-aided design, and computer-aided manufacturing. Students should be able to apply problem-solving techniques and critical thinking skills at the level required for their professional practice.

• Provide a learning environment that will enable students to interact with state-of-the-art technological equipment and software. Students should gain experience in the application of computer software to analyze and design mechanical systems and automated manufacturing systems.

• Prepare students to pursue graduate degrees and life-long education.

The programs are designed to satisfy the educational needs of the urban Houston community by providing a climate that fosters self-awareness, personal growth, and a desire for lifelong learning.

Students pursuing a major in Mechanical Technology must complete the following requirements, in addition to university core and general college requirements.

**Mechanical Technology Requirements**

- MECT 1364, Materials and Processes I
- MECT 2354, Introduction to Mechanics
- MECT 3318, 3118, Fluid Mechanics Applications, Laboratory
- MECT 3331, Applied Thermodynamics
- MECT 3341, Computer-Aided Drafting I
- MECT 3342, Computer-Aided Drafting II
- MECT 3355, 3155, Strength of Materials, Laboratory
- MECT 3358, Dynamics of Mechanisms
- MECT 3360, Automated Manufacturing Systems
- MECT 3365, Computer-Aided Design I
- MECT 3367, Quality Control Technology
- MECT 4372, 4172, Materials Technology, Laboratory
- MECT 4375, 4175, Design of Mechanisms, Laboratory
- Computer-Aided Design and Manufacturing Electives (9 SH)
- MECT 3362, Industrial Work Measurement
- MECT 4323, Applications in Stress Analysis
- MECT 4350, Principles in Mechatronics
- MECT 4365, Computer-Aided Design II
- MECT 4384, Manufacturing Systems Control
- 3 SH Mechanical Elective

**Technology and Other Requirements**

Math (14 semester hours which includes university core)
- Math 1310, College Algebra
- Math 1330, Precalculus
- Math 1431, Calculus I
- Math 1432, Calculus II

Natural Sciences (12 semester hours which includes university core)
- Phys 1301, 1101, Introductory General Physics I, Laboratory
- Phys 1302, 1102, Introductory General Physics II, Laboratory
- Chem 1301, 1101, Foundations of Chemistry I, Laboratory

Social Sciences (6 semester hours)
- Six semester hours (three must be writing intensive) from core approved list

**General Technology and College Core Requirements (16 SH)**

- CNST 1330, Graphics I
- ELET 2307, Electrical-Electronic Circuits
- TELS 3340, Organizational Leadership and Supervision OR Hucs 3300, Organizational Communications in Technology
- TELS 3363, Technical Communications
- ITEC 1300, Computers in Technology
- Free electives (3 semester hours)

Degree awarded: Bachelor of Science

**Major: Mechanical Technology**

**Minors in Engineering Technology**

Students may minor in the following programs: Computer Drafting Design, Construction Management Technology, Manufacturing Systems, Electrical Power Technology, and Computer Engineering Technology. Students who have declared a major in Mechanical Technology (METE) may not declare a minor in either Computer Drafting Design or Manufacturing Systems. Students majoring in Computer Engineering Technology may minor in Electrical Power Technology; students majoring in Electrical Power Technology may minor in Computer Engineering Technology. Students who select one of these minors must satisfy the general university requirements for a minor as well as the specific minor requirements listed below.

**Construction Management Technology** (15-16 semester hours)

Required Courses:
- CNST 2341, 2361, 3331, and 4351
- Select one from:
  - CNST 3301, 3321, or 3402

**Computer Drafting Design** (15 semester hours)

Required Courses:
- CNST 1330, MECT 3341, 3342, 4342, and ITEC 1300 or equivalent.

**Computer Engineering Technology** (17-18 semester hours)

Required Courses:
- ELET 2307, 2303/2103, and 3305/3105
- Select any two of the following courses or sets of courses in consultation with a faculty advisor:
  - ELET 3325, 4300, 4308, 4309, 4321/4121

**Electrical Power Technology** (17-18 semester hours)

Required Courses:
- ELET 2307, 2303/2103, 3307/3107
- Select any two of the following courses or sets of courses in consultation with a faculty advisor:
  - ELET 3312/3112, 4303, 4305, or 4319

**Manufacturing Systems** (15 semester hours)

Required courses:
- MECT 1364, 3360, 3362, 3367, and 4384
Surveying and Mapping (16 semester hours)
Required courses:
CNST 2461, 3362, 3363, 4363, and 4364

Courses: Engineering Technology

Construction (CNST)

1301: Construction Materials and Methods (formerly CIVT 1301) Cr. 3. (3-0). Materials and methods used by the construction industry.

1330: Graphics I Cr. 3. (2-4). Lettering, geometric construction, multiview and auxiliary projections, sections and connections, dimensioning, and isometric and oblique pictorials. Manual and computer aided drafting techniques.

2341: Construction Documents (formerly CNST 3341) Cr. 3. (3-0). Prerequisites: CNST 1301 and 1330. Plans, drawings, specification interpretation, and contract documents relating to the construction industry.

2361: Construction Management I (formerly CNST 3361) Cr. 3. (3-0). Prerequisite: CNST 2341. Principles of construction management, including administration procedures, documentation, computer applications, and roles and responsibilities.

2365: Site Development (formerly CNST 3365) Cr. 3. (3-0). Prerequisites: CNST 1301 and 2461. Zoning and subdivision regulations and codes in designing residential and commercial subdivisions. Feasibility studies.

2461: Surveying I Cr. 4. (3-3). Prerequisite: MATH 1330. Plane surveying techniques and computations; horizontal and vertical alignments; coordinate systems; care and use of surveying instruments and equipment.

3161: Surveying Practicum Cr. 1. (0-1). Prerequisite: CNST 3362. Forty-five hours of office and/or fieldwork under the direct supervision of a Registered Professional Land Surveyor.

3301: Construction Equipment and Methods Cr. 3. (3-0). Prerequisite: CNST 2361. Construction equipment selection, applications and utilization. Cost analysis of equipment and assembly techniques.

3321: Mechanical and Electrical Systems Cr. 3. (3-0). Prerequisite: MECT 2354. Planning and construction of mechanical and electrical systems found in typical residential and commercial projects.

3331: Construction Planning and Scheduling (formerly CNST 4361) Cr. 3. (2-3). Prerequisite: CNST 2361. Project scheduling techniques. Includes use of industry standard software.

3362: Surveying II Cr. 3. (3-0). Prerequisite: CNST 2461. Transportation route surveying, construction surveying, topographic mapping, and astronomy for surveyors.


3402: Legal Aspects of Construction (formerly CNST 5302) Cr. 4. (4-0). Prerequisite: CNST 2361. Statute and case law affecting business and the construction industry.

4305: Construction Safety Management (formerly CNST 5305) Cr. 3. (3-0). Prerequisite: CNST 3301. Fundamentals of managing hazards, applicable regulations, and safe work procedures related to construction processes.

4311: Structural Steel and Timber Construction (formerly CIVT 4311) Cr. 3. (3-0). Prerequisites: CNST 1301 and MECT 3355. Application of the ABCS code to the calculation, selection, and drafting of steel members for simple girders, frames, and trusses. Timber construction and structural processes.

4312: Construction Finance Management (formerly CNST 5311) Cr. 3. (3-0). Prerequisites: CNST 3301, ACCY 2331, and ECON 2304 or 2305. Managing cost control, finance, and budgets for construction projects.

4331: Construction Management II Cr. 3. (3-0). Prerequisites: CNST 2365, 3301 and 3331. Integrated view of management and planning of construction projects.

4351: Construction Estimating Cr. 3. (2-3). Prerequisite: CNST 3331. Analysis and determination of construction operation costs; preparation of bid proposals for construction projects; cost control.

4363: Legal Aspect of Surveying Cr. 3. (3-0). Prerequisite: senior standing or permission of the instructor. Various aspects of boundary law, as practiced by registered Professional Land Surveyors, including the drafting of legal property descriptions.

4364: Surveying IV Cr. 3. (3-0). Prerequisite: CNST 3363. Measurements, measurement analyses, and measurement adjustment theory and application.

4369: Survey Analysis Cr. 3. (3-0). Prerequisites: CNST 4363 or consent of instructor. Advanced topics in boundary law including legal research and the preparation of extensive reports covering conflicting survey evidence.

4372: Soil Mechanics and Foundations (formerly CIVT 4372) Cr. 3. (2-2). Prerequisites: CNST 1301 and MECT 3355. Soil explorations, ASTM test methods, shallow and deep foundations for buildings, and shoring; laboratory exercises for characterizing soils.

4381: Reinforced Concrete Construction (formerly CIVT 4381) Cr. 3. (2-3). Prerequisites: CNST 1301 and MECT 3355. Application of the ACI 318 building code to construct, analyze, and inspect reinforced concrete members. Formwork design, testing methods, quality control, and laboratory tests and analysis for characterizing concrete mixtures.

4385: Construction Management Practicum Cr. 3. (3-0). Prerequisite: junior standing. Guided work experience in construction management.

4397: Selected Topics in Civil Technology Cr. 3. (3-0). Prerequisite: approval of chair. May be repeated for credit when topics vary.

4398: Special Problems Cr. 3 per semester. Prerequisite: approval of chair. Individual projects on a to-be-arranged basis under faculty sponsorship.

5306: Construction Safety II Cr. 3. (3-0). Prerequisite: CNST 4305. Spanish phrases and grammar relating to the construction industry, especially as they affect safety.

5371: Design and Testing of Construction Materials (formerly CIVT 5371) Cr. 3. (2-3). Prerequisites: CNST 1301 and MECT 3355. Concrete materials technology, analysis and implementation of ASTM specifications and testing methods, quality control, and laboratory tests and analysis for characterizing concrete mixtures.

Electrical-Electronics Technology (ELET)

1100: Electrical Circuits I Laboratory Cr. 1. (0-3). Prerequisite: concurrent enrollment in ELET 1300. Measurement and analysis of direct current parameters.

1101: Electrical Circuits II Laboratory Cr. 1. (0-3). Prerequisites: ELET 1300 and concurrent enrollment in ELET 1301. Measurement and analysis of circuit parameters for direct current, single phase, and alternating current circuits.

1300: Electrical Circuits I Cr. 3. (3-0). Prerequisites: credit for or concurrent enrollment in MATH 1310 and ELET 1100. Principles of direct current electricity and their applications to series, parallel, and series-parallel circuitry including Ohm’s Law, Kirchhoff’s Laws, mesh and nodal analysis, resistance, capacitance, inductance, magnetism, and electromagnetism.

1301: Electrical Circuits II Cr. 3. (3-0). Prerequisites: ELET 1300 and credit for or concurrent enrollment in MATH 1330 and ELET 1101. Principles of single-phase alternating current circuits including Thevenin’s, Norton’s, and superposition theorems, and loop and nodal analysis.

2101: Poly-Phase Circuits and Transformers Laboratory Cr. 1. (0-3). Prerequisite: credit for or concurrent enrollment in ELET 2301. Experiments in poly-phase circuits and power transformers.

2103: Digital Systems Laboratory Cr. 1. (0-3). Corequisite: ELET 2303. Experiments in digital systems, including basic gates, combinational and sequential systems, binary arithmetic circuits, MUX/DEMUX, decoder and encoder devices. Use of modern software simulation tools is emphasized.


3421: Computer Networks Cr. 3. (3-0). Prerequisites: ELET 3302 and 3305. Corequisite: ELET 3121. Computer networking methods with emphasis on the OSI models. Applications include star- and ring-type networks and operating systems requirements for networks.

3425: Advanced Microcomputer Networks Cr. 3. (3-0). Prerequisite: ELET 4321. Advanced topics in microcomputer networking, including internetworking and routers, and network management.

3426: Power Converter Circuits Cr. 3. (3-0). Prerequisite: ELET 2301 or equivalent. Electric power converter circuits: rectifiers, inverters, dc-de converters, power supplies, and power quality issues associated with the operation of converters.

3437: Selected Topics in Electrical-Electronics Technology Cr. 3. (3-0). Prerequisite: approval of the department chair. May be repeated for credit when topics vary.

5114: Digital Control Systems Laboratory Cr. 1. (0-3). Prerequisites: credit for or concurrent enrollment in ELET 5314. Experiments in microprocessor-based signal generators, microprocessor-based process data acquisition (A/D and D/A), on-off controller, computer control of analog proportionally controlled plant, digital proportional-integral controller, and microprocessor-based process control temperature measurement.

5314: Digital Control System Cr. 3. (3-0). Prerequisites: ELET 3305, 3105, and 4304. Corequisite: ELET 5114. Practical aspects of microcomputer-based control including digital control systems, z-transform, and discrete transfer functions, control system analysis, proportional integral derivative (PID) control, and compensator design.

5397: Selected Topics in Microcomputer Systems Cr. 3. (3-0). Prerequisite: approval of the department chair. May be repeated with the approval of the department chair.

Mechanical Technology (MECT)


2354: Introduction to Mechanics Cr. 3. (3-0). Prerequisites: PHYS 1301 and MATH 1431. Static equilibrium conditions of forces, moments, friction, centroids, trusses, and moments of inertia.

3118: Fluid Mechanics Application Laboratory Cr. 1. (0-3). Prerequisite: concurrent enrollment in MECT 3318. Laboratory experiments using standard measuring devices for performing hydraulic and pneumatic tests, noncompressible fluid piping systems, turbines, and pump stations.

3155: Strength of Materials Laboratory Cr. 1. (0-3). Prerequisite: credit for or concurrent enrollment in MECT 3355. Experimentation to determine the mechanical properties of materials including tensile strength, hardness, creep, and toughness.

3318: Fluid Mechanics Applications Cr. 3. (3-0). Prerequisites: MECT 2354, MATH 1432 and credit for or concurrent enrollment in MECT 3118. Fluid properties, static fluid forces, buoyancy, and pressure measurement. Fluid dynamics, including conservation laws, fluid pumps, motors and flow measurement devices.

3331: Applied Thermodynamics (formerly MECT 2331) Cr. 3. (3-0). Prerequisites: MATH 1431 and PHYS 1302 or equivalents. Heat and energy conversions and properties of gases and liquids. First and Second Laws of thermodynamics and applications. Thermodynamic power cycles and applications.

3341: Computer-Aided Drafting I Cr. 3. (2-3). Prerequisites: MATH 1330 and Intro 1300 or equivalents. Computer-aided drafting and design (CAD) systems and computer graphics hardware and software. Selection and evaluation of CAD systems.

3342: Computer-Aided Drafting II Cr. 3. (2-3). Prerequisites: Intro 1300 or equivalent and MECT 3341. Graphics applications of Computer Aided Drafting and Design (CAD) software. Systems development. Use of graphical and nongraphical databases in product data communications. Programming of CAD application.


3358: Dynamics of Mechanisms Cr. 3. (2-3). Prerequisites: MECT 2354 and MATH 1432. The motion of rigid bodies, including forces, mass acceleration, work, and energy. Graphical analysis of devices, including four-bar linkages, sliders, and gear trains.

3360: Automated Manufacturing Systems Cr. 3. (2-3). Prerequisite: MECT 1364. Automated manufacturing process planning and analysis, including CNC programming, robotics, and elements of computer-aided manufacturing.

3362: Industrial Work Measurement Cr. 3. (2-3). Prerequisites: MECT 1364 and MATH 1330. Workplace design and analysis, methods of work measurement, operating procedures, time standards, productivity measurement and improvement. Man-machine interaction and cost analysis.

3365: Computer-Aided Design I Cr. 3. (2-3). Prerequisite: MECT 3341, 3355, and 1364 or equivalent. Use of Computer Aided Design software in the design and engineering of machinery, machine components, and mechanical systems.

3367: Quality Control Technology Cr. 3. (3-0). Prerequisites: MECT 1364 and MATH 1330 or equivalents. Statistical analysis of data to establish control systems for manufacturing facilities.


4175: Design of Mechanisms Laboratory Cr. 1. (0-3). Prerequisite: concurrent enrollment in MECT 4375. Projects for design of mechanisms in manufacturing.

4198/4398: Special Problems Cr. 1. 3 per semester. Prerequisite: approval of chair.

4323: Applications in Stress Analysis Cr. 3. (3-0). Prerequisites: MECT 3355 and MATH 1432 or equivalents. Combined stress systems, nonsymmetrical loadings, structural joints and pressure vessels, beams and columns of composite materials, fatigue and impact applications.

4342: Computer-Aided Drafting Applications Cr. 3. (3-0). Prerequisite: MECT 3342. Applications of Computer Aided Drafting and Design (CAD) software to integrate the design of system components and assemblies.

4350: Principles of Mechatronics Cr. 3. (3-0). Prerequisites: ELET 2307, MECT 3358 and 3360 or equivalents. Kinematics of mechanisms and machines. Electrical drives and characteristics. Automatic controls and interfacing. Microprocessor assimilation into electro-mechanical systems.

4365: Computer-Aided Design II Cr. 3. (3-0). Prerequisite: MECT 3365 or equivalent. Advanced use of Computer Aided Design software to integrate the design of system components and assemblies.

4372: Materials Technology Cr. 3. (3-0). Prerequisites: MECT 3355 and concurrent enrollment in MECT 4172. Structure and property relationships of materials including metals, ceramics, and polymers. Behavior of materials with emphasis on manufacturing processes and applications.

4375: Design of Mechanisms Cr. 3. (3-0). Prerequisite: MECT 3355. Design procedures, applications to machine elements and assemblies.

4384: Manufacturing Systems Control Cr. 3. (2-3). Prerequisite: MECT 3367 or equivalent. Manufacturing systems including layout, maintenance, material handling, and controls. Lean manufacturing, cost analysis, and manufacturing economics.

4397: Selected Topics in Mechanical Technology Cr. 3. (3-0). Prerequisite: approval of chair. May be repeated for credit when topics vary.

5323: Applications in Stress Analysis Cr. 3. (3-0). Prerequisite: MECT 3355 or equivalent. Combined stress systems, nonsymmetrical loadings, structural joints and pressure vessels, beams and columns of composite materials, fatigue and impact applications.
Department of Human Development and Consumer Sciences (HDCS)

Chair: Carole Goodson
Professors Carole Goodson, Barbara L. Stewart
Associate Professors Shirley Ezell, Katy Greenwood, Marcella M. Norwood
Assistant Professors Holly M. Hutchins, Consuelo Waight

The Department of Human Development and Consumer Sciences (HDCS) provides a service to the community in which it is embedded by producing a stream of well educated and dedicated professionals in the fields of retail management, career and technical education, and training and development. Through its students, the department will contribute to economic growth and quality of life by providing career-oriented graduates.

The programs of study prepare students for career opportunities in business and industry, public service organizations, government, and school systems.

The professional studies option of the Consumer Sciences and Merchandising degree is designed for students who have completed an associate’s degree (or extensive content block) in a technology related or other related discipline and wish to complete their bachelor’s degree. The program builds on prior academic experience, providing additional knowledge in merchandising, consumer science, sales, training, and development.

Consumer Science and Merchandising (CSM)

Consumer Science and Merchandising is designed to develop professionals who can integrate knowledge of consumers and merchandising processes and apply that knowledge to a broad spectrum of problems facing individual consumers, families, service agencies, and retail marketers of products and services. Consumer Science and Merchandising focuses on analyzing the consumer as a social and economic unit of society and on the process of merchandising products to consumers. Professional development in this program includes trend analysis, selling, merchandising experience, internship, self assessment, professional goal setting, networking and portfolio development.

Processes of retail marketing and consumer affairs are emphasized. Graduates will:

- Display the computer skills required for the merchandising professional in today’s marketplace.
- Have the option to enhance their professional development through the Electronic (on-line) Consumer Science and Merchandising courses (E-CSM), allowing students to earn money while they learn skills from remote locations.
- Demonstrate the relationship between consumers and businesses through employment in the fields of retail marketing, fashion, sales, buying, public relations, and education.
- Apply retail management techniques and principles to the buying and selling of products and services.

Electives or minor must be from approved technical area for specialization requirements, including university core requirements and major core requirements.

For the most current listing of degree requirements and course listings please go to www.uh.edu.

University Core Curriculum and College General Requirements

Communication (6 semester hours)
English 1303. Freshman Composition I
English 1304. Freshman Composition II OR
TELA 3372. Communicating Science, Engineering and Technology Issues and Trends Within the Global Workplace

History (6 semester hours)
HIST 1376 or 1377, 1378 or 1379

American Government (6 semester hours)
POLS 1336, 1337

Social and Behavioral Sciences (6 semester hours)
HDCS 1300 (writing intensive)
Three semester hours selected from core approved list

Humanities (3 semester hours)
Three semester hours selected from core approved list

Visual/Performing Arts (3 semester hours)
Three semester hours selected from core approved list

Mathematics/Reasoning (12 semester hours)
Math 1310. College Algebra
TMTH 3360. Applied Technical Statistics
Six semester hours of Math Reasoning/Formal Science selected from core approved list

Natural Sciences (6 semester hours)
Six semester hours from core approved list

Computer Literacy
ITEC 1301. Introduction to Computer Application Technology
Electives: 12 SH Minimum (or minor)
Electives or minor must be from approved technical area for students pursuing Technology Entrepreneurship specializations.

Major Core Requirements

HDCS 3300. Organizational Decisions in Technology OR
TELA 3340. Organizational Leadership and Supervision
HDCS 3301. Consumer Science
HDCS 3303. Merchandising and Consumer Sciences
HDCS 3304. Visual Merchandising
HDCS 4300. Research Concepts
HDCS 4303. Merchandising Systems
HDCS 4369. Entrepreneurship
HDCS 4380. Merchandising
HDCS 4386. Communication Strategies for Merchandising and Industrial Distribution
HDCS 4593. Internship in HDCS
LOGT 2380. Distribution Channels
LOGT 3381. Industrial and Consumer Sales
TECH 3365. Industrial Computer Applications
TRDE 4340. Training Techniques for Supervisors

Professional Studies Area of Specialization:

Choose one (1) 15 hour specialization or elective block from those listed below (15 SH)

Consumer Science and Merchandising Electives (Select 15 semester hours)
HDCS 3302. Consumer Textiles
HDCS 4302, Apparel Analysis
HDCS 4370, Technology Entrepreneurship
HDCS 4372, Forecasting Technology Entrepreneurship
HDCS 4374, Entrepreneurial E-Tailing
HDCS 4375, Strategies in E-Tailing
HDCS 4376, Resources in Technology Entrepreneurship
HDCS 4394, Internship in HDCS
HDCS 4396, Selected Topics in CSM

Technology Entrepreneurship Specialization (15 semester hours)
HDCS 4370, Technology Entrepreneurship
HDCS 4372, Forecasting for Technology Entrepreneurship
HDCS 4374, Entrepreneurial E-Tailing
HDCS 4376, Resources in Technology Entrepreneurship
HDCS 4394, Internship in HDCS

E-Tailing Specialization (15 semester hours)
HDCS 4374, Entrepreneurial E-Tailing
HDCS 4375, Strategies in E-Tailing
Select from:
HDCS 3304, Visual Merchandising
HDCS 4302, Apparel Analysis
HDCS 4394, Internship in HDCS
LOGT 2362, Introduction to Logistics Technology
LOGT 3387, Procurement
LOGT 4387, Global Sourcing

Training and Development Specialization (15 semester hours)
TRDE 4344, Computer Applications in Training
TRDE 4346, Training and Development Programs
TRDE 4351, Instructional Strategies and Design for Training and Development
HDCS 4394, Internship in HDCS
Approved HDCS elective

Approved non-CSM content course work (15 semester hours)
See faculty advisor for approval of a 15 hour content block in field other than Consumer Science and Merchandising.

Degree awarded: Bachelor of Science
Major: Consumer Science and Merchandising.

Certification in Marketing Education
Secondary certification in marketing education can be attained by selecting a minor in education in conjunction with the Consumer Science and Merchandising major (see Marcella Norwood, coordinator).

Minors in Human Development and Consumer Sciences
The Human Development and Consumer Sciences Department offers the following minors to students who are interested in furthering their knowledge in the fields of consumer sciences and merchandising.
Students who select one of these minors must satisfy the general university requirements for a minor as well as the following specific course requirements:

Consumer Science and Merchandising (15 semester hours)
Required Courses:
HDCS 3303, 3301, and 4303

Electives: Six semester hours selected from the following, including at least three advanced hours:
TELS 2360, HDCS 3300, 3302, 3304, 4302, 4369, 4380, 4386, 4396

Human Development and Consumer Sciences
(15 semester hours)
Required Course:
HDCS 1300
Electives: Twelve semester hours in HDCS, including nine advanced semester hours.

Note: A student completing a major in Consumer Science and Merchandising may not declare the above minor.

Training and Development (15 semester hours)
Required Courses:
TELS 3345
TRDE 4340 and 4351
Six semester hours to be selected from the following:
TELS 3346, TRDE 4344, or 4346

Accelerated B.S./M.S. Degree Program in Training and Development
The Accelerated B.S./M.S. degree program is open to qualified undergraduate technology majors in Consumer Science and Merchandising and other Technology majors wishing to continue their education at the graduate level immediately upon completion of the B.S. degree. Students that are accepted in the accelerated program take up to six graduate credit hours that are applied to both the bachelors’ degree and master’s degree in Training and Development (M.S.TRDE).

Students may pursue either the thesis or non-thesis masters degree options. The B.S. degree will be conferred upon completion of the undergraduate curriculum requirements with appropriate graduate courses substituted for undergraduate courses. The graduate degree shall be awarded based upon existing requirements for the graduate degree in Training and Development. Application for the program is recommended for undergraduates during their junior year. Application and completion requirements are available from the Department of Human Development and Consumer Sciences in room 110 of the Cameron Building or the College of Technology Academic Services Center in room 385 of the Technology II Building.

Courses: Human Development and Consumer Sciences (HDCS)

Human Development and Consumer Sciences (HDCS)
1300: Family Ecosystems Cr. 3. (3-0). Prerequisite: concurrent enrollment in or completion of Engl. 1303 or equivalent. Introduction to the study of human and consumer needs, values, and goals in relationship to natural, man-made, and behavioral systems.
3300: Organizational Decisions in Technology Cr. 3. (3-0). Prerequisite: junior standing or consent of instructor. Systems-theory approach to organizational planning and decision making in a variety of contexts.
3301: Consumer Science Cr. 3. (3-0). Analysis of consumer models and managerial process as influenced by science, technology, and consumer economics with consideration of impact on individuals and families.
3302: Consumer Textiles Cr. 3. (3-0). Analysis of textile components to predict product quality and end-use performance.
3303: Merchandising and Consumer Science Cr. 3. (3-0). Prerequisites: ITED 1300 or equivalent and MATH 1310 or TECM 1335, or consent of instructor. Interdisciplinary analysis and comparison of merchandising and consumer science. Psychology of consumer choice and the structure of the merchandising industry.

3304: Visual Merchandising Cr. 3. (3-0). Prerequisite: HOCS 3303 or consent of instructor. Principles of design: visual merchandising, product promotions, and communication.

4198: Special Problems Cr. 1. 3 per semester, or more by concurrent enrollment. Prerequisite: consent of instructor.

4300: Research Concepts in Human Development and Consumer Sciences Cr. 3. (3-0). Prerequisite: junior standing or consent of instructor. Research processes applicable to human development and consumer sciences.

4302: Apparel Analysis Cr. 3. (3-0). Prerequisite: HOCS 3303 or consent of instructor. Critical evaluation of quality levels of manufactured apparel. Issues involved in merchandising.

4303: Merchandising Systems Cr. 3. (3-0). Prerequisite: HOCS 3303 or consent of instructor. Merchandising systems, including wholesale, retail, and allied markets. Emphasis on initiating and implementing changes within the system.

4369: Entrepreneurship Cr. 3. (3-0). Prerequisite: junior standing. Planning and organizing a single proprietorship with emphasis on technical assistance, marketing strategy, location, financing, legal issues, management of human resources, promotion, business records, credit and collections, and entrepreneurial characteristics.

4370: Technology Entrepreneurship Cr. 3. (3-0). Prerequisite: HOCS 4369. Concepts and issues related to the commercialization of technology-based products and services.

4372: Forecasting for Technology Entrepreneurship Cr. 3. (3-0). Prerequisite: HOCS 4369. Forecasting technology and organizational change with performance models.

4374: Entrepreneurial E-Tailing Cr. 3. (3-0). Prerequisite: HOCS 4369. Technology-based approaches for entrepreneurial enterprises.

4375: Strategies in E-Tailing Cr. 3. (3-0). Prerequisite: HOCS 4374. Strategies for consumer acceptance and profitability in E-Tailing.

4376: Resources in Technology Entrepreneurship Cr. 3. (3-0). Prerequisite: HOCS 4370. Practical approaches to resources for technology-based enterprises.

4380: Merchandising Cr. 3. (3-0). Prerequisite: junior standing. Mathematical, statistical, and control phases of retail buying, computing prices and markups, evaluating inventories, controlling stocks, and budgeting expenses.

4386: Communication Strategies for Merchandising and Industrial Distribution Cr. 3. (3-0). Prerequisite: HOCS 3300 or consent of instructor. Principles and techniques of mass communication, direct marketing and media used in delivering, merchandising, and industrial distribution programs, and providing services.

4393:4394: Internship in Human Development and Consumer Sciences Cr. 3. (3-0). Prerequisites: HOCS major and senior standing. Application of theoretical approaches to the study of the individual, family, and consumer through supervised practice in the student’s area of emphasis.

4396: Selected Topics in Human Development and Consumer Sciences Cr. 3. (3-0). Prerequisites: junior standing and permission of the department chair. May be repeated for a maximum of nine semester hours.

Technical Mathematics (TMCY)

1335; 1336: Basic Technical Mathematics Cr. 3 per semester. (3-0).

2335; 2336: Advanced Technical Mathematics Cr. 3 per semester. (3-0). Prerequisite: TMCY 1336. Selected topics from analytic geometry, differential, and integral calculus.

3360: Applied Technical Statistics Cr. 3. (3-0). Prerequisites: ITED 1300 and six semester hours in mathematics. Collection, analysis, presentation, interpretation of numerical data; probability, sampling, quality control with special emphasis on application.

4198: Special Problems Cr. 1 per semester. Prerequisite: approval of chair.

Technology (TECH)

3365: Industrial Computer Applications Cr. 3. (3-0). Prerequisites: ITED 1301 or ITED 1300. Application of computers to such areas as business records, economics, and technical statistics. Emphasis on microcomputer applications.

3366: Applications of Numerical Methods in Technology Cr. 3. (3-0). Prerequisites: ITED 1300 and TECM 2335. Applications of numerical methods to engineering technology problems using microcomputers.

Training and Development (TMD)

4340: Training Techniques for Supervisors Cr. 3. (3-0). Prerequisite: TEE 3340. Developing training philosophy, training techniques, training programs, and evaluating training results.

4344: Computer Applications in Training Cr. 3. (3-0). Prerequisite: ITED 1301 or consent of instructor. Computer-assisted instruction, computer-based evaluation, authoring languages, and systems in a training environment.

4346: Training and Development Programs Cr. 3. (3-0). Prerequisite: TEE 4340. Needs analysis methods, trainer selection, instructional design, and learning principles, methods and strategies.

4351: Instructional Strategies and Design for Training and Development Cr. 3. (3-0). Prerequisite: TEE 4340. Applications of instructional strategies and instructional design in an industrial training environment.

Department of Information and Logistics Technology (ILT)

Chair: John W. Hansen
Professors Michael Gibson, Sharon Lund O’Neil
Associate Professors John W. Hansen, Susan L. Miertschin, Jerry J. Waite, Cheryl L. Willis
Assistant Professors Edward T. Crowley (Clinical), Jamison Day, Joy D. Lloyd (Visiting), Garth Oliver (Visiting), Robert Seaker, Jeffrey Sumrall

The Department of Information and Logistics Technology (ILT) provides educational opportunities designed to prepare students for careers in business, industry, and government; the programs are closely linked to workforce quality and productivity for the region, the state, and the nation through its programs in Logistics Technology (LTE), Information Systems Technology (ISTE), and Technology Leadership and Supervision (TELS). Graduates are leaders who bring high levels of technology expertise to the workplace and are prepared to guide technological change.

Our Mission

The mission of the Department of Information and Logistics Technology at the University of Houston is to produce new ideas and knowledge within the fields of information, logistics, graphic communications, and leadership technology, and to educate highly capable and diverse technology leaders for the state of Texas, the nation, and the global community.

Departmental Learning Objectives

Technology
To achieve its educational mission, graduates from the ILT department’s programs will have acquired the six capabilities listed below.

Graduates will know how to:

• Acquire the basic and in-depth knowledge and skills required in their professions.
• Apply and refine their technological knowledge and skills in leadership, critical thinking, problem solving, decision-making, teamwork processes, and project management to solve novel, ambiguous, and routine problems.
• Integrate their knowledge of technological, social, organizational, and value systems to improve the creation and application of technological solutions.
• Contribute to the improvement of their professions and society through the discovery, application, integration, and assessment of technological capability.
• Anticipate and fulfill their need for new knowledge and capabilities as their disciplines progress.
• Employ effective oral, written, graphic, and interpersonal modes of communication for expressing technical concepts to diverse audience.

To qualify for a Bachelor of Science degree in the Department of Information and Logistics Technology, students must complete university requirements for a baccalaureate degree, including university core curriculum requirements and departmental requirements for a specific degree program as stated in this section of the catalog. The most current information is available at the College of Technology website, www.tech.uh.edu.

All majors and minors in the Department of Information and Logistics Technology must earn a grade of C or better in all major/minor courses. No grade lower than C will be accepted on any courses applicable to the major transferred to the University of Houston. A grade point average of 2.00 or better is required for graduation.

The Department of Information and Logistics Technology also offers the Master of Science in Technology Project Management with specializations in Logistics Technology and Information Systems Security. For more information about this graduate program, refer to the Graduate and Professional Studies catalog or to the College of Technology website at www.tech.uh.edu.

Logistics Technology (LTE)

Logistics Technology is a technically-based program using information technology to optimize the global flow of industrial goods and services from manufacturer to industrial user. Logistics Technology focuses on the international supply chain from the source of raw material through the final consumption of the product.

Because supply-chain functions are part of all business activities, skills acquired with this degree offer unlimited employment opportunities.

Career options for LTE graduates include supply-chain management with domestic and international manufacturing operations, service companies, third-party logistics providers, transportation companies, distribution centers, and other government and private businesses. Graduates are employed as industrial and transportation sales representatives; logistical analysts and consultants; operations managers; purchasing representatives; inventory control specialists; marketing directors; customer service representatives; and warehouse and distribution center managers.

Major Requirements

LOGT 2380. Distribution Channels
LOGT 3384. Logistics Technology and Processes
LOGT 3385. Transportation Economics and Policy
LOGT 3387. Procurement
LOGT 3389. Transportation Law
LOG 4312. Inventory and Materials Handling
LOG 4375. Global Supply Chain
LOG 4380. Quality Systems
LOG 4387. Global Sourcing
LOG 4389. Practicum in ID
TELS 2371. Industrial Fiscal Records

College and Department Requirements

COMM 3356. Business and Professional Communication
GRCT 3353. Visual Communications Technology
ITEC 1301. Introduction to Computer Application Technology
LOGT 2362. Introduction to Logistics Technology
ITEC 2332. Introduction to Client/Server Technology
ITEC 2334. Information Systems Applications
TELS 2360. Business Law
TELS 3340. Organizational Leadership and Supervision OR
HDCS 3300 Organizational Decision in Technology
TELS 3363. Technical Communications

Operations Track (15 SH Minimum)

LOGT 3381. Industrial/Consumer Sales
MECT 1364. Materials and Processes I
TELS 4341. Production and Service Operations
TECH 3365. Industrial Computer Applications
Approved Elective**

Systems Management Track (15 SH Minimum)

ITEC 2338. Technology in the Community
ITEC 3343. Information Systems Analysis and Design
ITEC 3347. Principles of Information Management
ITEC 3365. Database Management
Approved Elective**

**Electives to be chosen from College of Technology, Engineering, or Business (other choices must be preapproved)

Recommended Electives:

ELET 2307. Electrical-Electronics Circuits
HDCS 4386. Communication Strategies for Merchandising and Industrial Distribution
HDCS 4369. Entrepreneurship
GRCT 2350. Graphics for Digital Media
TELS 3345. Human Resources in Technology
GRCT 3350. Graphic Communications Materials and Processes
GRCT 3351. Digital Prepress I
TELS 4371. Leading Change in the Workplace
TELS 4390. Current Issues in Technology Leadership and Supervision

University Requirements

Communication (6 semester hours)
Engl. 1303 and 1304. Freshman Composition I and II
The Information Systems Technology program provides for the needs of a dynamic and integral part of business and industry—the information systems environment. Students will obtain a background in business applications, computer concepts, problem solving, decision making, human relations, evaluation, analysis, and communications. Information systems technologists can be found in a broad spectrum of careers in the private and public sectors including businesses, corporations, government, nonprofit, or community organizations. Leadership skills in goal setting, time management, verbal and visual communication, and leadership values and abilities are developed through relevant real world applications.

The success of today’s businesses and organizations demand leadership that is informed, forward-thinking, and able to optimize the capabilities of knowledge-based workers and the solutions they create. The TELS degree develops exactly this set of skills. Students learn about leadership, the creation of organizational vision and value, and the development of human resources while leading technological change.

The TELS degree provides a long term, empowering approach to the practice of leading people rather than the short term, command and control approach to utilizing human resources. Students learn about leadership, the importance of organizational vision and values, developing human resources, and managing technological resources in corporate, government, nonprofit, or community organizations. Leadership skills in goal setting, time management, verbal and visual communication, and leadership values and abilities are developed through relevant real world applications.

The TELS program consists of 123 hours of undergraduate academic credit. In addition to meeting the 42 semester hour university core curriculum requirement, students must complete 48 semester hours in major core courses, and 33 semester hours in directed emphasis coursework. Students must earn a 2.0 mini-
mum GPA in all major and directed emphasis courses attempted at the university. Transfer students must have earned a 2.0 GPA or better in all major and directed emphasis courses to be transferred for credit.

The major areas of coursework within the TELS program are (1) analysis and reasoning, (2) organizations, (3) human resources, (4) communications, (5) integration through an original senior project, and (6) directed technology emphasis.

Program Admission

UH undergraduate students wishing to transfer into the TELS program from another degree plan must have a minimum 2.00 GPA and be in good academic and disciplinary standing in order to apply for admission. Upon acceptance into the TELS program, your university core curriculum requirements may transfer, and up to 33 semester hours from your previous major may transfer into the area of directed emphasis. A minimum 2.00 GPA must have been earned in each directed emphasis transfer course, otherwise that course must be repeated.

Students from other degree granting accredited institutions may apply for admission. To be eligible for admission, a student must have completed an A.S. or A.A.S. degree and have a minimum 2.00 GPA. Students that are accepted into the program may apply up to 60 semester hours from their Associate degree towards the completion of their Bachelor of Science degree.

Freshmen students are admitted into the TELS program, but must take the Graphics Technology courses as their area of directed emphasis; there is no substitute. The field of Graphics Technology prepares visionaries and leaders for the printing and publishing industry, the third largest industry in the United States. The TELS program with directed emphasis in Graphics Technology educates professionals to assume positions of leadership in printing and publishing businesses.

Degree Requirements

Major Requirements

GRTC 3353. Visual Communications Technology
LOGT 2362. Introduction to Logistics Technology
LOGT 4380. Quality Systems
PHIL 1321. Logic I
TELS 3340. Organizational Leadership and Supervision
TELS 3345. Human Resources in Technology
TELS 3355. Project Leadership
TELS 3363. Technical Communications
TELS 3365. Team Leadership
TELS 4341. Production and Service Operations
TELS 4371. Leading Change in the Workplace
TELS 4372. Proposal and Project Writing
TELS 4390. Current Issues in Technology Leadership and Supervision
TELS 4378 OR GRTC 4378. Senior Project**
TMTH 3360. Applied Technical Statistics
Will include 3 hours of Elective or Computer Literacy***

Directed Technology Emphasis Example

GRTC 2350. Graphics for Digital Media
GRTC 3350. Graphic Communication Materials and Processes
GRTC 3351. Digital Prepress I
GRTC 3352. Image Transfer Technology
GRTC 4372. Costing in Graphic Communications
GRTC 4373. Digital Prepress II
GRTC 4376. Multimedia Authoring
GRTC 4390. Current Issues in Graphic Communications
HOC 4369. Entrepreneurship
LOGT 3381. Industrial and Consumer Sales
GRTC 4396. Internship: Graphics Communication

Note: This block of directed emphasis courses MUST be taken by freshmen majoring in the TELS program.

Directed EMPHASIS (36 SH)
(Transfer/change of major students will create an emphasis that is composed of at least 33 SH. This block DOES NOT apply to freshmen students).

Note: The Academic Services Center can assist in determining the directed emphasis that best fits your degree requirements.

University Core Curriculum

Communication (6 semester hours)
Encl. 1303 and 1304. Freshman Composition I and II
History (6 semester hours)
Hist 1376 or 1377, 1378 or 1379
American Government (6 semester hours)
POLS 1336 and 1337
Social and Behavioral Sciences (6 semester hours)
Six semester hours selected from core approved list
Humanities (3 semester hours)
Three semester hours selected from core approved list
Visual/Performing Arts (3 semester hours)
Three semester hours selected from core approved list
Mathematics (3 semester hours)
MATH 1310
Mathematics/Reasoning (3 semester hours)
MATH 1313
Natural Sciences (6 semester hours)
Six semester hours from core approved list

Degree awarded: Bachelor of Science
Major: Technology Leadership and Supervision

Minors in Information and Logistics Technology

Students may minor in graphic communications technology, computer graphics, logistics technology, industrial supervision, information systems development, information systems management, or purchasing. Students who select one of these minors must satisfy the general university requirements for a minor as well as the specific minor requirements below.

Minors in the department of Information and Logistics Technology must earn a grade of C or better in all minor courses. Prerequisites are strictly enforced for all minor courses and may not be listed in the required hours.

Graphic Communications Technology (15 semester hours)

Required courses:
GRTC 3350, 3351, and 3352
Six hours to be selected from the following:
GRTC 4372, 4373, 4376, or 4390

Computer Graphics (18 semester hours)

Required courses:
Graphics Communications Technology (GRTC)

2350: Graphics for Digital Media (formerly ITEC 2350) Cr. 3. (2-3). Prerequisite: demonstrated computer proficiency or ITEC 1301. Introduction to pixel-based vector graphics for use in print and digital media.

3350: Graphic Communications Materials and Processes (formerly ITEC 3350) Cr. 3. (3-0). Prerequisite: GRTC 3353 or equivalent. graphic communications processes and ancillary operations. Materials used in the graphic reproduction process.


3352: Image Transfer Technology (formerly ITEC 3352) Cr. 3. (2-3). Prerequisite: junior standing. Theoretical and practical aspects of printing presses for single-color reproductions. Use of appropriate quality control devices and standards.

3353: Visual Communications Technology (formerly ITEC 3353) Cr. 3. (2-3). Prerequisite: ITEC 1301 or equivalent. Graphic, digital, and filmed/taped communications processes.

4198/4298: Special Problems Cr. 1, 2 per semester. Prerequisite: approval of chair. Individual projects under faculty sponsorship.

4372: Costing in Graphic Communications (formerly ITEC 4372) Cr. 3. (3-0). Prerequisites: credit for or concurrent enrollment in GRTC 3351 and 3352 or consent of instructor. Principles and techniques of cost estimation for graphic communications production.


4376: Multimedia Authoring (formerly ITEC 4376) Cr. 3. (2-3). Prerequisite: GRTC 3353. Planning and developing multimedia productions.

4377: Practicum in Graphic Communications Technology Cr. 3. Prerequisites: GRTC 3351 and 3352. Directed individual study in graphic communications technology. Class presentations by students; instructor-led discussions of research methods.

4378: Senior Project Cr. 3. Prerequisites: TELS 4372 and approval of chair. Directed research project.

4390: Current Issues in Graphic Communications (formerly ITEC 4390) Cr. 3. (3-0). Prerequisites: GRTC 3351 and 3352. Issues and topics in graphic communications technology.

4396: Internship in Graphic Communications Technology Cr. 3. Prerequisite: consent of instructor.

4397: Selected Topics in Graphic Communications Cr. 3 per semester. (3-0). Prerequisite: approval of chair. May be repeated for credit when topics vary.

4398: Special Problems (formerly ITEC 4398) Cr. 1-3 per semester. Prerequisite: approval of chair. Individual projects under faculty sponsorship.

Industrial Technology (ITEC)

1300: Computers in Technology (formerly TECH 1300) Cr. 3. (3-4). Prerequisite: TMT 1335; non-technology majors may not enroll in this course without permission from the dean’s office. Introduction to computers and their application to various technologies. Concepts of hardware, software, number systems, basic computer organization, and structured programming.

1301: Introduction to Computer Application Technology (formerly OTEC 1301) Cr. 3. (3-0). Prerequisites: credit for or concurrent enrollment in ENG 1303 and MATH 1310 or equivalents. Introduction to computer and information technologies and the application in the workplace.

2332: Introduction to Client/Server Technology (formerly OTEC 2332) Cr. 3. (3-0). Prerequisite: ITEC 1301 (formerly OTEC 1301). A conceptual and technological survey of the structure of distributed information systems architectures, operating systems, networking operating systems, data management systems, application development environments, peripheral technology, and user interfaces.

2334: Information Systems Application (formerly OTEC 2334) Cr. 3. (3-0). Prerequisite: credit for or concurrent enrollment in ITEC 2332. Concepts and production skills relating to information systems technologies, procedures, and resources.

2336: Internet Application Development (formerly OTEC 2336) Cr. 3. (3-0). Prerequisites: ITEC 1300 and 2334. Internet and World Wide Web technologies. Construction and maintenance of websites.

2338: Technology in the Community (formerly OTEC 2338) Cr. 3. (3-0). Prerequisites: ITEC 2334 and credit for or concurrent enrollment in ITEC 2336 or at least 6 hours in major for noninformation systems technology majors. Introduction to project management in technology-intensive workplaces. Hands-on experience in project management through service to technologically underserved communities.

3334: Information Systems Analysis and Design (formerly OTEC 3343) Cr. 3. (3-0). Prerequisite: credit for or concurrent enrollment in ITEC 3347. Development and evaluation of information systems with relation to efficiency and cost; case study approach.

3347: Principles of Information Management (formerly OTEC 3347) Cr. 3. (3-0). Prerequisites: ITEC 3383, information systems technology major or minor, and junior standing. Principles, applications, and administration of information systems.

3348: Expert Systems (formerly OTEC 3348) Cr. 3. (3-0). Prerequisite: credit for or concurrent enrollment in ITEC 3347. Expert systems concepts, characteristics, applications, and tools.

3365: Database Management (formerly OTEC 3365) Cr. 3. (3-0). Prerequisites: MATH 1314 and ITEC 3343 or equivalent. Applications of hierarchical and relational database systems.

3368: Advanced Internet Application Development (formerly OTEC 3368) Cr. 3. (3-0). Prerequisite: credit for or concurrent enrollment in ITEC 3365. Use of web development tools for website development. Architectural planning, technology selection, and website programming tasks. Internet applications using COM components on both the client and server.

3399/4399: Senior Honors Thesis (formerly OTEC 3399/4399) Cr. 3 per semester. Prerequisite: approval of chair. Independent work in
information systems technology under the supervision of a faculty member. Both must be completed for credit.

4198:4298: Special Problems Cr. 1, 2 per semester. Prerequisite: approval of chair. Individual projects under faculty sponsorship.

4335: Integrated Information Systems (formerly OTEC 4335) Cr. 3. (3-0). Prerequisites: ITEC 3347 and information systems technology major or minor. Evaluation of integrated information systems.

4337: Advanced Information Systems Applications (formerly OTEC 4337) Cr. 3. (3-0). Prerequisites: ITEC 3348 and 3365, information systems technology major or minor, and senior standing. Advanced concepts and computer-based applications integral to office information systems.

4338: Database Design and Implementation (formerly OTEC 4338) Cr. 3. (3-0). Prerequisites: credit for or concurrent enrollment in ITEC 4337, information systems technology major or minor, and senior standing. Physical database design, construction, and implementation, including usage analysis, data distribution, replication analysis, storage estimation and load approaches, database application development, and query optimization.

4339: Enterprise Applications Development (formerly OTEC 4339) Cr. 3. (3-0). Prerequisite: ITEC 4338, Advanced application development techniques in a large enterprise-wide setting. Database connectivity options, distributed object technologies, n-tier client/server applications, transaction systems, Web-enabled applications, source code management and version control, and application installation and deployment issues.

4375: Practicum in Information Systems Technology (formerly OTEC 4375) Cr. 3. Prerequisites: ITEC 4335 and 4337. Directed individual study in information systems technology. Class presentations by students; instructor-led discussion of research methods.

4390: Current Issues in Information Systems (formerly OTEC 4390) Cr. 3. (3-0). Prerequisites: information systems technology major or minor and senior standing. Current issues and topics in information systems.

4396: Internship: Occupational Technology (formerly OTEC 4396) Cr. 3. Prerequisite: consent of instructor.

4397: Selected Topics in Information Systems Technology (formerly OTEC 4397) Cr. 3 per semester. (3-0). Prerequisites: approval of chair. May be repeated for credit when topics vary.

4398: Special Problems (formerly OTEC 4398) Cr. 3 per semester. Prerequisite: approval of chair. Individual projects under faculty sponsorship.

5321: Information Systems Security Cr. 3. (3-0). Prerequisite: senior standing in a technology discipline, technical undergraduate degree, or consent of graduate faculty advisor. Contemporary information systems security issues for technology professionals from an applied perspective.

Logistics Technology (LOGT)

2362: Introduction to Logistics Technology (formerly Dist 1362) Cr. 3. (3-0). Functions, processes, and objectives of the logistics operation. Industrial distributor and its relationship to other channel members.

2380: Distribution Channels (formerly Dist 3380) Cr. 3. (3-0). Organization and operations of distribution channels with emphasis on vendor evaluation, value analysis, complex pricing, promotional strategies, and execution issues.

3381: Industrial and Consumer Sales (formerly Dist 3381) Cr. 3. (3-0). Prerequisite: junior standing or consent of instructor. Analysis of consumer bases, product knowledge and applications, benefits selling, competition analysis, and strategies and methods appropriate to inside/outside sales.

3383: Industrial Direct Response (formerly Dist 3383) Cr. 3. (3-0). Prerequisite: LOGT 3381. Development of vendor-customer direct solicitation and order and reorder response systems. Telemarketing, direct mail, and catalog/direct mail as part of closed loop direct response system. Interactive system design.

3384: Logistics Technology and Processes (formerly Dist 3384) Cr. 3. (3-0). Prerequisites: LOGT 2362 and either junior standing or consent of instructor. Capacity allocation, facility and flow design, retrieval mechanisms, and inventory control systems; impacts on service and cost performance.

3385: Transportation Economics and Policy (formerly Dist 3385) Cr. 3. (3-0). Prerequisites: LOGT 2362 and ECON 2304. Cost structures and service capabilities of the major modes of transportation. History and effects of regulatory policies of carriers and shippers.

3387: Procurement (formerly Dist 3387) Cr. 3. (3-0). Prerequisite: LOGT 2362 or HECIS 3303. Purchasing functions including vendor analysis, negotiations, value analysis, systems contracts, public purchasing, organization, personnel, policies, competitive bids, and ancillary functions.

3389: Transportation Law Cr. 3. (3-0). Prerequisites: LOGT 2380 and TELS 2360. Regulatory and procedural requirements pertaining to domestic and international freight transportation.

4198:4298:4398: Special Problems Cr. 1-3 per semester. Prerequisite: approval of chair. Individual projects under faculty sponsorship.

4312: Inventory and Materials Handling (formerly Dist 4312) Cr. 3. (3-0). Prerequisites: LOGT 3384 and 3387 or consent of instructor. Recognition and utilization of mechanical and automated handling systems, tools, and techniques required for the movement and storage of materials within a logistics operation.

4375: Global Supply Chain (formerly Dist 4375) Cr. 3. (3-0). Prerequisite: LOGT 3384 or 3385. Relationships among international trade specialists, global distribution channels, and government policies using international documentation, terms of trade, financial, and legal resources.

4380: Quality Systems (formerly Dist 4380) Cr. 3. (3-0). Prerequisites: LOGT 2362 and MTH 2210. Quality techniques and systems with an emphasis on statistical analysis.

4387: Global Sourcing (formerly Dist 4387) Cr. 3. (3-0). Prerequisite: LOGT 3387 or consent of instructor. Advanced analysis of purchasing functions. Materials and information processes among global organizations.

4389: Practicum in Logistics Technology (formerly Dist 4389) Cr. 3. Prerequisite: second semester LOGT senior standing or consent of instructor. Team approach to research-oriented problems in the field of logistics technology.

4390: Current Issues in Logistics Technology Cr. 3. (3-0). Prerequisite: senior standing as LOGT major. Current issues and topics of significance to logistics technology.

4396: Internship in Logistics Technology Cr. 3. Prerequisite: consent of instructor.

4397: Selected Topics in Logistics Technology Cr. 3 per semester. (3-0). Prerequisite: approval of chair. May be repeated for credit when topics vary.

Technology Leadership and Supervision (TELS)

2360: Business Law (formerly ITIEC 2360) Cr. 3. (3-0). Prerequisite: ENGL 1304 or equivalent. General principles as they relate to the law of contracts, property, agency, corporations, bankruptcy, mortgages, torts, and the Uniform Commercial Code.

2371: Industrial Fiscal Records (formerly ITIEC 2371) Cr. 3. (3-0). Fundamentals of recording and presenting financial data for industry.

3340: Organizational Leadership and Supervision (formerly ITIEC 3340) Cr. 3. (3-0). Prerequisite: ENGL 1304. The supervisory process. Established practices and supporting knowledge of supervisory planning, leading, organizing, and controlling.

3345: Human Resources in Technology (formerly ITIEC 3345) Cr. 3. (3-0). Prerequisite: ENGL 1304. Functions of personnel administration in human resource development, employee-supervisor relationships, interviewing, recruiting and selection techniques, and training programs.

3346: Wage and Salary Administration (formerly ITIEC 3346) Cr. 3. (3-0). Prerequisite: TELS 2371. Concepts, principles, procedures, processes, and programs related to the design of an effective system of compensation.

3355: Project Leadership Cr. 3. (3-0). Prerequisite: TELS 3340. Project management leadership processes: core knowledge and skills.
3363: Technical Communications (formerly ITEC 3363) Cr. 3. (3-0). Prerequisite: ENGL 1303 with grade of C or higher. Procedures and techniques of preparing technical memoranda, oral and written reports, manuals, and other source documents that fit the pattern of industrial and institutional communications.

3365: Team Leadership Cr. 3. (3-0). Prerequisite: TELS 3340. Roles, processes, and strategies for team leadership. Creation of collaborative climates for team performance, team member development, leading successful team meetings, and strategies for dealing with global and virtual teams.

3372: Communicating Science, Engineering, and Technology Issues and Trends Within the Global Workplace (formerly ITEC 3372) Cr. 3. (3-0). Prerequisite: three hours in communication course with a grade of C or higher. Analysis of issues and trends in science, engineering, and technology to develop effective communication in the global workforce. Focus on oral and written communications, critical thinking, and research skills using computer-driven technologies.

4198:4298:4398: Special Problems Cr. 1-3 per semester. Prerequisite: approval of chair. Individual projects under faculty sponsorship.

4341: Production and Service Operations (formerly ITEC 4341) Cr. 3. (3-0). Prerequisites: MATH 1313, TMTH 3360, and TELS 3340. Planning and control of production and service operations. Product and service design, design of work systems, forecasting, scheduling, capacity planning, and inventory control.

4348: Supervisor–Employee Relationships (formerly ITEC 4348) Cr. 3. (3-0). Prerequisite: TELS 3340. Supervisor–employee relationships that affect the role of the supervisor in the industrial setting.

4349: Organizational Dynamics (formerly ITEC 4349) Cr. 3. (3-0). Prerequisite: TELS 3340. In-depth studies in organizational behavior as it relates to organizational development and supervision.

4350: Industrial and Environmental Safety (formerly ITEC 4350) Cr. 3. (3-0). Prerequisite: TELS 3340. Concepts and principles dealing with problems, methods, and solutions in managing and developing effective industrial and environmental safety programs.

4371: Leading Change in the Workplace (formerly OCTE 4371) Cr. 3. (3-0). Prerequisites: junior standing and TELS 3340 or equivalent. For students preparing to assume the role and duties of a leader or supervisor in an organization. Role of leadership and supervisory knowledge and skills in the improvement of productivity and quality.

4372: Proposal and Project Writing Cr. 3. (3-0). Prerequisites: TELS 3363 and senior standing. Technical writing focusing on research and project proposals. Required for TELS seniors as preparation for the senior project.

4377: Practicum in Technology Leadership and Supervision (formerly ITEC 4377) Cr. 3. Prerequisite: senior standing. Directed individual study of technology leadership and supervision. Class presentations by students; instructor-led discussions of research methods.

4378: Senior Project Cr. 3. Prerequisites: TELS 4372 and approval of chair. Directed research project.

4390: Current Issues in Technology Leadership and Supervision Cr. 3. (3-0). Prerequisite: consent of instructor. Issues and topics in technology leadership and supervision.

4396: Internship in Technology Leadership and Supervision Cr. 3. (3-0). Prerequisite: consent of instructor.

4397: Selected Topics in Technology Leadership and Supervision Cr. 3 per semester. (3-0). Prerequisite: approval of chair. May be repeated for credit when topics vary.