LAWRENCE TECHNOLOGICAL UNIVERSITY
UNDERGRADUATE CATALOG
2012–13

Announcement of General Information and Courses in the Colleges of

Architecture and Design
Arts and Sciences
Engineering
Management

For the Academic Year 2012–13

CONTENTS

VISIT THE CAMPUS

Lawrence Technological University welcomes prospective students, family members, employers, and others to visit. While on campus, prospective students are encouraged to discuss their educational plans with admissions staff and to meet current Lawrence Tech students, professors, or deans. Call the Office of Admissions at 800.225.5588 to arrange an appointment or to request additional information. The Office of Admissions is open (except holidays) Monday – Thursday, 8 a.m. – 7:30 p.m., and Friday, 8 a.m. – 4:30 p.m. If you plan to visit during the summer, please contact the Office of Admissions for summer hours.

Lawrence Tech's 102-acre full-service campus provides a full range of academic, recreational, and residential facilities, along with convenient access to major freeways. Southeastern Michigan is one of America's hubs of business and commerce, the site of some of the world's outstanding technological accomplishments.

ABOUT THIS UNDERGRADUATE CATALOG

This *Undergraduate Catalog* is a compendium of opportunities available at Lawrence Technological University. It includes information on academic programs, requirements for admission and graduation, rules, regulations, and expectations. Failure to read this *Undergraduate Catalog* does not excuse students from the requirements and regulations described herein. While every effort is made to provide accurate and current information, the University reserves the right to change rules, policies, fees, curricula, courses, and other programs described to reflect faculty or administrative action. This *Undergraduate Catalog* is accurate as of the publication date. Course descriptions are available online through BannerWeb at my.ltu.edu. For information about graduate programs, refer to Lawrence Tech's *Graduate Catalog*.

STUDENT IMAGES

Lawrence Technological University reserves the right to use images of student work and of students on campus, or at any of its offsite locations, for the purpose of promoting the University. Students not wishing to be photographed should notify the registrar in writing when they register each semester.

Academic Schedules

FALL 2012 SEMESTER

April 16 – April 20	Advance registration
April 21 – August 28	Regular registration
August 28	Last day to register for traditional semester courses without a late fee
August 29	Traditional semester courses begin; add/drop period begins; late registration fee applies
September 1	Last day of classes before Labor Day recess
September 4	Classes resume
September 4	Last day to register for College of Management courses without a late fee
September 5	College of Management courses begin; add/drop period begins; late registration fee applies for College of Management courses
September 10	Last day to drop traditional semester courses with refund (no refund for classes dropped after September 10)
September 11	Withdrawal period begins for traditional courses; late transaction fee applies for each course added
September 17	Last day to drop College of Management courses with refund (no refund for classes dropped after September 17)
September 18	Withdrawal period begins for College of Management courses; late transaction fee applies for each course added
September 21	Faculty Assessment Day – All day courses (starting before 4 p.m.) are canceled for the day with the exception of some studios and labs. Students enrolled in Friday studio or lab should contact their instructor to see if the session is canceled.
September 30	Last day to register for traditional and College of Management courses (regardless of when they start)
October 24	Midterm grades due for first-year students
November 14	Last day to withdraw from College of Management courses
November 21	Last day of classes before Thanksgiving break
November 25	Classes resume
November 28	Last day to withdraw from traditional semester courses
December 8	Last day of College of Management classes before final exams
December 10 – December 15	College of Management final exams

December 14	Last day of traditional semester classes before final exams
December 15	Last day of College of Management semester
December 17 – December 21	Traditional semester final exams
December 21	Fall 2012 semester ends
December 27	Grades due

SPRING 2013 SEMESTER

November 12 – November 16	Advance registration
November 17 – January 13	Regular registration
January 13	Last day to register for traditional semester and College of Management courses without a late fee
January 14	Traditional semester and College of Management courses begin; add/drop period begins; late registration fee applies
January 21	Campus closed in celebration of Martin Luther King, Jr., Day
January 24	Last day to drop College of Management courses with refund (no refund for classes dropped after January 24)
January 25	Withdrawal period begins for College of Management courses; late transaction fee applies for each course added
January 25	Last day to drop traditional semester courses with refund (no refund for classes dropped after January 25)
January 26	Withdrawal period begins for traditional courses; late transaction fee applies for each course added
March 1	Last day to register for traditional and College of Management courses (regardless of when they start)
March 9	Last day of classes before mid-semester break
March 11 – March 16	Mid-semester break
March 18	Midterm grades due for first-year students
April 3	Last day to withdraw from College of Management courses
April 5	Last day to withdraw from traditional semester courses
April 20	Last day of College of Management classes before final exams
April 22 – April 27	College of Management final exams
April 27	Last day of College of Management semester
May 3	Last day of traditional semester classes before final exams
May 6 – 10	Traditional semester final exams
May 11	Commencement
May 11	Spring 2013 semester ends

May 15	Grades due

SUMMER 2013 SEMESTER

April 15 – April 19	Advance registration
April 20 – May 14	Regular registration
May 14	Last day to register for traditional semester and College of Management courses without a late fee
May 15	Traditional semester and College of Management courses begin; add/drop period begins; late registration fee applies
May 24	Last day of classes before Memorial Day
May 28	Classes resume
May 28	Last day to drop traditional semester and College of Management courses with refund (no refund for classes dropped after May 28)
May 29	Withdrawal period begins for traditional semester and College of Management courses; late transaction fee applies for each course added
June 30	Last day to register for traditional and College of Management courses (regardless of when they start)
July 4 – 7	Campus closed for Independence Day recess
July 10	Last day to withdraw from traditional semester and College of Management courses
July 25	Summer 2013 semester ends
July 31	Grades due

FALL 2013 SEMESTER

April 15 – April 19	Advance registration
April 20 – August 27	Regular registration
August 27	Last day to register for traditional semester courses without a late fee
August 28	Traditional semester courses begin; add/drop period begins; late registration fee applies
August 30	Last day of classes before Labor Day recess
September 3	Classes resume
September 3	Last day to register for College of Management courses without a late fee
September 4	College of Management courses begin; add/drop period begins; late registration fee applies for College of Management courses
September 10	Last day to drop traditional semester courses with refund (no refund for classes dropped after September 10)
September 11	Withdrawal period begins for traditional courses; late transaction fee applies for each course added

September 16	Last day to drop College of Management courses with refund (no refund for classes dropped after September 16)
September 17	Withdrawal period begins for College of Management courses; late transaction fee applies for each course added
September 20	Faculty Assessment Day – All day courses (starting before 4 p.m.) are canceled for the day with the exception of some studios and labs. Students enrolled in Friday studio or lab should contact their instructor to see if the session is canceled.
September 30	Last day to register for traditional and College of Management courses (regardless of when they start)
October 25	Midterm grades due for first-year students
November 13	Last day to withdraw from College of Management courses
November 27	Last day to withdraw from traditional semester courses
November 27	Last day of classes before Thanksgiving break
December 2	Classes resume
December 7	Last day of College of Management classes before final exams
December 9 – December 13	College of Management final exams
December 13	Last day of College of Management semester
December 14	Last day of traditional semester classes before final exams
December 16 – December 20	Traditional semester final exams
December 20	Fall 2013 semester ends
December 27	Grades due

SPRING 2014 SEMESTER

November 18 – November 22	Advance registration
November 23 – January 12	Regular registration
January 12	Last day to register for traditional semester and College of Management courses without a late fee
January 13	Traditional semester and College of Management courses begin; add/drop period begins; late registration fee applies
January 20	Campus closed in celebration of Martin Luther King, Jr., Day
January 23	Last day to drop College of Management courses with refund (no refund for classes dropped after January 23)
January 24	Withdrawal period begins for College of Management courses; late transaction fee applies for each course added

January 24	Last day to drop traditional semester courses with refund (no refund for classes dropped after January 24)
January 25	Withdrawal period begins for traditional courses; late transaction fee applies for each course added
March 1	Last day to register for traditional and College of Management courses (regardless of when they start)
March 8	Last day of classes before mid-semester break
March 10 – March 16	Mid-semester break
March 21	Midterm grades due for first-year students
March 25	Last day to withdraw from College of Management courses
April 4	Last day to withdraw from traditional semester courses
April 19	Last day of College of Management classes before final exams
April 21 – April 25	College of Management final exams
April 25	Last day of College of Management semester
May 3	Last day of traditional semester classes before final exams
May 5 – 9	Traditional semester final exams
May 10	Commencement
May 10	Spring 2014 semester ends
May 14	Grades due

SUMMER 2014 SEMESTER

April 15 – April 19	Advance registration
April 20 – May 14	Regular registration
May 14	Last day to register for traditional semester and College of Management courses without a late fee
May 15	Traditional semester and College of Management courses begin; add/drop period begins; late registration fee applies
May 24	Last day of classes before Memorial Day
May 28	Classes resume
May 28	Last day to drop traditional semester and College of Management courses with refund (no refund for classes dropped after May 28)
May 29	Withdrawal period begins for traditional semester and College of Management courses; late transaction fee applies for each course added
June 30	Last day to register for traditional and College of Management courses (regardless of when they start)
July 4 – 6	Campus closed for Independence Day recess
July 9	Last day to withdraw from traditional semester and College of Management courses

July 24	Summer 2014 semester ends
July 30	Grades due

NOTES ON ALL SCHEDULES

The University reserves the right to make adjustments to the academic calendar as necessary.

For courses that start or end at times other than indicated or are of a different length, DIFFERENT dropping, adding, and refund dates apply. It is the student's responsibility to be aware of these dates. They are available on the website of the Office of the Registrar at www.ltu.edu/registrars_office/index.asp or by calling the Office of Enrollment Services at 248.204.2280.

Possible Is Everything

Leading-edge, technology-infused academic programs. Dynamic campus life. NAIA and ACHA athletics. Proven career placement. Lawrence Technological University is for students who believe everything is possible and that possible is everything. An independent, co-educational accredited university founded in 1932, Lawrence Tech offers more than 100 academic programs at the associate, baccalaureate, master's, and doctoral degree levels. The University is composed of Colleges of Architecture and Design, Arts and Sciences, Engineering, and Management. Approximately 4,500 students are enrolled in full-time, part-time, day, evening, weekend, online, credit, and non-credit programs.

Lawrence Tech combines the benefits of a close, caring, small-college atmosphere with the academic depth and scope of a larger university. Lawrence Tech takes a personal approach to education, and the University attracts students who generally have made some big plans for themselves. They're highly motivated students with a tremendous will to succeed, to excel, and to seek out the best in whatever they do.

Lawrence Tech has a reputation for excellence. Most students claim that the University's programs are rigorous and challenging – programs that unapologetically demand commitment. At the same time, as a result of their educational preparation, Lawrence Tech graduates report (in numbers well above national norms) that they arrive in the workplace feeling prepared and ready to do their jobs.

Independent studies also confirm that Lawrence Tech students rapidly achieve placement success. Most Lawrence Tech students are employed within a month of graduating – and according to *BloombergBusinessweek*, the earning power of a Lawrence Tech bachelor's degree ranks in the top 20 percent of all U.S. universities.

The heritage and educational philosophy of the University is summed up in just three words in the University motto, adopted shortly after Lawrence Tech was founded in 1932 – "theory and practice." It means that Lawrence Tech seeks to explain not only why something should work, but how it works in real situations and applications.

Much of the student's learning in this way will be gained directly from Lawrence Tech's professors. Many Lawrence Tech faculty have years of successful industrial and professional experience in addition to academic credentials from some of the nation's top universities and colleges. They've learned what succeeds in the "real" world, and they'll try to make sure that students do, too.

The University maintains close partnerships with the industries and professions that its students and graduates serve in order to provide students with the skills employers need. Lawrence Tech's close proximity to some of the world's leading industrial, technological, business, and scientific enterprises also gives students the opportunity to participate in co-op, part-time jobs, and networking opportunities. More than 200 *Fortune 500* corporations have headquarters or major operations within a half-hour's drive of campus.

Lawrence Tech students are strongly encouraged to interact with the professional world throughout their academic program. Dozens of professional societies are active on campus and help students network with men and women already working in specific fields. Many of the academic programs also require participation in professional projects that seek to solve real problems facing practicing architects, engineers, managers, scientists, and others. The projects expose students to a host of real-world challenges, and Lawrence Tech students regularly earn top awards in competitions that pit them against students from other colleges and universities.

MISSION, VALUES, VISION, AND CAUSE

Lawrence Technological University was founded as an independent nonprofit institution of higher learning. On a regular basis, the University community – including trustees, administrators, staff, faculty, students, and alumni – meets to review, establish, and achieve the ambitious goals set forth in the Strategic Plan, to reflect upon hopes for the future, and to elucidate the purposes for which Lawrence Tech operates and serves. The latest edition of Lawrence Tech's Strategic Plan can be viewed on www.ltu.edu/strategicplan.

Part of this planning process is to review and direct the evolution of the mission, values, vision, and cause statements that guide Lawrence Tech's progress. These statements are:

Mission

To develop leaders through a student-centric environment with innovative and agile programs embracing theory and practice.

Values

Theory and Practice
Student-focused and Caring
Teamwork and Trust
Character and Integrity

Vision

To be a pre-eminent private technological university producing leaders with an entrepreneurial spirit and global view.

Cause

The intellectual development and transformation of our students into critical thinkers, leaders, and lifelong learners.

The Lawrence Tech community believes in open, honest communication within an active learning environment that:

1. Is committed to academic excellence, diversity, and the development of the whole person.
2. Anticipates and meets the needs of our constituents: students, faculty and staff, alumni, donors, and industry neighbors.

3. Creates leadership opportunities for the growth and development of a diverse faculty and staff.
4. Links theory and practice with innovative programs and delivery.

ACCREDITATION AND MEMBERSHIPS

Lawrence Technological University is accredited by the Higher Learning Commission and a member of the North Central Association (www.ncahigherlearningcommission.org, 312.263.0456). The NCA accreditation report is on file in the University's library and is available for public review by patrons. Various graduate and undergraduate degree programs in architecture, interior architecture, interaction design, graphic design, business administration and management, chemistry, and engineering are additionally accredited through appropriate national professional agencies.

Lawrence Tech's institutional memberships include:

American Society for Engineering Education
Association of American Colleges and Universities
Association of Collegiate Business Schools and Programs
Association of Collegiate Schools of Architecture
Association of Independent Colleges and Universities of Michigan

The University is also a member of:

Advanced Acceptance Program
American Association of Collegiate Registrars and Admissions Officers
American Association of University Administrators
American Council on Education
Association of College Administration Professionals
Association of College Admissions Counselors (national, Michigan, and Ohio)
Association of Governing Boards of Universities and Colleges
Automation Alley
College Board
Council for Higher Education Accreditation
Engineering Society of Detroit
International Assembly for Collegiate Business Education
National Association of Independent Colleges and Universities
National Financial Aid Association
Michigan Association for Foreign Student Affairs
Michigan Association of Collegiate Registrars and Admissions Officers
Michigan Campus Compact
Michigan Student Financial Aid Administrators
Midwest Association of Student Financial Aid Administrators
National Association for Foreign Student Affairs
National Association of Student Financial Aid Administrators

Lawrence Tech is also a member of nearly all chambers of commerce in the surrounding counties of Oakland, Wayne, and Macomb, including Southfield and Greater Detroit, and the U.S. Chamber of Commerce.

Faculty and staff are additionally members of a wide variety of local, state, and national professional organizations appropriate to their disciplines. Professional organizations with active student chapters at Lawrence Tech are listed in the Services for Students section of this *Catalog*.

DAY, EVENING, WEEKEND, AND ONLINE CONVENIENCE

Lawrence Tech's programs are designed for traditional students as well as for working professionals. The great majority of the University's bachelor's degree classes are offered in day and evening schedules that complement each other. Lawrence Tech is one of only a few universities to offer a complete selection of bachelor's and graduate degree programs in the evening. No stranger to providing the convenience of evening classes, Lawrence Tech pioneered some of the nation's first such programs in 1932.

A growing number of undergraduate degrees, certificates, and courses are offered online. Others are delivered in hybrid mode, meaning that some class sessions are held in the classroom while others are held online.

Undergraduate and graduate classes are usually offered on a semester calendar – two semesters of 16 weeks. The fall semester begins in late August and ends in mid-December. The spring semester begins in January and ends in mid-May. There is also a summer session that offers students the opportunity to accelerate and continue academic progress or make up deficiencies. Certain programs may also be offered on special schedules that accelerate class meetings over shorter periods. Consult the registrar about these opportunities.

CLASSES AND FACULTY

Lawrence Tech's moderate size encourages close interaction between students, faculty, and staff. Classes are generally small, especially for upperclassmen, and individual initiative is stressed.

Lawrence Tech has more than 400 full- and part-time faculty members. Exemplifying the University motto of "theory and practice," in addition to academic experience, many also bring a wealth of personal real-world research, business, or industrial experience to the classroom or laboratory. In addition to courses taught by Lawrence Tech's full-time professional faculty, it isn't unusual for students in appropriate disciplines to take classes taught by adjunct faculty who are successful corporate executives, practicing accountants, managers, entrepreneurs, engineers, architects, attorneys, and scientists. Such exposure is deliberate on the part of the University and seeks to help students develop an awareness of the most current real-world problem-solving applications of their academic studies.

Lawrence Tech students find that their professors are normally easily accessible and that they are eager to discuss individual questions, academic progress, or concerns outside of

class. The University has a tradition of an “open door” policy with faculty, department chairpersons, deans, the president, and other administrative staff.

DIRECT STUDENT INTERACTION

The successful Lawrence Tech student generally arrives on campus with a full measure of ability and self-initiative. Self-initiative is Lawrence Tech’s term for a proper combination of motivation and self-reliance. These students appreciate the institutional position that the University exists for, and interacts with, the student – not relatives, spouses, or friends wishing to represent them. The fact that Lawrence Tech students are of a maturity that requires no such representation helps ensure that they are prepared for responsible full- or part-time employment during their academic career and, following graduation, for professional employment or continued study.

AFTER GRADUATION

Lawrence Tech alumni include a distinguished group of engineers, entrepreneurs, architects, scientists, business executives, managers, technicians, attorneys, physicians, governmental officials, educators, and others holding key positions throughout the United States and around the world.

About 80 percent of Lawrence Tech’s more than 30,000 degree-holding alumni reside in Michigan and the Midwest, but alumni also live in nearly every state and territory, as well as in Aruba, Australia, the Bahamas, Bermuda, Brazil, Canada, Chile, China, Colombia, Ecuador, England, France, Germany, Greece, Guyana, Hong Kong, India, Iran, Ireland, Israel, Jamaica, Japan, Jordan, Lebanon, Malaysia, Mexico, the Netherlands, Nigeria, Norway, Pakistan, Peru, Saudi Arabia, Scotland, Singapore, South Korea, Sweden, Taiwan, Thailand, United Arab Emirates, Venezuela, and Zambia.

Lawrence Tech’s Alumni Association is the international forum for active graduates. The association hosts a website, www.lawrencetech.net, that provides access to everything from lifetime email accounts and events calendars to job search assistance. The Association holds meetings and sponsors a variety of activities and services for members in southeastern Michigan and formal and informal chapters elsewhere in Michigan and other states, including Arizona, California, Florida, and Georgia. Several chapters based on academic interest are also active. The Office of Alumni Relations coordinates alumni activities and serves as a campus liaison for alumni worldwide.

Your Campus and Community

Lawrence Technological University's park-like 102-acre campus continues to expand and now includes 14 major buildings. An exciting program of improvements continues throughout the campus and includes the A. Alfred Taubman Student Services Center, which provides a convenient centralized student service location, meeting rooms, and more.

Lawrence Tech's location is considered by many to be among the University's greatest assets, providing many nearby opportunities for students to network with practicing professionals, participate in career-related organizations, and find internships, co-op experiences, and full- and part-time employment during college and after graduation.

Located near the exact center of population of southeastern Michigan, the University is conveniently situated in the Oakland County city of Southfield, a suburban community of more than 78,000 people. For visitors traveling by car, the campus is about 30 minutes northwest of downtown Detroit. It is also about 30 minutes northeast of Detroit Metropolitan Airport. Lawrence Tech is easily reached by highway and is situated at the intersection of West Ten Mile Road and Northwestern Highway (M-10, the Lodge Freeway), just south of Interstate 696.

The campus is at the center of the world of real work, real problems to be solved, and real possibilities for a full professional and cultural life. Southeastern Michigan is a hub of American business and industry. It is a manufacturing and corporate center, the site of some of the world's outstanding technological accomplishments, and a focal point for cultural activities and recreation.

Within a 15-mile radius of campus are world headquarters for many of the nation's leading research, industrial, and manufacturing firms. And while the area's economy is substantially more diverse than in the days when the region was dubbed the world's auto capital, fully one-third of all U.S. auto production still takes place within 70 miles of the campus – in some of the planet's most sophisticated, highly automated, and innovatively managed work environments.

Lawrence Tech is part of the Oakland County/Automation Alley SmartZone, one of the state's foremost concentrations of and magnets for high-tech business and enterprise. The University is also the designated Small Business Development Center for Oakland County, with specialization in technology.

Oakland County is one of the wealthiest counties in the nation. Retail sales in the county alone exceed those of 14 states and the District of Columbia. The county is a leading center of international commercial activity and home to some 700 foreign-owned firms from 37 countries. About 46 percent of all Michigan's research and development firms have locations in the county, and 70 percent of southeastern Michigan's top original equipment manufacturers and suppliers are headquartered in Oakland County. Nearly 60 percent of *Fortune 500* companies and more than 40 percent of *Global Fortune 500* companies have business locations in the county.

Nearby recreational opportunities abound – more than 450 lakes, five ski areas, nearly 30 public fishing sites, and more golf holes per capita than any other place in the country. Major entertainment facilities within a half-hour drive include the DTE Energy and Meadowbrook outdoor music theaters, the Palace of Auburn Hills (home of the NBA Detroit Pistons), Joe Louis Arena (home of the NHL Detroit Red Wings), Ford Field (home of the NFL Detroit Lions), and Comerica Park (home of the MLB Detroit Tigers). Additional attractions include the Cranbrook Museums, the Detroit Zoo, the Detroit Institute of Arts, Detroit Historical Museum, Motown Museum, The Henry Ford, Charles H. Wright Museum of African American History, and more.

CAMPUS BUILDINGS

Lawrence Tech's **A. Alfred Taubman Student Services Center,** named for a former student and one of the University's most generous benefactors, is a 42,000-square-foot facility at the center of campus that provides convenient one-stop access to the Offices of Admissions, Financial Aid, the Registrar, Cashier, Dean of Students, Career Services, International Programs, Student Activities, Clinical Counseling, University Housing, Laptop Help Desk, Academic Achievement Center, and more. The building is also Leadership in Energy and Environmental Design (LEED) Silver-certified and a living laboratory of energy-efficient technologies, including a soaring atrium and vegetated "green" roof.

The **Applied Research Center** houses labs and offices for the Formula SAE, Formula Hybrid, Baja SAE, and aeronautical student teams; the transportation design program's clay modeling studio; a wind tunnel; and the Automotive Engineering Institute, which features a 4 x 4 chassis dynamometer.

The **Architecture Building**, completed in 1962, houses classrooms, studios, and faculty offices for the College of Architecture and Design. A 325-seat auditorium is also located here, as well as a gallery for changing exhibits.

The **Art and Design Center** houses College of Architecture and Design studios and computer labs, the mailroom, and the offices of Campus Safety.

The **Wayne H. Buell Management Building** is a 115,000-square-foot structure dedicated to the memory of Lawrence Tech's third president. It houses the College of Management, library, dining commons (Real Food on Campus, [RFoC]), and bookstore. The Offices of the President, Provost, University Advancement, and Marketing and Public Affairs are also here. A fully enclosed two-story atrium hosts a variety of special events and offers a pleasant spot for students to eat, study, or visit with friends. The atrium also features an ATM and Einstein Bros. Bagels.

The **Business Services Building** houses the Department of Finance and Administration, Business Services, Human Resources, LTU Online, and e-Learning Services.

Connected to the Engineering Building is the **Center for Innovative Materials Research** (CIMR), a state-of-the-art laboratory for the research, development, and testing of carbon-fiber composites and other advanced materials such as ceramics and polymers for defense, homeland security, automotive, and infrastructure applications. Dedicated in 2008, CIMR was made possible by an $11 million cooperative research agreement with the Army Research Lab and the U.S. Army Tank-Automotive Research, Development and Engineering Center – an unprecedented federal partnership with a private Michigan university.

The **Don Ridler Field House** memorializes a beloved coach and athletic director who led Lawrence Tech basketball teams of the 1940s and 1950s to national prominence and includes a 1,500-seat gymnasium, exercise track, weight and conditioning room, saunas, racquetball courts, and locker facilities.

Lawrence Tech's **Engineering Building** was the first building on the Southfield campus when it opened in 1955. Expanded in 1987, the building houses classrooms, laboratories, and offices for the College of Engineering.

The **Professional Development Center**, built in 1959 and substantially upgraded in 1996, houses the offices and facilities for non-degree professional training and business acceleration.

The **Quadrangle** at the center of campus features crisscrossing paths, granite benches, trees, and a grassy bioswale that filters rainwater. It also caps a field of 120 geothermal wells that heat and cool the Taubman Center, which has no gas hookup.

The **Science Building**, opened in 1967, has been extensively renovated and equipped with upgraded computer, lab, and multimedia equipment. It houses classrooms, laboratories, and faculty offices for the College of Arts and Sciences – including the Departments of Natural Sciences; Mathematics and Computer Science; and Humanities, Social Sciences, and Communication. The Edward Donley Computer Center is also here. A 303-seat auditorium is located at the south end of the building.

Lawrence Tech's **University Housing-South** and **-North**, opened respectively in 1977 and 2002, provide modern, fully furnished air-conditioned apartment-style units and together house some 600 students. See the Housing section of this *Catalog* for additional information.

Lawrence Tech's **University Technology and Learning Center**, opened in 2001, is a 87,000-square-foot building housing a variety of technology labs, and architecture and design studios. It also houses the University Gallery, Maibach Inter-Faith Lounge, Lear Auditorium, Denso Interactive Center, Media Services Studio, and the Provisions on Demand (P.O.D.) food kiosk. The building connects on either end to the **Architecture** and **Engineering** buildings.

Outdoor athletic facilities include softball diamonds and football and soccer fields.

The **Gregor S**. **and Elizabeth B. Affleck House**, designed by Frank Lloyd Wright and completed in 1941, was given to the University in 1978 by the late Afflecks' children, Mary Ann Lutomski and Gregor P. Affleck. The home is located in the nearby city of Bloomfield Hills. It is considered an outstanding example of Wright's Usonian work. The Affleck House is managed by the College of Architecture and Design.

Services for Students

ACADEMIC ACHIEVEMENT CENTER

The Academic Achievement Center (AAC) provides free academic support services to all students. Students come to the AAC to get help with homework or test preparation, compare notes, meet with study groups, or study quietly. Tutoring is provided in person and online for core classes in architecture and design, biology, chemistry, computer science, engineering, ESL, mathematics, physics, and writing. Students can walk in any day and see if a tutor is available; they can also guarantee time with a tutor by scheduling an appointment online.

Testing Services (proctored testing) are offered for students who are unable to complete quizzes or exams during regularly scheduled class time. When not in use for testing, private rooms are open for general student use.

Study skills workshops, individual study habit consultations, and study strategy handouts are available. Students also can access first-year academic support programs and Writing Proficiency exam and prep workshops. The AAC also offers computer workstations, a photocopier, other electronic resources, and conference rooms that can be reserved. The AAC is located on the lowest level of the A. Alfred Taubman Student Services Center in C201. Fall and spring semester hours of operation are Monday through Thursday, 9 a.m. – 8 p.m., and Friday 9 a.m. – 4:30 p.m. Summer and weekend hours vary and are posted outside the entrance.

ACADEMIC COUNSELING AND TUTORIAL SERVICES

All new students, both freshmen and transfers, are expected to attend orientation sessions prior to or during their first semester on campus. During these sessions, student opportunities, responsibilities, and regulations are presented, and registration is completed. A number of University counselors are available for academic advice, counseling, and registration assistance.

The Academic Achievement Center works with the coordinator of disability services to provide tutorial and testing services for students with disabilities. Contact the Office of Disability Services at 248.204.4119. See also Disability Services.

ACADEMIC SCHOLARSHIPS

A number of partial scholarship awards are available each year to on-campus students who have a minimum of two full-time semesters and have attained a qualifying GPA. An application is required for upper-class scholarships, and the deadline for submission is May 15 of each academic year. Students may apply at the DTE Energy One-Stop Center in the Office of Enrollment Services (enrollmentservices@ltu.edu or 248.204.2280). Academic scholarship awards are made on a competitive basis at the discretion of Lawrence Tech's Scholarship Committee. The scholarship application and other information can be found at www.ltu.edu/financial_aid/scholarships_current.asp.

ACTIVITIES AND ORGANIZATIONS

Whatever your particular interests or needs, you can find a campus activity or organization that will provide not just fun and fellowship but also opportunities to hone your professional and leadership skills. Joining a campus club or organization can help you prepare for life after college or simply provide a great way to relax and recharge. As they look back on their college years, alumni often say that some of their most rewarding experiences came from their participation in co-curricular activities.

So take a look at the list that follows, choose one (or several) activities and become involved! And remember to let the Office of Marketing and Public Affairs know what your organization is doing. The staff there can help with publicity and regularly reports news of campus activities to the press, radio, and television.

Students interested in forming new organizations should contact the Office of Student Engagement or the Executive Board of Student Government for assistance. Student Government approval is necessary for official recognition and funding assistance. To be eligible to run for office in any campus organization, students must have a cumulative grade point average of at least 2.3. They will be asked to withdraw from office at the end of any semester in which their semester grade point average falls below 2.0.

Student Government

The Lawrence Tech Student Government is recognized by the University administration as the official representative for the entire student body. It offers the opportunity for students to better themselves and their University through involvement in campus activities. Every student is extended an invitation to attend the many campus activities sponsored and supported by the Student Government. Student Government business is conducted twice monthly. All interested students are encouraged to attend meetings and express their views. Contact the Student Government through the Office of the Dean of Students.

The Student Government actively endorses all Lawrence Tech clubs and organizations that are beneficial to personal and scholastic achievement. The Student Government is composed of three interacting branches working in cooperation with each other. They are the Student Administration, the Student Senate, and various committees. The Student Administration consists of a president, vice president, treasurer, and secretary, who are elected in a spring campus-wide election. Various committee chairmen are appointed by the president and approved by the Senate. Students become eligible to be members of a Student Government committee by simply attending the meetings. Members of the Student Senate include official representatives from each recognized student organization and three senators-at-large. Senators are the only voting members at Student Government meetings. All business concerning the Student Government is brought before the Student Senate for approval. The Student Government recognizes three standing committees:

Publications Committee

Coordinates the student section of the *Tech News* newspaper.

Elections Committee
Coordinates all aspects of the Student Government elections held in the spring.

Honors and Awards Committee
Organizes the annual Student Government Awards Banquet held in the spring of each academic year.

In order to hold a Student Government office, a student must maintain at least a 2.3 grade point average.

The number of student clubs and organizations varies each year depending on student interest. At a moderately sized university like Lawrence Tech, you don't have to "wait in line" to become involved. Students interested in starting a club based on a hobby, career interest, or for any other purpose, should contact the Office of Student Engagement at 248.204.3142.

Students Planning Activities Monthly (SPAM)
SPAM is a student-based organization that coordinates campus activities that enhance and enrich the quality of student life at Lawrence Tech by addressing the needs and interests of its diverse student body. SPAM is open to all students from all academic majors. Members attend the annual National Association of Campus Activities mid-America and national conferences, monthly meetings, and SPAM-associated events. To get involved, contact the Office of Student Engagement at 248.204.3142 or email stuevent@ltu.edu. Monthly event information is available at www.ltuspam.org.

Professional Organizations
American Chemical Society (ACS)
American Institute of Aeronautics and Astronautics (AIAA)
American Institute of Architecture Students (AIAS)
American Institute of Graphic Arts (AIGA)
American Society of Civil Engineers (ASCE)
American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE)
Architectural Engineering Institute (AEI)
Association of Information Technology Professionals (AITP)
Bio Medical Engineering Society (BMES)
Institute of Electrical and Electronic Engineers (IEEE)
Interior Architecture Student Organization (IASO)
National Society of Black Engineers (NSBE)
SAE International
Society of Physics Students
Society of University Leaders (SOUL)
Society of Women Engineers (SWE)

Honor Societies
Lambda Iota Tau and Tau Iota
Tau Sigma Delta

Clubs and Publications
Alternative Energy Student Group (AESG)
Arab Student Union (ASU)
Artists' Guild
Autonomous Vehicles and Robotic Systems Student Committee (AUVSI)
Black Student Union (BSU)
Blue Devil Development
Brew Brothers
Campus Crusade for Christ
Chaldean-American Students Association (CASA)
Chess Club
Circle K International
Collegiate Entrepreneurs' Organization (CEO)
Concrete Canoe and Steel Bridge
Honors Society
Hua Xia Association
Indian Student Association
International Cultural Council (ICC)
Lawrence Tech Dance Team
Life Science Association
LTU Bike Crew
Math Club
Minecraft Club
Muslim Student Association (MSA)
Out! At LTU with Friends
Pep Band
Prism
Psychology Club
Saudi Student Union
Sigma Alpha Pi
SAE International
  SAE Aero Design®
  Baja SAE®
  Formula Hybrid™
  Formula SAE®
Society of Dramatic Arts (SODA)
Spanish Club

Greek Life
Interfraternal Council
Composed of the elected officers and representatives of the Greek organizations at Lawrence Tech, the IFC provides leadership for five fraternities and three sororities and improves communication among the various Greek-letter social organizations on campus.

National Pan-Hellenic Council (NPHC)

The NPHC is a collaborative organization of nine historically African-American, international Greek-lettered fraternities and sororities. The NPHC was formed as a permanent organization on May 10, 1930, on the campus of Howard University, in Washington, D.C. NPHC was incorporated under the laws of the State of Illinois in 1937. Participating Lawrence Tech Greek organizations are Phi Beta Sigma Fraternity, Inc., and Alpha Kappa Alpha Sorority, Inc.

Greek Letter Organizations
Fraternities
Alpha Sigma Phi
Phi Beta Sigma
Phi Kappa Upsilon
Sigma Phi Epsilon
Sigma Pi
Theta Tau

Sororities
Alpha Kappa Alpha
Chi Omega Rho
Delta Phi Epsilon
Delta Tau Sigma
Zeta Phi Beta

ATHLETICS AND INTRAMURALS

The following programs are administered by the Department of Student Recreation, Athletics, and Wellness, located in the Don Ridler Field House.

Varsity Athletics

Lawrence Tech participates in the National Association of Intercollegiate Athletics (NAIA) as a member of the Wolverine-Hoosier Athletic Conference (WHAC). Lawrence Tech athletics has grown from five sports in its inaugural year of NAIA membership in 2011 to 11 sports in 2012. Lawrence Tech is committed to providing students the opportunity to excel both athletically and academically, while building leadership and teamwork capabilities. For more information, visit www.bluedevilathletics.com.

Intramurals

Lawrence Tech provides an extensive intramural program that offers competition in 15 sports: badminton, basketball, billiards, disc golf, dodgeball, flag football, golf, indoor soccer, indoor volleyball, Quidditch, racquetball, sand volleyball, ski/snowboarding, table tennis, and tennis. It is free to participate in most intramural leagues and tournaments. Any student, faculty, staff, or alumnus of LTU is eligible to play, regardless of skill level. If you are interested, check out the intramural schedule at www.imleagues.com/ltu.

Club Sports

Club sports allow Lawrence Tech students to compete with clubs and varsity teams from other colleges and universities. Mixed martial arts, ultimate Frisbee, and the LTU Bike

Crew are currently offered, and other sports are possible if student interest is sufficient to field teams.

The Club Sports program oversees each club sport, which is a student-led organization composed primarily of students, faculty, and staff. Each club is formed, developed, governed, and administered by the student membership of that particular club, working with the Club Sports program staff. The key to the success of this program and each club is student leadership, interest, involvement, and participation. The Club Sports program staff is available to students for consultation on concerns and ideas, and for administrative assistance. For more information, contact sturec@ltu.edu or 248.204.3850.

Fitness and Wellness
The Fitness and Wellness program consists of Team Fitness, Zumba, Boot Camp, and Yoga Core Fusion. Classes are free to all students, faculty, staff, and members of the Field House. Each class is taught by exciting and energetic, certified instructors. The schedule changes from semester to semester and alterations or additions will be posted on www.bluedevilathletics.com. For any questions, contact sturec@ltu.edu.

ATM (CASH)
There is an automated teller machine (ATM), hosted by Michigan First Credit Union, located in the atrium of the Buell Management Building, which is available anytime the building is open. This unattended station allows withdrawals, deposits, or account transfers, using debit cards with Cirrus, Plus, Pulse, Star, or Quest network logos or a Visa, MasterCard, Discover, or American Express credit card and a personal identification number. For local Michigan First Credit Union branches, call 800.664.3828.

BOOKSTORE
The bookstore is located in the Buell Management Building. Books, supplies, snacks, and Lawrence Tech apparel and gifts may be purchased. Textbooks may be purchased online at www.whywaitforbooks.com. Book rentals and eBooks are also available. Fall and spring semester hours are Monday through Thursday, 9 a.m. – 7 p.m., and Friday, 9 a.m. – 1 p.m. For other times, call 248.204.3030 or visit www.ltu.edu.

BUILDING HOURS
In general, campus facilities are open from 7 a.m. to 10 p.m. seven days a week, excluding holidays. Students may use the facilities 24 hours per day provided the dean of their college, a faculty member, or faculty advisor has approved and forwarded to the Department of Campus Safety an extended access hours authorization via email. Faculty members and faculty advisors should check with the dean of their respective college regarding the policy on allowing extended access to the facilities of that college. The dean, faculty member, or advisor may forward extended-access authorizations via email to ltu_safety@ltu.edu. Please allow 24 hours advance notice for extended hours requests. Individuals found not in compliance with this policy may be subject to the University discipline system. Students using campus facilities, especially after hours, must carry

their Lawrence Tech identification card with them and must present it if requested to do so by a Lawrence Tech Campus Safety officer.

CAMPUS DINING

Real Food on Campus (RFoC), located on the second floor of the Buell Management Building, is open during the fall and spring semesters and provides "all you care to eat" meal options that include five staffed food stations – comfort food, deli, exhibition, grill, pizza and pasta, market (soups and salads) – and a bakery. Campus Dining also oversees the Einstein Bros. Bagels in the atrium of the Buell Management Building and a Provisions on Demand (P.O.D.) express in the UTLC lobby, which offers grab-and-go salads and sandwiches, snacks, and beverages.

Lawrence Tech offers meal plans and Blue Devil Dollars. Meal plans are used at the RFoC. Blue Devil Dollars work like a debit card and can be used at all Lawrence Tech dining locations. **Lawrence Tech requires all residential students to participate in a meal plan.**

As the exclusive food service vendor for the University, Aramark has the exclusive right to provide all food services, including catering and concessions, for all University purposes, including events offered by student organizations. Questions regarding this policy may be directed to the director of campus dining at 248.204.3203.

CAREER SERVICES

The Office of Career Services is much more than a place where students can go to find a job when they graduate. The Office of Career Services provides a wide variety of services and programs that, beginning as soon as the freshman year, can help students develop their career plans and establish career goals by identifying their abilities, values, and interests and then targeting occupations that reflect those abilities, values, and interests. The office also assists students with gaining cooperative education and internship experiences in their chosen field.

Services include career advising, on-campus employment, cooperative education and internships, career workshops, resume critiques, mock interviews, career fairs, employer presentations, and on-campus interviews. Lawrence Tech's online career resource center, CareerQuest (www.ltu.edu/career_services/careerquest.asp), lists opportunities for students and alumni. Students can also schedule on-campus interviews, register for career fairs and expos, research employers, and much more on CareerQuest.

The Office of Career Services is located in Room C404, A. Alfred Taubman Student Services Center, and is open daily from 8:30 a.m. to 4:30 p.m. Appointments can be made as well.

The office also posts on-campus employment opportunities for students. Students may work as assistants for the colleges, departments, and offices, such as Campus Dining; Student Recreation, Athletics, and Wellness; and the University Bookstore. Beginning in August, students may view available positions through CareerQuest

(www.ltu.edu/career_services/careerquest.asp). Student assistants are a great asset to the University. Students' responsibilities vary from administrative support and applied research, to general labor.

Need help writing a resume? Contact the office to meet with a career services staff member for assistance.

COMPUTER AND ONLINE LEARNING RESOURCES

Lawrence Tech provides laptop or tablet computers to all undergraduate students to ensure that they have full access to the University's rich educational resources and to better prepare them for the workplace. Undergraduate students may obtain a laptop upon registration, payment of a $500 security deposit, and acceptance of the terms and conditions of a laptop lease agreement. The term of the lease is up to one year. Graduate students may also obtain a laptop for a charge of $95 per credit hour, if they are available at the end of the undergraduate laptop distribution period. Laptops are distributed at the beginning of every semester. Laptops are also available to Lawrence Tech faculty.

A uniform suite of the most recent software applications valued at about $13,000 is installed on each laptop. Software applications specific to each college are also included, so that students have all the software resources they need for their declared majors.

All students, faculty, and staff have access to email, the Internet, and protected file storage on the University's servers. Wireless networking is available across the entire Campus, so access is possible anywhere in the academic cluster and housing. Students can use several public printers located in the Help Desk office, the Engineering Building, the library, Architecture Building and in University Housing-North and Housing-South.

Help Desk

The Help Desk, located in the MPC Student Computer Center, Room C203, Taubman Center, provides walk-in support to all students and faculty, including problem diagnosis; laptop and tablet distribution, return, and repair; wireless network configuration; password changes; email setup; instruction and training; and more. Laptop diagnosis and minor repairs are handled on-the-spot. Other repairs are made within 24 to 48 hours, and a loaner laptop is provided if needed.

Help Desk hours are Monday – Thursday, 8 a.m. – 6:30 p.m., and Friday, 8 a.m. – 4:30 p.m., during the fall and spring semesters. Telephone support is also provided during these hours at 248.204.2330. The Help Desk also provides after hours and weekend support by emailing helpdesk@ltu.edu. Hours are reduced during breaks and the summer months. For more information about Help Desk services and the laptop program, visit www.ltu.edu/computer_center/helpdesk.asp.

My.ltu.edu

Lawrence Tech's comprehensive e-learning and services portal, *my.ltu.edu*, offers an expanding variety of resources and conveniences. Among them is Blackboard, a comprehensive and flexible e-learning software platform that delivers the University's

course management system, customized institution-wide portals, online communities, and an advanced architecture that provides for Web-based integration with the University's administrative systems.

The University's course management system offers students the 24/7 access to professors and fellow students that is not available in the typical classroom environment. Professors post their syllabi online, as well as class lectures and assignments, for immediate retrieval anytime, anywhere. Other features available through Blackboard are discussion boards for posting questions to and receiving answers from other students and the professor in the class; Virtual Chat Room capabilities for asynchronous communication with the entire class; the ability to submit assignments to professors; Web conferencing; instant messaging; podcasting; and many others.

LTU Online
LTU Online develops fully online degree and certificate programs for working students. Today's global work environment may prevent students from taking on-campus classes. LTU Online is designed to help address these challenges and bring the quality of a Lawrence Tech education to wherever students work or their family takes them.

LTU Online offers core and elective courses in these programs:

Bachelor of Science in Business Administration
Bachelor of Science in Information Technology
Undergraduate Certificate in Building Information Modeling and Computer Visualization

Master of Architecture
Master of Business Administration
Master of Educational Technology
Master of Engineering Management
Master of Science in Industrial Engineering
Graduate Certificate in Architectural Management
Graduate Certificate in Nonprofit Management and Leadership
Graduate Certificate in Program Management
Graduate Certificate in Workplace Technology

Other degree and certificate programs are under development, and students should visit LTU Online (www.ltu.edu/ltuonline) for current information.

All LTU Online degree and certificate programs are academically equivalent to on-campus programs and are fully accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools.

COOPERATIVE EDUCATION
The Cooperative Education program, located in the Office of Career Services (C404), is a joint venture between the University, selected employers, and the students. Work assignments are related to students' major fields of study and are varied to provide a

broad range of experience and training. Students are strongly encouraged to complete a cooperative education assignment while studying at Lawrence Tech. Students who participate in a cooperative education assignment report a higher degree of satisfaction with their education and increase their overall employability.

Co-op students:

- gain excellent work experience;
- are paid for learning on the job;
- learn career management skills;
- receive academic credit; and
- enhance the number of opportunities available to them when they graduate, since employers favor students with co-op experience.

Lawrence Tech offers two types of cooperative education. The traditional co-op program, also called the alternating program, allows students to alternate full-time college studies with three 15-week semesters of full-time work. A variation of the traditional program, especially for civil engineering students, takes into account the seasonal nature of the work and involves two semesters (summer and fall) worked back-to-back, followed by a spring semester of college studies and a final semester of summer work experience. Lawrence Tech also offers a parallel co-op program that allows students to work at least 20 hours per week while simultaneously attending classes and maintaining a full-time academic schedule.

To participate in the co-op program, students must have at a minimum 2.25 GPA. In the normal course of a complete co-op education program, a student will complete three semesters of work assignments before graduation. Each semester of co-op carries one academic credit, three of which may be applied toward an academic degree.

Many students choose to take advantage of co-op and internship opportunities. Although most assignments are in southeastern Michigan, students have completed assignments in Ohio, Indiana, Connecticut, California, Florida, Germany, and Mexico.

DEAN OF STUDENTS

The Office of the Dean of Students, located in the A. Alfred Taubman Student Services Center (C405), serves as the central resource for activities that are coordinated through the Division of Student Affairs. The dean of students serves as the primary advocate for students and works to insure that students are offered a quality college experience. Staff members in the Division of Student Affairs provide services to help students successfully complete their academic studies and coordinate opportunities for fellowship, fun, and rewarding college experiences. The Office of the Dean of Students offers personal, confidential, and nonbiased assistance in addressing any concerns a student may have regarding his or her rights or responsibilities as a member of the campus community. Services coordinated by the Office of the Dean of Students include:

Student Events and Activities
Annual social events to encourage students to interact with other students on campus are coordinated by the Office of the Dean of Students. Popular programs include the fall semester Welcome Back Picnic, New Student Convocation, movie nights, and "Pushing Honey Through" certificates for supportive family members of graduating students. Students can also enjoy Homecoming in the fall and Winterfest in the winter months and a host of sporting events.

Student Code of Conduct Adjudication
Honesty, integrity, and caring are essential qualities of an educational institution, and a concern for values and ethics is important to the whole educational experience. The Student Code of Conduct outlines the rights and responsibilities and expected levels of conduct of students in the University community. Fundamental to the achievement of community among the members of the University is the recognition by all such members that each shares a responsibility to observe University regulations. This obligation, which is an extension of the citizen's responsibility to observe the law of the land, is an essential corollary to participation in the academic rights afforded to members of the University. A student voluntarily joins the Lawrence Technological University community and thereby assumes the obligation of abiding by the standards prescribed in the Student Code of Conduct. The University, through the Office of the Dean of Students, maintains the exclusive authority to impose sanctions for behaviors that violate the Student Code of Conduct. The Student Code of Conduct can be found at www.ltu.edu/student_affairs/student_conduct.asp.

Support Services
Students needing assistance with personal or academic challenges during their college career are welcome to contact staff in the Office of the Dean of Students, who can act as liaisons between students and faculty. Academic study skills development and strategies are provided by staff in the Academic Achievement Center.

DISABILITY SERVICES
The Office of the Dean of Students, 248.204.4100, coordinates Lawrence Tech's compliance with Sections 503 and 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act. The University does not discriminate against students with disabilities in recruitment, admission, or treatment after admission. In addition, the University makes reasonable accommodations to permit students with disabilities to fulfill academic requirements and provides effective auxiliary aids to ensure that they are not excluded from programs because of their disabilities. Eligibility for accommodations is determined on an individual basis.

For additional information on eligibility for services, accommodations, and student responsibilities, please refer to Lawrence Tech's website or contact the Disability Services coordinator at 248.204.4119 or through the Michigan Relay Center at 800.649.3777 to set up an appointment. Students who believe that the University may not be meeting these responsibilities or who believe that they have been otherwise discriminated against based upon their disability may contact the Section 504 officer in

the Office of the Dean of Students, Lawrence Technological University, 21000 West Ten Mile Road, Southfield, MI 48075-1058.

DTE ENERGY ONE-STOP CENTER
Located on the third floor of the Taubman Center, the DTE Energy One-Stop Center assists students with records and registration, financial aid, and student accounting transactions. The center is open Monday and Tuesday, 8 a.m. – 6:30 p.m., and Wednesday through Friday, 8 a.m. – 4:30 p.m.

ENGINEERING ADVISING CENTER
The Engineering Advising Center is in the dean of engineering's office suite (E98). The center's primary purpose is to advise students having academic difficulty. Hours of operation are normally Monday – Thursday, 9 a.m. – 6 p.m., or by appointment. To make an appointment, call the advising center at 248.204.3506 or the dean of engineering's administrative assistant at 248.204.2500.

FAX SERVICE
Fax services (send only) are available at the bookstore, which is located in the Buell Management Building atrium. There is a small fee for this service.

FIELD HOUSE/RECREATION
The Don Ridler Field House includes a gymnasium, weight and conditioning room, running track (1/1lth mile), two racquetball/wallyball courts, fitness room, spirit shop, and men's and women's locker rooms with showers and saunas. Fitness and wellness programs are available to all members.

Field House Hours

September – Mid-May

Monday	6:30 a.m. – 11 p.m.
Tuesday	8 a.m. – 11 p.m.
Wednesday	6:30 a.m. – 11 p.m.
Thursday	8 a.m. – 11 p.m.
Friday	6:30 a.m. – 10 p.m.
Saturday	9 a.m. – 5 p.m.
Sunday	Noon – 5 p.m.

Mid-May – August

Monday	6:30 a.m. – 10 p.m.
Tuesday	8 a.m. – 10 p.m.
Wednesday	6:30 a.m. – 10 p.m.
Thursday	8 a.m. – 10 p.m.
Friday	6:30 a.m. – 9 p.m.
Saturday	9 a.m. – l p.m.
Sunday	Closed

HOUSING

University Housing at Lawrence Tech provides more than just a room in which to sleep and study. The living and learning environment that is fostered within University Housing supports students' academic, social, cultural, and personal growth. University Housing staff are committed to assisting residents in all aspects of their collegiate experience by providing a safe and healthy environment in which to pursue their academic goals, promoting the ideals of community living by emphasizing personal responsibility and respect for others, creating opportunities for student involvement and personal development, and offering advice and information to residents.

The camaraderie that develops among residents is unequaled by any other living option. Residents who take advantage of this environment tend to improve both their academic performance and their satisfaction with their college experience. Each residence hall community offers opportunities for students to get involved in numerous activities and programs.

Lawrence Tech has two residence halls, University Housing-North and University Housing-South. Each hall features furnished one- and two-bedroom apartment-style suites that accommodate two to four students depending on the size of the suite. Both buildings feature air-conditioning, cable television, wireless connectivity, carpeting, private bathrooms, and full kitchens. Washers and dryers are available in each suite in Housing-North. Free laundry facilities are located within Housing-South. Free parking is provided for residents close to each building.

Anyone seeking on-campus housing should complete a Housing Application and Contract and pay the application fee. Applications are available online at www.ltu.edu/housing/renewal.asp and from both the University Housing and Admissions offices. Students are encouraged to apply for housing as soon as possible.

Applicants must be admitted to Lawrence Technological University in order to live in university housing. Students may apply for university housing before registering for classes but will not be allowed to take occupancy of their assigned room until registered. For the fall and spring semesters, undergraduate residents must maintain at least nine credit hours per semester or have a co-op or an internship to be eligible for housing. For more information, please contact the Office of University Housing at 248.204.3940.

Lawrence Technological University requires all freshmen and transfer students with less than 30 credit hours completed, including international students, to reside in on-campus housing. Students will be exempted from the residency requirement if they fit into one of the following categories:

1. Students who are 21 years of age or older, having reached that age no later than the first day of classes for the applicable semester.
2. Veterans of at least two years of active military service.
3. Students who are married.
4. Students who have custody of dependent children.

5. Students who commute from the permanent, legal residence of their parent(s) or legal guardian (within 40 miles).
6. Students who have resided in the residence halls for two semesters, excluding summers.
7. Students who are enrolled for less than nine credit hours per semester.

Students wishing to be granted an exemption must complete a residency requirement exemption request form and provide supporting documentation. This form is available in the Office of University Housing. Upon receipt, all exemption requests will be reviewed by the director of residence life. Non-exempt students not residing on campus will be considered in violation of this policy and will be held accountable for the financial obligation entailed by their room assignment.

Renter's Insurance
See Student Insurance.

IDENTIFICATION CARD

Lawrence Tech's student identification card combines a photo with a magnetic strip/bar code and a cash debit option that allows students to load their card with Blue Devil Dollars, which can be spent at all Lawrence Tech dining locations. The ID card also serves as the student's library card and should be presented at the circulation desk when checking out books or using the Reserve Desk. Instructions for applying for a card are provided to new students during Orientation and Registration (O & R). There is a $10 replacement charge for lost ID cards. Replacement ID cards must be purchased at the DTE Energy One-Stop Center. If an ID card is damaged and needs to be replaced, the student must present it at the DTE Energy One-Stop Center to have the replacement charge waived.

INTERNATIONAL STUDENTS

The Lawrence Tech community places great value on the cultural and intellectual diversity that international students bring to the University. The Office of International Programs serves as the primary contact for international students and scholars on campus. This population includes undergraduate, graduate, and doctoral students, as well as professors, research scholars, and post-doctoral fellows.

The Office of International Programs advises foreign nationals on status maintenance, government regulations, visa requirements, and work authorization, and provides a host of other resource. The office works to resolve student compliance issues with Homeland Security and the United States Citizenship and Immigration Services (USCIS), as well as to process and update documentation for international students. This includes updating and maintaining the Student and Exchange Visitor Information System (SEVIS) to comply with government reporting requirements, authorizing F-1 Curricular Practical Training and Optional Practical Training, J-1 academic training, program extensions, and other SEVIS updates. The office also works to update faculty, staff, and students on government regulations and issues impacting international students studying in America.

The Office of International Programs provides a mandatory and comprehensive weeklong orientation, held the week before classes begin each semester, to support international students in acclimating to their new environment. Students also meet with their advisors during this time.

The Office of International Programs designs and implements events that increase global and cultural awareness among all Lawrence Tech students. The office provides outreach programs and workshops on a myriad of topics, including employment, cultural transition, academic issues, campus resources, and programming.

The Office of International Programs is located in the A. Alfred Taubman Student Services Center in room C405 and can be reached at 248.204.4100. Normal office hours are Monday–Friday, 8 a.m. – 4:30 p.m.

LAPTOP SUPPORT HELP DESK
See Computer and Online Learning Resources.

LIBRARY
Lawrence Tech's library is conveniently located on the lower level of the Buell Management Building, one flight below the atrium. The room boasts an attractive indoor garden area for year-round greenery. The library houses a broad selection of books, periodicals, online databases, full-text electronic books and periodical articles, microforms, and other material that has been selected to enhance the curriculum areas of the University. Collection strengths include engineering, technology, architecture, and management.

Among the library's unique resources is the 3,000-volume professional library of the late renowned architect Albert Kahn and a complete collection of the SAE International papers since 1965. The professional librarians, on duty during all scheduled hours, are skilled in locating information both in the Lawrence Tech collection and at numerous other institutions. They also provide individualized and group instruction on how to use the library efficiently. Students have full access to the stacks for browsing and independent research and can always count on getting personalized reference assistance from a reference librarian.

While the library's catalog is available to the public on the Lawrence Tech website (www.ltu.edu/library), premium content, including databases and full-text material, tailored to serve the needs of Lawrence Tech curricula, is available online via password-protected links. Students can access this content using their Blackboard log-in information. In addition to print and database sources, more than 69,000 electronic books and more than 68,000 electronic journal titles are accessible from the site as well.

When an item is not available on campus, the library has negotiated agreements with many local and statewide academic and public libraries for direct borrowing privileges or, in some cases, for borrowing through a special arrangement. As an alternative, materials can be requested and shipped directly to Lawrence Tech from Michigan

libraries via the MelCat service or from libraries across the nation through the use of interlibrary loan. It is recommended that students always make the Lawrence Tech library their first stop when beginning a research project.

Library Account
All students have a special library account that may be accessed through the "My Account" feature of the library's online catalog (http://libweb.campus.ltu.edu). Once logged in, students may place requests directly from the catalog and review their account for items checked out, fines, etc. If there are any questions how to use this feature or for any other questions, contact the library at 248.204.3000 or via email, refdesk@ltu.edu.

Loan Privileges
Lawrence Tech students may borrow most material from the library for three weeks. Certain special materials circulate for shorter periods. Reserve and reference materials must be used in the library. Students with fines or lost item charges of $10 or more may not borrow library materials.

Lost Item Charge
This includes replacement value, a service charge, and a maximum $5 fine. Patrons with lost item charges or excessive overdue fines are not allowed to check out materials and an Academic Hold will be placed on their records.

Overdue Materials
Overdue Charges
10 cents per item per day (books, MelCat books)
$1 per item per day (all Reserve Desk items, DVDs, and Interlibrary Loan books)

Renewals
Students may renew material as long as no one has requested the item. Students may renew books through their online library accounts or by calling the Circulation Desk at 248.204.3009. Books that are overdue may only be renewed by contacting the library.

Other Services
In addition to curriculum-base materials, the library also carries a selection of DVDs, a browsing collection of popular books, and a small collection of graphic novels. The staff maintains a presence on Web 2.0 sites such as Facebook and Flickr, streaming information of interest for Lawrence Tech students. The library also hosts a public printer (M113a), and two computer scanners, along with black-and-white and color photocopiers.

LOCKERS
Lockers in the Architecture Building and the University Technology and Learning Center (UTLC) are assigned by the College of Architecture and Design, 248.204.2880.

LOST AND FOUND

The Department of Campus Safety (248.204.3945) is the clearinghouse for lost and found articles. Campus Safety delivers all found Lawrence Tech laptop computers to the Laptop Help Desk (248.204.2330).

MOTOR VEHICLES AND PARKING

All students may have motor vehicles on campus. Ample paved, lighted parking is provided free for students, faculty, staff, and visitors. Each student, faculty, or staff vehicle must display a current Lawrence Tech parking permit, which is available from the Department of Campus Safety. Lawrence Tech Campus Safety officers are authorized to write tickets and levy fines for improper driving or parking. Campus motor vehicle parking and traffic regulations are outlined in the *Student Handbook*. The University is not liable for accidents, damage, or theft.

ONLINE STUDENT SERVICES

Lawrence Tech offers convenient online student services. Students can register for courses, view their academic records and account balances, make tuition payments, and conduct financial aid transactions through BannerWeb from any location at any time.

Students may register online using their nine-digit student identification number and their PIN. In addition, undergraduate students need to obtain an Alternate PIN from their academic advisor. The Alternate PIN is the advisor's electronic signature, giving the student approval to register. In order to be allowed to register, students must not owe a balance from previous semesters.

Students may also view and print an unofficial copy of their student transcript, provided they do not have a hold on their records (the result of owing the University money) that prohibits this function. See also Computer and Online Learning Resources.

OPEN DOOR POLICY

The president's door is always open to students. Usually after consultation with instructors, department chairs, college deans, the dean of students, the provost, or other responsible administrative offices, students will find that any concerns will be satisfactorily addressed. If not, students may contact the president's executive assistant, who will prepare a briefing and arrange a convenient appointment between the student and the president.

POSTAL AND PACKAGE SERVICES

Lawrence Tech Campus Safety delivers and picks up incoming and outgoing campus mail and packages. At the residence halls, mail and packages are delivered to the Information Desks, where stamps may be purchased.

United Parcel Service (UPS) has an outbound package kiosk located outside the Buell Management Building on the north (C Lot) side of the building (atrium level).

PRINTERS
HotSpot printers are located in the library (pay at the desk or use PayPal), in the Architecture Resource Center (A131), and in the atrium of the Buell Management Building. Black-and-white prints are free. There is a charge for color printing.

The Architecture Computer Resource Center (ACRC) Print Desk provides printing, scanning, and computer-related services. Services such as color printing, large-format printing and plotting, scanning, and report binding are available throughout the school year during operating hours. Specialized printers produce large-format CAD plots, as well as photo-quality prints and posters. After hours, 24/7 self-service black-and-white printing is available on the public printer by the Print Desk, as well as color laser printing and scanning to the HotSpot printer in the lobby adjacent to the Print Desk.

RAFFLE OR CHARITABLE GAMING EVENT GUIDELINES
Any student organization requesting to host a gambling tournament or raffle must contact the Office of Student Engagement to receive guidance on completing a Charitable Gambling Application through the State of Michigan's Bureau of the State Lottery. The student organization must submit the application to the Bureau of the State Lottery with appropriate application fees, along with the organization's constitution, and a signed letter from the dean of students. It will take approximately four to six weeks for the Bureau of the State Lottery to approve any application. Visit michigan.gov/lottery for more information. (The Bureau of the State Lottery does not allow education subordinate organizations to raffle prizes more than $500. Therefore, there is no need to complete the Millionaire Party application to obtain a license.)

RALLIES/MARCHES/PROTESTS
Student groups wanting to hold a rally, march, or protest should contact the Office of Student Engagement and make an appointment with a professional staff member to discuss the event. This person will tell the student group representative what things must be done in order to secure approval of the event. If the event includes any form of public-address equipment or amplified sound, the group will have to complete forms from Campus Facilities and alert Campus Safety.

SAFETY AND SECURITY
A safety team patrols Lawrence Tech 24 hours a day. But because no metropolitan area is immune from criminal activity, all students should take an active role in assuring personal safety.

Report suspicious persons or activities immediately to the Department of Campus Safety (available 24 hours a day) by dialing ext. 3945 (or 248.204.3945). For emergencies, dial *911 (Star-9-1-1) ONLY on a campus phone to be connected to Campus Safety, otherwise, dial 911, which will contact the appropriate emergency service.

Lawrence Technological University, in full compliance with the Federal Crime Awareness and Campus Security Act of 1990, makes security information available to Lawrence Tech's students, faculty and staff, applicants for admission, newly hired

employees, and the general public. Statistics on campus crime may be examined at the Department of Campus Safety. Campus safety and security statistics for the prior academic year are available at www.ltu.edu/campus_safety.

SPIRIT ROCK
The Spirit Rock exists to provide students and student organizations the opportunity to express their spirit and pride in Lawrence Technological University. To maximize this opportunity, students are expected to respect the following regulations:

With the exception of painting, the physical condition of the rock is not to be altered in any way that will change its shape, size, or orientation.

- The rock is not to be moved.
- Derogatory or profane words or messages on the rock are prohibited.
- There is no limit to the number of times the rock may be painted in total or by any one organization.

STUDENT ENGAGEMENT
The Office of Student Engagement (C404) provides programs and services for the entire University community. Student Engagement coordinates a variety of opportunities for students to become involved on campus and in the Southfield and Metro Detroit areas. The mission of Student Engagement is to encourage the intellectual, social, and civic development of students individually and through student groups. The programs and services provided and/or supported by Student Engagement are:

Commuter Student Support Services
Discovery Days
Greek Life
Multicultural Student Support Services
Student Government
Student Organizations
Students Planning Activities Monthly (SPAM)
Welcome Week

Commuter Student Support Services
Commuter Student Support Services serves the 80 percent of students who commute to Lawrence Tech. Programs and services work to build community and create a sense of connectedness between commuters and the University. Programs include Day Trips, Good Evening Commuters Workshops, and online resources that benefit the commuter population.

Multicultural Student Support Services
Multicultural Student Support Services exists to advance Lawrence Tech's commitment to diversity in increasing the recruitment, retention, and graduation of all students, and particularly underrepresented groups (including racial/ethnic, women, and GLBT students), by developing strategies that engage students in the attainment of academic excellence and social success.

This area serves as a support and advocacy network through which students from underrepresented groups are provided effective assistance during their academic tenure. Programs include welcome receptions; cultural programs that provide forums to enhance the intellectual, social, and personal development of students; discussions and speakers who focus on relevant social, cultural, and academic issues; and the advising of multicultural student organizations.

STUDENT AFFAIRS

The Division of Student Affairs coordinates efforts, programs, and services that support the development of a vibrant learning community on campus. The division's purpose is to support students, staff, and faculty in achieving the mission of Lawrence Tech by creating communities that foster and support student learning and development.

Offices included in the division are the Office of the Dean of Students; Campus Dining; Career Services; Clinical Counseling Services; Disability Services; First-Year Programs; International Programs; Student Engagement; Student Recreation, Athletics, and Wellness; University Housing; and the campus switchboard. The Office of the Dean of Students serves as the central resource for activities coordinated by the Division of Student Affairs. Events, programs, and services provided through these offices are designed to enhance student involvement and student leadership development.

STUDENT COMMUNICATIONS/EMAIL

Lawrence Tech's official method of communication with students is through the use of University email. All students are issued a free ltu.edu email account. They are expected to check their Lawrence Tech email accounts frequently and regularly for notices related to enrollment and financial matters, including important deadline and date information.

Students' email account IDs are composed of the first letter of their first name and the first eight letters of their last name followed by a number if there are duplicates. Email can be accessed off campus at http//webmail.ltu.edu. For assistance, contact the Computer Help Desk at 248.203.2330.

Students should note that when using Blackboard, their Lawrence Tech email address is loaded to their courses as their default email address. This means that when posting notices on discussion boards, etc., within Blackboard, students' Lawrence Tech email accounts are visible to others within the class. Students can change their default email address within Blackboard to route their Blackboard email to another account.

Blackboard also functions as a major communications and safety hub of the University, with student groups, professional organizations, and administrative offices having their own organizations within Blackboard.

STUDENT INSURANCE

A 12-month health and accident insurance policy is available to all full-time students at a reasonable cost. Contact the DTE Energy One-Stop Center or the Office of the Dean of Students for additional information.

Lawrence Technological University advises all students living in the residence halls to obtain personal property insurance (renter's insurance). Many students may have their personal property covered under their parents' homeowner's insurance policy; check with the insurance provider to determine applicable coverage. Personal property insurance for those students not covered by their parents' homeowner's policy or for students seeking additional coverage is available through National Student Services, Inc. For additional information, visit its website at www.nssinc.com.

STUDENT LOUNGES

Student lounges are located in the fireplace area of the Engineering Building and in the lobby of the Science Building. Einstein Bros. Bagels, hosted by Campus Dining, has a lounge area located in the atrium of the Buell Management Building and Campus Dining's P.O.D. (Provisions on Demand) is located in the lobby of the UTLC. The Commuter Student Lounge is located in S202 of the Science Building. The Art and Design Center has a small student lounge when you come in the front door.

STUDENT RECORDS

Lawrence Tech students may view their academic transcripts, account information, and other student-related information through BannerWeb at my.ltu.edu. Student records are located in a secured area that requires the student's Banner identification number (excluding the initials) and PIN to access the information.

VETERANS

The U.S. Department of Veterans Affairs (VA) provides a wide range of benefits to veterans. Veterans should contact the VA on questions concerning eligibility. New programs for some reservists and active duty personnel eligible for benefits are available as well visit www.gibill.va.gov.

All veterans receiving GI benefits are expected to maintain satisfactory academic progress. VA regulations permit only a two-semester probation period unless there are mitigating circumstances as determined by the VA. The University will inform the VA and the student when the veteran does not meet academic standards of progress and is no longer eligible for benefits.

For additional information and details, contact the DTE Energy One-Stop Center at 248.204.2280.

Retrospective

"All the worthwhile and precious things in life are only obtained through continuous and exacting effort, and their worth is in direct proportion to the effort put forth for their attainment."

Russell E. Lawrence
1889 – 1934

It was a firm belief in the future that motivated Russell E. Lawrence to found a university in 1932 – in the midst of the economic chaos of the Great Depression. While less farsighted individuals made predictions of gloom, Russell Lawrence and his brother, E. George Lawrence (who led Lawrence Tech from 1934 to 1964), turned a dream of preparing students for leadership in the new technical era into reality.

For 80 years, Lawrence Tech has continued to prosper and accelerate its growth, hone its educational philosophy of theory and practice, build important community and professional alliances, and forge partnerships with the firms, organizations, and industries who hire Lawrence Tech alumni.

Wayne H. Buell, who served as president from 1964 to 1977 and as chair of the board and chief executive officer until 1981, worked to build a firm foundation for the University's early emergence as a technological leader. He first advanced the notion that Lawrence Tech was a private college serving a public purpose.

Lawrence Tech's first housing center, the Buell Management Building, the Don Ridler Field House, a major addition to engineering facilities, the return of graduate programs, and the massive growth of computer facilities marked the presidency of Richard E. Marburger, who served as president, 1977–93, and also as chair of the Board of Trustees and chief executive officer, 1981–93.

Charles M. Chambers became president in 1993 and served as chancellor in 2006. During his presidency, he oversaw significant enhancement of the University's international reputation as a distinguished center of technological education and research. A Strategic Plan and Campus Master Plan were adopted to guide the University. Other achievements include: construction of the University Technology and Learning Center, University Housing-North, the A. Alfred Taubman Student Services Center, a redeveloped campus quadrangle, and the Center for Innovative Materials Research; establishment of a Faculty Senate; conversion of the computer system to a client server model with full Internet2 connectivity and online library access; creation of Michigan's first completely wireless laptop campus; and expanded bookstore, dining, and student activity facilities.

Lewis N. Walker was named interim president in February 2006, became president in July 2006, and chancellor in July 2012. He had previously served as provost, the University's chief academic officer, and executive vice president. Under Walker, Lawrence Tech aggressively expanded programs in emerging economic sectors such as robotics, defense, and sustainability, including "fast track" certificate programs to help

professionals retool themselves for new careers. He was committed to developing the leadership skills of Lawrence Tech's students and worked with faculty to add a leadership component to the curricula of all undergraduate programs. He forged partnerships with universities worldwide that brought international students to campus and provided further opportunities for Lawrence Tech students to study abroad. He also oversaw the reinvigoration of student life and return of varsity sports to campus.

Virinder K. Moudgil, Lawrence Tech's seventh president, assumed office in July 2012. He has had a long career as a professor and university administrator and was an active researcher in the molecular mechanisms of steroid hormone action and the hormonal regulation of breast cancer. He previously served as senior vice president and provost at Oakland University.

Lawrence Tech was founded on the principle that every person should have the opportunity for a college education. From the beginning, there were no restrictions on entering students relating to race, sex, color, creed, or national or ethnic origin – only the requirement that students qualify for admission and have the desire to succeed. Working students could earn a baccalaureate degree by attending evening programs, day programs, or a combination of the two – a feature unique in 1932 and still remarkable today.

The school was originally called Lawrence Institute of Technology. Its present name, Lawrence Technological University, was approved on January 1, 1989, by the State of Michigan, and more clearly describes Lawrence Tech's undergraduate and graduate mission.

Lawrence Tech was founded as a college of engineering with only a few hundred students and a handful of faculty. Today it offers more than 100 programs in four colleges, with a total enrollment of approximately 4,500 students, and employs more than 400 full- and part-time faculty. In terms of enrollment, Lawrence Tech is among Michigan's largest independent colleges.

In 1950, associate programs were added to Lawrence Tech's baccalaureate offerings. In 1952 the College of Management was re-established, having its origins in an earlier industrial engineering curriculum. Master's degree programs in management were launched in 1989. The College of Architecture and Design evolved in 1962 from the former architectural engineering department and in 1993 launched a Master of Architecture program. The College of Arts and Sciences was established in 1967. Master's degree programs in engineering were begun in 1990 and in Arts and Sciences in 1997. Doctoral programs were launched in 2002.

Concurrently, there has been an enormous expansion and improvement of facilities. The University's first campus was located in Highland Park, in a building leased from Henry Ford adjacent to the huge manufacturing facility where he built the Model T and perfected the moving assembly line. As enrollment grew, the University acquired acreage in Southfield and in 1955 opened its first building on what had been a General Mills research farm. The campus has since expanded to more than 100 acres and 12 major

buildings, as well as the Frank Lloyd Wright-designed Affleck House in Bloomfield Hills, which was donated to the University in 1978.

In 1977, Lawrence Tech shed its “commuter” classification by opening the nine-story University Housing-South residence hall. The 1980s and 1990s were distinguished by the opening of the Wayne H. Buell Management Building and the Don Ridler Field House, numerous improvements to existing buildings, and a substantial increase in state-of-the-art laboratory and computer equipment. The University Technology and Learning Center opened in 2001, University Housing-North in 2002, and the A. Alfred Taubman Student Services Center and the Center for Innovative Materials Research in 2006.

In 2011 competitive athletics returned to campus with the University’s entry into the National Association of Intercollegiate Athletics.

The University also offers programs at learning centers in southeastern and northern Michigan as well as international programs in Asia, Europe, Mexico, and the Middle East.

Admission to the University

The University has a selective admissions process – the objective of which is to identify men and women who have the highest potential for advancement in their chosen field of study. While the applicant's academic record is a reliable measure for the prediction of academic success, the admissions decision is more complex than admitting students on the basis of a numerical formula. With this intent, Lawrence Tech considers, in addition to the applicant's previous academic record, factors that demonstrate an aptitude for successful study.

To initiate the application process, contact the Office of Admissions (800.CALL.LTU or 248.204.3160) to receive the Application for Undergraduate Admission or visit the Lawrence Tech website at www.ltu.edu/futurestudents/apply.asp to apply online.

For the admissions requirements for any of Lawrence Tech's graduate degree programs, see the *Graduate Catalog*.

FRESHMAN ADMISSION REQUIREMENTS

In order to be considered for admission to Lawrence Tech as freshmen, students must submit the following requirements:

1. Completed Application for Undergraduate Admission
2. Application Fee (non-refundable)
3. Official high school or GED transcripts
   Students attending high school when accepted to Lawrence Tech must make arrangements to have the final official copy of their transcripts sent to Lawrence Tech's Office of Admissions upon graduation.
4. Official copy of either American College Test (ACT) or Standard Achievement Test (SAT) scores. Send scores to Lawrence Tech, school code 2020.
5. Essay
6. Letter of recommendation
7. Portfolio (Transportation Design, Industrial Design, and Game Art majors only)

Note that students who study and submit examination scores for Advanced Placement (AP) course work or International Baccalaureate (IB) higher level course work can have this course work reviewed for university credit at Lawrence Tech.

PLACEMENT EXAMINATIONS

All entering freshmen must take placement examinations appropriate for their majors. Examination topics include biology, chemistry, computer literacy, English, mathematics, and physics.

Transfer students are required to take placement exams in areas in which they do not have transfer credit. Placement exams are taken prior to attending the Orientation and Registration program. Information concerning placement exams will be sent to those students needing the exams upon acceptance into the University. For further information about the exams, contact the Office of Admissions, 248.204.3160.

PREREQUISITES
(Basic Studies)
High school graduates and transfer students who meet admissions requirements but lack adequate proficiency in courses basic to their chosen degree may be admitted subject to the satisfactory completion of appropriate Basic Studies courses. College-level courses in intermediate algebra/geometry, college algebra, trigonometry, chemistry, physics, biology, computer applications, and English are available for this purpose. These courses do not provide credit toward most degree programs offered at Lawrence Tech. A student's enrollment in certain courses is restricted until Basic Studies courses have been satisfactorily completed.

TRANSFER STUDENT ADMISSION REQUIREMENTS
In order to be considered for admission to Lawrence Tech, transfer students must submit the following requirements:

1. Completed Application for Undergraduate Admission
2. Application Fee (non-refundable)
3. Official transcripts from each previously attended institution, including high school
4. Essay
5. Letter of recommendation
6. Portfolio (Transportation Design, Industrial Design, and Game Art majors only)

Lawrence Tech has entered into agreements with several area community colleges that establish which community college courses may be applied toward a Lawrence Tech degree. Lawrence Tech will grant admission to students who complete the specified community college associate degree program and will award the prescribed degree to students who complete the Lawrence Tech courses listed in such an agreement and who otherwise meet graduation requirements.

Transfer students pursuing a baccalaureate degree are expected to complete a minimum of 60 hours of junior- and senior-level course work, a minimum of 30 hours of which must be taken at Lawrence Tech.

Undergraduate Transfer Credit Procedure
The University will accept courses with a grade of 2.0 or better from regionally accredited community colleges and four-year colleges and institutions, as well as others approved by Lawrence Tech. To receive credit for the Core Curriculum, students will be expected to demonstrate competencies in the following categories:

a) communications beyond English composition
b) knowledge of the humanities
c) knowledge of the social sciences
d) mathematics
e) science, including a laboratory science

If the total number of semester hours for approved courses in each category of competency is less than the total required by Lawrence Tech, the student will take additional Core Curriculum courses at Lawrence Tech to fulfill the requirement.

All Lawrence Tech students, including those certified to have met Core Curriculum requirements elsewhere, must complete an upper-division course in language and literature or social science as part of their bachelor's degree program. In those cases where a Core Curriculum course is required as a prerequisite for courses in the major, the prerequisite must be completed even if the Core Curriculum requirement is otherwise met. The accreditation specifications of a particular professional degree may require students to complete additional depth and breadth course work in the Core Curriculum.

Transfer students will have their official transcripts evaluated and receive a credit evaluation prior to their enrollment. The credit evaluation lists all courses required for a specific degree program in accordance with guidelines provided by the college for the student's major and the College of Arts and Sciences for the Core Curriculum component. All courses listed are required unless transfer credit has been granted or the student has been excused. If excused from a course, the student will receive an "EX," which will appear in the Credit Hours Transferred column of his or her Program Sheet, and the student must complete the same number of credit hours in another course acceptable to his or her academic advisor.

If courses are in progress at the time of acceptance, students must request that official transcripts be sent to the Lawrence Tech Office of Admissions upon their completion.

Additional Transfer Credit
All transfer credits are subject to review by the department chair or dean of the pertinent college. Questions concerning credit evaluations must be resolved by the Office of Admissions within the first semester of enrollment. Any appeal for additional credit must be submitted to the registrar for review by the Credit Review Committee.

ROTC/Military Transfer Credit
Credit earned in the Reserve Officers Training Corps and credit for military training may be applied toward degree work in several Lawrence Tech programs and will be considered according to the recommendations of the American Council on Education. Contact the Office of Admissions for additional information.

Other Forms of Additional Transfer Credit
High school students may earn credit with satisfactory results on Advanced Placement examinations (AP), or International Baccalaureate (IB) higher level (HL) exams.

Credit may also be obtained through the College Level Examination Program (CLEP) for subject examinations only. CLEP information is available through local libraries and the Office of Admissions.

Courses offered by non-collegiate organizations will be considered for credit only if they have received credit recommendation from the National Program on Noncollegiate Sponsored Instruction (National PONSI). Transfer credit will be considered on an individual basis. In all cases, students are required to demonstrate that they had the appropriate academic preparation for the non-collegiate course at the time it was taken.

No more than 30 semester hours of credit will be accepted from the sources listed above. A request for credit from these sources must be resolved with the Office of Admissions within the first semester of enrollment. Credit for PONSI and military courses will not be shown on the students' transcript until all other requirements for the degree have been met. Students will not receive credit from the above sources if the work is carried out while they are enrolled at Lawrence Tech or during the summer between terms of enrollment. Any exceptions will require prior written permission of the Credit Review Committee.

GUEST STUDENT ADMISSION REQUIREMENTS
In order to take classes at Lawrence Tech, guest students must submit and/or meet the following requirements:

1. Completed Michigan Uniform Guest Application from the institution in which the student is enrolled that specifies the courses to be taken and includes the approval and official seal of the academic advisor and/or registrar.
2. Unofficial transcripts (high school transcripts or other college transcripts may be required if the prerequisite was taken at an institution other than the one in which the student is currently enrolled).

Students not currently enrolled in collegiate programs must apply as transfer, freshman, graduate, or as non-degree-seeking students. Guest students are allowed to enroll in specific courses for which all prerequisites have been met. Lawrence Tech students have enrollment preference over guest students.

NON-DEGREE STUDENT ADMISSION REQUIREMENTS
Undergraduate students who elect to take courses but who do not wish to pursue a degree may enroll as a non-degree-seeking student by submitting the following to the Office of Admissions:

1. Completed Application for Undergraduate Admission
2. Application Fee (non-refundable)
3. Unofficial copies of transcripts from institutions attended (high school transcripts may also be required)

Non-degree student status will be granted for two semesters only. A non-degree student who wishes to obtain regular admission to an undergraduate program must reapply and complete the Application for Undergraduate Admission and meet all regular admissions requirements. Non-degree students may not be dual enrolled as degree-seeking students.

Credit for courses taken while a non-degree student may be applied toward a degree if approved as part of the admissions process. When courses taken as a non-degree student are applied toward a degree, the cumulative GPA will be computed from all undergraduate courses taken at Lawrence Tech.

DUAL ENROLLED HIGH SCHOOL STUDENTS

High school students who wish to take classes at Lawrence Tech before graduation must have approval from their high school principal and Lawrence Tech's Office of Admissions and submit the following:

1. Completed Application for Undergraduate Admission
2. Application Fee (non-refundable)
3. Official high school transcripts
4. Completed Lawrence Tech Application Supplement for High School Students (download at www.ltu.edu/futurestudents/freshman/hsdual.asp or request from the Office of Admissions).

INTERNATIONAL STUDENT ADMISSION REQUIREMENTS

International students are encouraged to apply for admissions early. The following items must be submitted to the Office of Admissions at least 90 days before the desired semester of enrollment:

1. Completed Application for Undergraduate Admission signed by the student
2. Application Fee (non-refundable)
3. Certified true copies of original academic transcripts and an authorized English translation when necessary. Any and all college or university transcripts must be submitted to World Education Services (WES, www.wes.org) for a course-by-course evaluation. Visit www.wes.org for important information.
4. Evidence of English proficiency. Students with a minimum score of 450 on the paper-based TOEFL may be allowed to enroll in part-time academic courses while concurrently taking English as a Second Language courses. Students with a minimum score of 550 will be allowed to enroll in all academic courses. Students with a score less than a 450 are required to enroll in English as a Second Language courses before taking any academic courses.
5. Affidavit of Support (for F-1 visa holders)
6. Completed F-1 visa Transfer Form (for F-1 students transferring from a U.S. college or university)
7. Home country address
8. Completed Document of Support Verification Form (download at http://www.ltu.edu/futurestudents/international/obtaining_I20.asp or obtain from the Office of Admissions).

TRANSFERS WITHIN THE UNIVERSITY/INTERRUPTION OF STUDIES

An interruption of studies occurs when a student does not attend classes for a full semester or more without special permission. Readmission is not automatic; the

admission policies, curricula, and requirements of the academic programs at the time of readmission will apply.

Students who have interrupted their studies for more than three calendar years must submit a new Application for Undergraduate Admission to the Office of Admissions and will be subject to the curricula and requirements of the chosen program upon their return.

Students may reapply through Enrollment Services/Office of the Registrar if they are:

1. Returning within three calendar years
2. Academically eligible to return
3. Returning to an undergraduate degree program

Students must reapply through the Office of Admissions if they are:

1. Returning after more than three calendar years
2. Beginning a new degree program after graduation from Lawrence Tech
3. Academically ineligible to return (suspended, dismissed). In this case the student must also seek readmission from the Academic Standing Committee.

CHANGE OF MAJORS
Currently enrolled students desiring to change majors within their college (example: mechanical engineering to electrical engineering) do not need to reapply for admission. Students should contact the dean of their college and submit the appropriate change of curriculum form to Enrollment Services/Office of the Registrar.

RETURNING ALUMNI
Alumni seeking another degree must submit a completed Application for Undergraduate Admission to the Office of Admissions and must meet normal admission requirements. The application fee is waived.

ADMISSIONS ADVISING AND TOURS
The Office of Admissions is open year-round (except holidays). Admissions counselors are available on a walk-in basis on weekdays. Students are encouraged to contact the Office of Admissions with any questions. Students wishing to schedule a tour of campus should call 248.204.3160 or 800.CALL.LTU.

Tuition and Fees

Lawrence Technological University sets tuition rates with the one goal of providing students with the best possible learning experience. The emphasis is on quality. Concurrently, the University has a long tradition of prudent management that has allowed it to contain costs and provide students with extraordinary value for their tuition investment, but never at the expense of Lawrence Tech's primary emphasis.

Tuition at Lawrence Tech is used to cover many of the costs associated with a student's learning experience. Remaining expenses are funded through support from the University's alumni and friends, including gifts from individuals, corporations, and foundations.

Tuition and fees are normally established on an annual basis. However, the University reserves the right to make changes in these charges or to initiate or delete charges without notice. The schedule of current tuition and fees is published separately from this Catalog and is available at http://www.ltu.edu/registrars_office/tuition_fees.index.asp or from Lawrence Tech's Offices of Admissions, Business Services, or Enrollment Services/Registrar.

PAYMENT OF TUITION AND FEES

Tuition and fees are due in two installments each semester. If full payment cannot be made by the deadline, the following options are available:

1. Enroll in Tuition Management Systems, which provides for making monthly payments
2. Provide Billing Authorization Forms (Tuition Vouchers) when the student's employer is to be invoiced by the University
3. Apply for student financial aid. Consideration is granted on estimated eligibility and is subject to timing and accuracy. Students are fully responsible for any charges that are not covered by financial aid.

The options stated above are available only when all prior balances have been paid in full. Monthly late charges will be assessed on all accounts with past due balances. Transcripts, diplomas, and/or permission to register will not be issued if an outstanding balance appears on a student's account.

METHOD OF PAYMENT

Students can make payments on their accounts using any of the following methods:

1. Pay with cash, check, money order, or credit card at the DTE Energy One-Stop Center in the A. Alfred Taubman Student Services Center
2. Mail a check, money order, or appropriate credit card information
3. Phone (248.204.2280) or fax (248.204.2229) appropriate credit card information to the One-Stop Center
4. Use a credit card via BannerWeb at my.ltu.edu.
5. Via the Drop Box located to the side of the DTE Energy One-Stop Center

COSTS FOR WITHDRAWAL

Costs for withdrawal are established as stipulated by federal regulations. The date credit for withdrawal will be received can be obtained from Enrollment Services/Office of the Registrar.

A full tuition refund will be granted for all drops completed within the Drop/Add period. Official Drop/Add period dates for each semester are available at www.ltu.edu/registrars_office/calendar_final_exam.index.asp.

After the Drop/Add period, no refunds are provided. Registration fees, activity fees, graduation fees, and course fees are non-refundable and are not included in the withdrawal credit calculation. Balances remaining after the drop adjustments must be paid based upon the University policy for payment of tuition and fees. Credit balances will be refunded.

The semester begins on the first day of classes as listed in this *Catalog*, unless otherwise indicated.

The date of withdrawal is the date the student's drop form is validated by Enrollment Services/Office of the Registrar, the postmark date of the letter of withdrawal, or the date the student completes the withdrawal on BannerWeb at my.ltu.edu.

All students withdrawing from classes may have their financial aid eligibility adjusted or canceled for the semester and will be subject to Lawrence Tech's federal Return to Title IV and Satisfactory Academic Progress policies. For additional information, see Financial Aid in this *Catalog*.

STUDENT TUITION APPEAL PROCESS

If students wish to receive an exception to University policy and drop classes after the tuition refund deadline and receive a refund of any type or wish to have the late registration or the late transaction fee waived, they should submit to Enrollment Services/Office of the Registrar the Tuition and Fee Appeal Form, along with a letter explaining the request and the rationale for the request. All supporting documentation should be submitted at this time (e.g., medical documentation). The appeal will not be accepted or reviewed without all information in hand.

The registrar then prepares a packet of information for the Appeals Committee that includes the student's current semester schedule, the tuition statement for the current and previous semesters, a list of the student's courses and grades, and the student's financial aid status. The Appeals Committee (composed of the registrar, dean of students, director of financial aid, director of admissions, and supervisor of student accounting) reviews each student request and makes a determination. The committee may also contact the student's instructor(s) to inquire as to the student's attendance record and current grade in the course. The registrar then sends a letter to the student with the decision.

Students should be aware that if an exception is made, the amount of their financial aid may be impacted and in some circumstances they may potentially owe the University money.

It is important to note that exceptions to University policy are made only in rare circumstances, such as a debilitating illness. Requests made because of difficult work schedules or class schedules will not be considered.

FINANCIAL AID

The Office of Financial Aid, as a division of Enrollment Services, can be contacted at the DTE Energy One-Stop Center (248.204.2280) in the Taubman Center. Approximately two-thirds of all students at Lawrence Tech receive some form of financial aid. Grants, scholarships, loans (types and amounts), and work study eligibility vary by student, depending on need, merit or ability, and availability of funds. All students are encouraged to complete the Free Application for Federal Student Aid (FAFSA) by March 1 and provide all requested documentation by April 1 every year to avoid potential processing delays. All awards are offered based on a first-come, first-served basis.

For additional information on federal, state, and institutional aid programs and instructions on how to apply, visit the financial aid website at www. ltu.edu/financial_aid. Most initial awards are based on the assumption of full-time attendance (12 or more credit hours for undergraduate and six or more for graduate students). All awards will be adjusted for part-time attendance and disbursed proportionally, depending on whether a student attends three-quarter-time (nine, 10, or 11 credit hours for undergraduate, and five credit hours for graduate students) or half-time (six, seven, or eight credit hours for undergraduate, and three or four credit hours for graduate students). Most students are not eligible for financial aid if attending less than half-time (less than six credit hours for undergraduate, and less than three credit hours for graduate students).

All awards will be reviewed and revised, if necessary, following the Add/Drop period each semester. Students who withdraw from all classes for the semester are subject to a recalculation of their award eligibility. All students who have been awarded financial aid should consult the Office of Enrollment Services at the DTE Energy One-Stop Center (enrollmentservices@ltu.edu or 248.204.2280) before dropping or withdrawing from classes. Students will receive a revised award notice showing all adjustments in financial aid eligibility.

Financial aid disbursements will be posted to student accounts and finalized shortly after the Add/Drop period. Refundable balances of excess financial aid will be processed accordingly, based on the wishes of each student. Please contact the Office of Enrollment Services at the DTE Energy One-Stop Center to discuss refunding options.

All financial aid recipients are subject to Satisfactory Academic Progress policies as stated at www.ltu.edu/financial_aid/sap_policy.asp.

Guest, non-degree, and international students are not eligible for most financial aid programs.

For a list of financial aid opportunities available, please contact the Office of Enrollment Services at the DTE Energy One-Stop Center (enrollmentservices@ltu.edu or 248.204.2280).

VETERANS

Questions regarding benefits under the GI Bill, Michigan National Guard educational benefits, or any funding related to veterans should be directed to Lawrence Tech's Office of Financial Aid (enrollmentservices@ltu.edu or 248.204.2280). Veterans may also contact the U.S. Department of Veterans Affairs (www.gibill.va.gov) with questions concerning program eligibility. Veterans Affairs provides a wide range of benefits to veterans. New programs have made some reservists and active duty personnel eligible for benefits.

The monthly allowance for Lawrence Tech veterans is based on the number of credit hours, the number of dependents, and enrollment in a qualified program according to Veterans Affairs guidelines. All veterans receiving GI benefits are expected to maintain Satisfactory Academic Progress (see www.ltu.edu/financial_aid/sap_policy.asp for details).

Veterans Affairs regulations permit only a two-semester probation period unless there are mitigating circumstances as determined by Veterans Affairs. The University will inform Veterans Affairs and the student when the student does not meet academic standards of progress and is no longer eligible for benefits.

Financial Aid

Financial assistance at Lawrence Tech is granted without regard to an applicant's race, sex, color, age, handicap, marital status, or national or ethnic origin. The financial aid application procedure for both new and enrolled students interested in federal, state, and institutional programs begins by completing the Free Application for Federal Student Aid (FAFSA) every year after January 1. The online FAFSA can be found at fafsa.ed.gov or www.ltu.edu/financial_aid/federal_aid.index.asp.

All students are strongly encouraged to explore their financial aid eligibility and complete the Free Application for Federal Student Aid, otherwise known as the FAFSA. The FAFSA can be completed online at fafsa.ed.gov and is the primary application piece required for federal, state, and institutional financial aid consideration. The FAFSA must be completed annually and no earlier than the January 1 prior to the fall semester. To maximize their chance of receiving financial aid, students should complete the FAFSA by March 1 before the fall semester every year. To provide accurate income, tax, and asset information, students and parents should consider moving up their appointment with their tax preparer to early February, if possible.

All financial aid applications will be processed, and eligibility will be established based on the availability of funds. Also, some students are selected for a review process called Verification. Verification requires that students and parents provide tax returns and other important information prior to the review of their application. If students are selected, they will be notified by the school that they must provide the needed information. This information should be turned in or mailed to the DTE Energy One-Stop Center in the A. Alfred Taubman Student Services Center by April 1 for early consideration. All information provided after April 1 will be reviewed and processed but will be considered late.

Students must provide accurate and timely information and documentation to make the application review and awarding processes as smooth as possible. Generally speaking, from the time the FAFSA is submitted to the time an award notice is prepared and sent, it can take between two and six weeks.

New students at Lawrence Tech are notified of their financial aid awards beginning in April. Returning students are notified of their awards beginning in May.

Assisting both new and upper-class students with financial planning and financial aid processing is the role of Lawrence Tech's Office of Financial Aid, a division of Enrollment Services. Through various private, state, and federal programs, there are many sources and types of financial aid to help students meet their educational costs. Approximately two-thirds of the University's students receive some form of financial assistance, which totals more than $40 million annually – $16 million in outright grants and scholarships and $26 million in low-interest loans. And, there are many students who benefit from federal and state work-study opportunities to earn a paycheck and gain valuable work experience.

Good students should not be dissuaded from pursuing a quality Lawrence Tech education because they assume it is beyond their means. Students should visit www.ltu.edu/financial_aid for up-to-date financial aid information and links to scholarship search websites. Students should contact the DTE Energy One-Stop Center at 248.204.2280 or enrollmentservices@ltu.edu if they have any questions regarding the financial aid application process or status.

STATE TUITION GRANTS AND SCHOLARSHIPS FOR MICHIGAN RESIDENTS

Lawrence Tech students in need of financial aid have a special opportunity for assistance through the State of Michigan Tuition Grant program, which is exclusively for students attending independent Michigan colleges. Lawrence Tech students may receive outright grants of $100 to $1,512 toward tuition each year, depending upon their need and the availability of funds.

The state also has a scholarship program, the Michigan Competitive Scholarship, for students enrolled in public or private Michigan colleges. Michigan Competitive Scholarships are awarded on the basis of the American College Test (ACT) scores and demonstrated financial need.

Requirements

To qualify for a Michigan Tuition Grant or a Michigan Competitive Scholarship, an applicant must be a U.S. citizen or an eligible non-resident; must have been a continuous Michigan resident since July 1 (of the previous year); and must be a student attending at least half-time (a minimum of six hours).

How to Apply

To apply, a student should follow the instructions at www.ltu.edu/financial_aid/state_tuition_grants.index.asp and complete the Free Application for Federal Student Aid (FAFSA) at www.fafsa.ed.gov.

Deadlines

To receive maximum consideration for these state funds for the fall semester, students should complete the FAFSA by early spring. Currently, the deadline for Michigan Competitive Scholarship consideration is March 1 every year. Students are encouraged to file early in order to know their financial aid status well in advance of the fall semester. However, all late applications will be considered, depending on the availability of funds.

LAWRENCE TECH ACADEMIC SCHOLARSHIPS

Lawrence Tech prides itself on providing a large number of scholarships to new students ranging from partial to full tuition. All undergraduate students who have been accepted to Lawrence Tech are automatically eligible for scholarship review. The Office of Admissions determines eligibility for freshman students based on a combination of the students' high school grade point average and ACT/SAT test scores. Lawrence Tech also provides scholarship opportunities for transfer students. In order for transfer students to be eligible, they must have GPAs of 3.0 or higher.

To assure that all students receive maximum consideration for all types of financial aid, completion of the financial aid application process is recommended.

Students will be notified in writing of their eligibility and the terms and condition of each scholarship. Most scholarships have a maximum of four years, or eight semesters, of eligibility, and require full-time attendance. Transfer students with the Pre-eminent scholarship have two years or four semesters of eligibility. All students are expected to meet the academic requirements of each scholarship received, and all scholarships are renewable. The Office of Financial Aid reviews each scholarship recipient's GPA and determines continued eligibility of their scholarship. Lawrence Tech also offers a variety of scholarships available for one semester and only renewable by application.

For the most recent detailed listing of all Lawrence Tech scholarships, go to www.ltu.edu/financial_aid. No additional application is required to be considered for scholarships. To be eligible, students must be admitted to Lawrence Tech and have a completed admissions application with official transcripts.

It is recommended that students complete admission applications prior to March 1 for freshman and June 15 for transfer students. Scholarships will be awarded on a rolling basis; funding is limited, and awards will cease when funding has been depleted.

Wayne H. and Vita S. Buell Honor Scholarships
Through a bequest from Lawrence Tech's third president and his wife, a limited number of full tuition scholarships with a book stipend are offered to outstanding students entering the University for the first time. Candidates must be in the top 5 percent of their high school graduating class. Scholarships are awarded each year on a competitive basis.

Lawrence Tech Scholarships
Lawrence Tech offers a limited number of $13,000 to $18,000 annual scholarships to first-time students who are high school graduates with a GPA of 3.5 or higher and a qualifying ACT test score. Transfer students with exceptional transfer credit and grade point average also may qualify.

University Honor Scholarships
Lawrence Tech annually awards more than 250 University Honor Scholarships for $10,000 per year to first-time students who qualify with a GPA of 3.3 or higher and an ACT composite of 25 or higher. The scholarship is renewable for up to three years if the student maintains a 2.7 cumulative GPA or higher.

Transfer students are also eligible for University Honor Scholarships and must transfer a minimum of 24 hours with a GPA of 3.6 or higher to qualify. The $10,000 per year scholarship is given for eight semesters if the student maintains full-time student status and a GPA of 2.7 or higher.

Lawrence Tech Trustee Scholarships
Lawrence Tech annually awards an unlimited number of $6,000 per year Trustee Scholarships to first-time students who have a GPA of 3.0 or higher and an ACT composite of 24 or higher. The scholarship is renewable for up to three years if the student maintains a cumulative GPA of 2.7 or higher.

Transfer students are also eligible for Trustee Scholarships and must transfer a minimum of 24 hours with a GPA of 3.0 or higher to qualify. The award is $4,500 per year for full-time students and $1,500 per year for part-time students, and it is given for eight semesters if the student maintains an enrollment of at least six credit hours and a GPA of 2.7 or higher.

UPPERCLASS SCHOLARSHIPS FOR CONTINUING UNDERGRADUATE STUDENTS

Through the generosity of friends and alumni of Lawrence Tech, in association with the efforts of the Office of University Advancement, there is a growing list of donor-funded scholarships available to undergraduate students demonstrating outstanding academic accomplishment at Lawrence Tech. All continuing undergraduate students who have successfully completed at least 24 credit hours may apply for upper-class scholarships. Upper-class scholarship applications, available from the Scholarship Committee chairperson, the DTE Energy One-Stop Center, and online at www.ltu.edu/financial_aid, must be received before May 15 for scholarship opportunities beginning the following fall. Recipients enrolled in baccalaureate programs must have sophomore, junior, or senior standing to qualify. Find a complete listing of upper-class scholarships at www.ltu.edu/financial_aid.

LOANS FOR STUDENTS

Federal Direct Stafford Loans
The Federal Direct Stafford Subsidized and Unsubsidized Loan programs carry both annual and cumulative (lifetime) limits. Your SAR (Student Aid Report) lists your cumulative loans, but it is important that you also keep records of all your loan transactions. You can also look up your loan history online at www.nslds.ed.gov.

It is very important to complete the FAFSA every year. All federal loans must be accepted and originated one month prior to the end of the semester or period of enrollment to allow adequate time for processing and disbursement of funds.

Federal Direct Subsidized Stafford Loan – Students must demonstrate financial need to qualify for the Subsidized Stafford loan. The federal government pays the interest on a Subsidized Stafford loan while the student is attending college at least half-time. When students graduate, drop below half-time, or withdraw from their academic programs, they will receive a six-month grace period before repayment begins. Depending on when the student's loan was disbursed, the interest rate can be fixed or variable. Visit www.ltu.edu/financial_aid for further information.

Federal Direct Unsubsidized Stafford Loan – Students are responsible for the interest on an Unsubsidized Stafford loan while in college. Payment options can be viewed at www.federalstudentaid.ed.gov. Students who do not demonstrate need may qualify for the Unsubsidized Stafford loan.

Stafford Maximums Per Year

Student Level and Dependency Status	Maximum Stafford (subsidized and unsubsidized)	Maximum Subsidized
Dependent freshman	$5,500	$3,500
Dependent sophomore	$6,500	$4,500
Dependent junior or senior	$7,500	$5,500
Independent freshman	$9,500	$3,500
Independent sophomore	$10,500	$4,500
Independent junior or senior	$12,500	$5,500
Graduate/professional	$20,500	0

Lifetime Limits

Student Level and Dependency Status	Maximum Stafford (subsidized and unsubsidized)	Maximum Subsidized
Dependent undergraduate	$31,000	$23,000
Independent undergraduate	$57,500	$23,000
Graduate/Professional	$138,500*	$65,500*

*****The graduate debt limit includes loans received for undergraduate study. Beginning with the 2012–13 academic year, graduate students are no longer eligible for Federal Direct Subsidized Stafford loans.

If students reach their lifetime loan limit, they cannot receive any more of that type of loan. If they exceed their limit, aid already disbursed will be returned to the lender or may have to be repaid by the students. Students are encouraged to borrow only what they need for educational expenses and to keep track of their cumulative debt. Alternative lending may be an option if students need additional loan funding to assist them with continuing their education.

Federal Direct PLUS Loans

There are two types of Federal PLUS loans. One is the PLUS Loan for parents, which allows parents of dependent students to borrow up to the cost of their college attendance minus estimated financial aid from other sources. The other is the PLUS Loan for graduate students that allows students to borrow up to the cost of their attendance minus

other estimated financial aid. Both loan programs are subject to credit worthiness, and there are fixed and variable interest rates depending on when the loan was or is disbursed. Repayment typically begins 60 days after disbursement but students can apply for a deferment. Visit www.studentaid.ed.gov for additional information.

Federal Perkins Loans
Under this federal program, students may borrow up to $4,000 each year up to a total of $20,000 for an undergraduate program. Students must show need for financial aid as determined by the results of the FAFSA. Repayment terms and conditions can be viewed at www.studentaid.ed.gov.

GRANTS FOR STUDENTS

Federal Supplementary Educational Opportunity Grants (FSEOG)
This federal program awards grants ranging from $100 to $4,000, depending on availability of funds, to students who demonstrate financial need. Students receiving Pell awards have first priority for FSEOG funds.

Federal Pell Grant
Maximum grant eligibility for each student is $5,500 annually and is available only for undergraduate students. The application for the Pell Grant is the Free Application for Federal Student Aid (FAFSA), which is used to determine the family contribution and need for the Pell Grant. The FAFSA is available online at www.fafsa.ed.gov and/or www.ltu.edu/financial_aid.

WORK-STUDY PROGRAMS

The Federal Work-Study Program is designed to help students pay for their education by providing opportunities for them to be employed and earn a paycheck during the semester. Students may work on campus in any capacity, such as in academic departments, administrative offices, libraries, or in landscaping and maintenance. A student must demonstrate financial need as determined by completion of the FAFSA to be eligible for the work-study programs. Contact the Office of Career Services at 248.204.3140 for a listing of available work-study positions.

For information on the Federal Work-Study program, visit www.studentaid.ed.gov.

JOB PLACEMENT SERVICE

The Office of Career Services maintains a list of available part-time and full-time jobs with businesses and industries seeking candidates from Lawrence Tech. Opportunities are posted on CareerQuest (www.ltu.edu/career_services/careerquest.asp).

COOPERATIVE EDUCATION

Students in the traditional co-op program (alternating every other semester between work and school) and receiving some form of financial aid or scholarship typically receive their financial aid awards once they return to campus on a full-time basis, depending on whether they are enrolled for other classes during the semester of co-op.

Students on the parallel program can potentially receive financial aid during their co-op provided they are attending at least half-time (six credit hours) each semester.

Students should speak with a financial aid counselor for further information regarding their scholarships, loans, or other financial aid while on co-op.

Informally and apart from the formal co-op program, many students in all disciplines work full- or part-time while attending classes. Lawrence Tech's day, evening, and course offerings provide considerable flexibility to students who seek concurrent employment. While students may learn of particular job opportunities through such sources as the Office of Career Services, students are individually responsible for working out an acceptable attendance schedule with their employer.

ADDITIONAL FINANCIAL AID INFORMATION

Basis for Awards

Students with the greatest need, as determined by standard federal methodology (resulting from completion of the FAFSA), receive the highest consideration for need-based funding depending on the availability of funds and the timing of the application. Students meeting published application deadlines will have a greater chance of receiving preferred types of financial aid funds.

Basic Costs

Personal expenses for room, board, clothing, recreation, laundry, travel, books, and incidentals vary according to individual lifestyle. An estimate for the total cost of a student's education can be made by adding tuition and fees to these items. The Office of Financial Aid provides an estimated cost of attendance at www.ltu.edu/financial_aid/estimate.asp. This can be used to determine eligibility for need-based funding. Cost minus the Expected Family Contribution (EFC) is the basis for determining the need for financial aid. The EFC is calculated based on the information provided on the FAFSA each year.

Satisfactory Academic Progress

All students receiving financial aid are expected to maintain satisfactory academic progress. Undergraduate students receiving any type of financial aid must maintain a grade point average of at least 2.0 after completing the first three semesters or risk losing their financial aid eligibility for the next semester of attendance.

Students are also expected to make normal progress toward graduation by completing at least 67 percent of all attempted credit hours. Students who withdraw from or drop one-third or more of the courses in which they have enrolled during the year will not meet the standards of academic progress for financial aid consideration.

In addition, students will not be eligible for aid once they have attempted 150 percent of the total number of credit hours required to complete their program of study. Students should consult their academic advisor to determine the appropriate course load to assure

academic success and completion of their degree within the specified number of credit hours.

Contact the DTE Energy One-Stop Center or visit www.ltu.edu/financial_aid/sap_policy.asp for information regarding the appeal and renewal procedure when standards of progress are not met.

Defaulted Student Loans
Students who have defaulted on student loans, owe a refund on a grant, or owe college tuition will not be eligible for any financial aid until the obligation is fulfilled and monies are paid back to the University, the federal government, the state government, or the lender of interest.

Verification of Financial Statement and Other Application Information
Lawrence Tech reserves the right to request from its students federal IRS income tax documentation along with a verification form for the entire family for the financial information provided. Students refusing to provide family income tax or other documentation information will be denied financial aid. For families not filing a federal tax form, other types of verification will be required.

Financial Aid and Credit Hour Reduction
Financial aid may be reduced or canceled if a student takes less than 12 credit hours per semester. Award amounts for need-based financial aid are based on the number of credit hours attempted and a student's demonstrated financial need. Students planning to drop all or part of their classes should contact the DTE Energy One-Stop Center to discuss the effects on their financial aid awards for the semester.

Refunds of Excess Financial Aid
When financial aid and other payments exceed a student's charges, the student is entitled to a refund. Student Accounting will refund excess financial aid to the student, parent, or other payment source within 14 days of the posting of a credit balance. A check will be mailed to the current mailing address on file, or students can elect to have the check directly deposited.

Cancellation of Loan
Federal Stafford, Federal PLUS, and Federal Perkins loan borrowers have the right to cancel their loan disbursements within 14 days of the disbursement notice. Should students decide to cancel the disbursement of their federal loans, they should contact the DTE Energy One-Stop Center at enrollmentservices@ltu.edu in writing within the specified time period. By canceling the disbursement, students will be responsible for any unpaid tuition and fees, as well as repayment of loan funds already paid to them.

Enrollment Status
All initial awards are based on full-time status. Grant awards will be prorated for enrollment of less than full-time, and student loan eligibility will be reevaluated and may change due to changes in enrollment status. Students must be enrolled in an eligible

degree program, and most funds require at least half-time (for undergraduate students, six or more credit hours, and for graduate students, three or more credit hours) enrollment status. Student awards are subject to change due to changes in enrollment status and/or funding levels at any time.

Adjustments to Aid
Within certain time limits, tuition adjustments may be made to the student's financial account. There are times, however, when students receive no tuition credit/refund for dropped courses. See the Tuition and Fees section of this *Catalog* or visit www.ltu.edu/registrars_office/tuition_fees.index.asp. It is the students' responsibility to know these dates and adhere to them.

Withdrawal from Lawrence Tech
Students may be billed for a portion or all of their charges if they withdraw from the University. The bill calculated as a result of withdrawal will depend on the effective date of the withdrawal, the percentage and amount of institutional refund, and/or the last date of class attendance.

If a student receiving Title IV funds completely withdraws (www.ltu.edu/financial_aid/financial_aid_IVfunds.asp) from classes through 60 percent of the term, the University is required to determine how much of the financial aid was earned up to the time of withdrawal. The University and/or the student must return unearned Title IV funds to the federal government. This situation could result in the student owing aid funds to the University, the government, or both.

Students should always check with the DTE Energy One-Stop Center prior to withdrawal for advice on the impact it will or could have on their financial aid.

Auditing Classes
Students who audit classes are not eligible to receive financial aid for audited class work.

Academic Regulations

The policies and procedures described in this *Catalog* determine the academic status of undergraduate students enrolled in the University. Exceptions to these policies and procedures may be considered only upon a written request to the Office of the Provost or the designated/appropriate office. In the case of a lapse of future catalogs, the policies, procedures, and curricula in this *Catalog* will apply to all students. For policies pertaining to graduate programs, see Lawrence Tech's *Graduate Catalog*.

DEFINITION OF FULL-TIME STATUS

Classification as a full-time student is based upon the weekly academic load that the student carries. Undergraduates are considered full-time when registered for a minimum of 12 credit hours. Full-time status requirements are the same during the summer semester.

GROUPING OF STUDENTS BY CLASSES

Students in undergraduate programs are classified as follows:

Semester hours completed	
Freshman	0–29
Sophomore	30–59
Junior	60–89
Senior	90+

CREDIT HOUR

The University converted from a quarter credit system to a semester system, effective beginning in the fall of 1994. Work completed prior to August 1994 is recorded in standard quarter hours. Work completed after August 1994 is recorded in semester hours. Quarter hours can be converted to semester hours by multiplying the number of quarter hours by two-thirds.

GRADING SYSTEM

A record of grade points is kept in the student's permanent record and is used to determine his or her overall scholastic average. The following grades are computed in the grade point average:

Grade	Points per Credit Hour
A	4.0
A-	3.7
B+	3.3
B	3.0
B-	2.7
C+	2.3
C	2.0
C-	1.7
D+	1.3
D	1.0

D-	0.7
F	0.0
WF	0.0 (failure due to non-attendance)

The grades D, D+, and D- are not used in graduate programs and select undergraduate programs.

The following grades are not computed in the grade point average:

W	Withdrawal
X	Audit
CR	Credit
NC	No Credit
I	Incomplete
DG	Deferred Grade
NR	No Report
TR	Transfer Credit
IP	In Progress
ZZ	Transfer Courses in Progress

RECOMPUTATION OF GRADE POINT AVERAGE

The following grades may be repeated and the grade point average recalculated at the undergraduate level: C-, D+, D, D-, and F.

The recalculation of the grade point average is an automated process within Enrollment Services/Office of the Registrar; the student is not required to submit any paperwork.

Until a passing grade is achieved, all grades for earlier attempts in a course will appear on the transcript and will be computed into the grade point average. Once a course has been passed, only the credit hours and grade for the latest attempt will be reflected in the grade point average.

In order for the grade point average to be recomputed, the latest attempt must be in the same course as the one originally shown on the transcript and must be part of the University's normal course offerings. Directed study or special sections may not be used for recomputation purposes.

Students who have been found in violation of the Academic Honor Code receive the grade of F for that course. This grade will not be recomputed for GPA purposes.

The University does not guarantee that a course will be offered in the future. Therefore, students will not be eligible for recomputation of a course no longer offered by the University.

INCOMPLETE

A grade of "I" is given only under extraordinary circumstances for course work that has been of satisfactory quality and, in the judgment of the instructor and the instructor's

dean, adequate to justify a reasonable extension of time. It is assigned only in cases in which the student has completed satisfactorily the major portion of the course requirements. Students receiving an "I" may not attend the class during a succeeding semester. Instructors must change an "I" to a grade other than a "W" no later than one calendar year following the end of the semester. After one year, if course requirements are not met, the "I" will be converted to an "F."

GRADE CHANGES
The electronic entry of grades submitted by instructors at the end of each semester is the official record of grades. Grade changes, when necessary, are done by the instructor with the approval of the department chair and dean. The registrar may determine that the provost's approval is also required in exceptional or unusual circumstances. Any disputes concerning grades must be resolved within one semester after the course was completed.

DISPUTE OF GRADES
Students who wish to dispute their grades have one semester to address the issue. The appropriate procedure for disputing grades, along with any other aspect of a course, is as follows: The student must first speak with the instructor of the course; if the resolution is not what the student hopes to achieve, the next course of action is to speak with the department chairperson. If the outcome from addressing the issue with the department chair is not what the student hopes to achieve, the student should then address the issue with the dean of the college. If the resolution is not what the student hopes to achieve, the last and **FINAL** course of action is to speak with the provost. The ruling of the provost is **FINAL** and not further disputable by the student.

AUDITING CLASSES
Anyone wishing to audit a course must submit an audit request form along with the regular registration forms. These forms are available in Enrollment Services/Office of the Registrar. No credit is granted for courses that are audited. Starting with the first day of classes, a student may not change enrollment status from audit to credit or from credit to audit. Full tuition will be charged, and the tuition credit policy applies if the student withdraws.

WITHDRAWAL FROM CLASSES
When intending to drop a course or courses or to withdraw from courses, students are responsible for dropping courses online through BannerWeb. The date of the drop or withdrawal will be the date that the student drops the course(s) on BannerWeb. To protect students' right to privacy, drops and withdrawals may not be conducted by telephone or email.

Within certain time limits, full tuition adjustments may be made to the student's financial account. There are times when students receive no tuition credit/refund for dropped courses. Official Drop/Add dates for each semester are available online on BannerWeb at my.ltu.edu and at www.ltu.edu/registrars_office/important_dates.index.asp. It is the student's responsibility to know these dates and adhere to them.

It is important to note that exceptions to University policy are made only in rare circumstances, such as a debilitating illness. Requests made because of difficult work schedules or class schedules will not be considered.

Students studying at Lawrence Tech with an F-1 or J-1 visa cannot drop classes below full-time status without prior approval from the Office of International Programs.

GRADES FOR COURSES DROPPED

Students who drop a course during the first two weeks of classes during the fall or spring semester will receive a "Drop" on their Registration Form and no grade will appear on their transcript.

Students who withdraw from a course before the 13th week of the fall or spring semester but after the first two weeks of classes will receive a grade of "W."

The last day to withdraw from summer semesters and short courses within the regular fall and spring semester is adjusted for the shorter time period as follows:

Class Duration Period	Last Day/Week to Withdraw
up to one week	third day
up to two weeks	first week
up to three weeks	second week
up to four weeks	third week
up to five weeks	fourth week
up to six weeks	fifth week
up to seven weeks	sixth week
up to eight weeks	sixth week
up to nine weeks	seventh week
up to 10 weeks	eighth week
up to 11 weeks	ninth week
up to 12 weeks	10th week
up to 13 weeks	11th week
up to 14 weeks	12th week
up to 15 weeks	13th week

After the last date to withdraw for any semester, students will not be permitted to withdraw from the course and will receive a grade as determined by the instructor (not a "W").

Those students who do not attend courses or who miss a designated number of courses, and who do not withdraw from the courses on their own, will be issued the grade of "WF." This means failure due to non-attendance and will impact the student's financial aid award and loans.

All withdrawals or drops must be initiated by student action to assure that a "W" will appear on the master grade roster and subsequent transcripts. Faculty may not initiate

withdrawal procedures nor may they submit a "W" on the electronic grade entry unless the student has withdrawn.

Drop and Withdrawal schedules for each semester may be obtained from Enrollment Services/Office of the Registrar and are available at www.ltu.edu/registrars_office.

SCHEDULE OF CLASSES
Programs for undergraduate students are outlined in this *Catalog*. Class schedules giving the particular days and the hours of the various classes are made available during registration for each semester online at www.ltu.edu and on BannerWeb at my.ltu.edu.

GRADE REPORTS
Grades are available online at the end of each semester through BannerWeb at my.ltu.edu. Report cards are mailed only upon student request to Enrollment Services/Office of the Registrar. It is the students' responsibility to seek their grades at the end of each semester.

CHANGE OF CLASS SCHEDULE
Beginning the first day of classes, students may change their schedule by adding or dropping courses online on BannerWeb at my.ltu.edu. Students are responsible for completing their own Drop/Add procedure and retaining confirmation of the transaction. Classes must be added during the first two weeks of classes.

All changes to students' schedules are effective on the date conducted via BannerWeb Students are not permitted to attend courses without being officially registered.

ATTENDANCE
Class attendance records of students are kept by all members of the faculty. The consequences of absenteeism will be determined by the instructors and will reflect their policy and judgment with respect to the effect of attendance on the students' final grades.

PREREQUISITES FOR COURSES
Students are responsible for successfully completing the prerequisite courses listed in this *Catalog* for all courses in which they are registered. In those exceptional circumstances where a prerequisite may be waived, the student must complete the Prerequisite Waiver Form and submit it to the department head or dean of the college offering the course. If a prerequisite is waived, it is for one semester only and does not exempt the student from taking the waived prerequisite in the future.

A student who is determined to have enrolled in a course without completing the required prerequisites or obtaining an authorized waiver may be required to withdraw at any time during the semester and will forfeit tuition and fees according to the normal University tuition credit policy.

MIDTERM STATUS

The University pays close attention to the academic progress of students through their course work. An examination of students' records occurs during the midway point of the semester. Freshman and other students are encouraged to seek assistance early from the faculty members teaching their courses or to take advantage of the wide range of tutorial and other assistance available through the Office of the Dean of Students and the Academic Achievement Center.

ACADEMIC PROBATION

Failure to Make Academic Progress

Any student whose overall grade point average falls below 2.0 at the end of a semester will be placed on academic probation. Students on academic probation are required to have an advisor's approval to register or to add or drop any class.

Students may also be placed on academic probation for having a GPA lower than 2.0 in their major.

Academic Suspension and Dismissal

Any student whose cumulative grade point average remains below 2.0 at the end of three consecutive semesters of their enrollment, or any student on academic probation who fails to meet the requirements of that probation, will be suspended from the University for a minimum of one calendar year. Veterans who do not meet the aforementioned requirements will lose their university certification for VA benefits. Architecture students are also subject to the continuation requirements described below.

At the end of the designated suspension period, undergraduate students who have been suspended from the University for academic reasons may submit a written petition for readmission to the chair of the Academic Standing Committee. This petition should be received six weeks before the first day of class for the semester in which the student wishes to return.

Students who have been suspended and subsequently readmitted who fail to meet the conditions of their readmission will be dismissed from the University. Students dismissed from the University under these circumstances may not be readmitted.

The University will not accept transfer credit for courses taken at another college or university during a period of one calendar year following suspension.

Excessive Repeating and Withdrawal

Students are expected to successfully complete all the courses in which they are registered and are encouraged to plan their schedules to avoid overloads and conflicts that would interfere with that objective. Any student who engages in excessive withdrawal from classes or who repeats a required course more than once is subject to academic review and may be placed on academic probation regardless of the overall grade point average. Subsequent continuation of this behavior may result in suspension or dismissal. Students may register for the same course up to three times. After that point, the dean's

signature is required to register. Circumstances demonstrably beyond the students' control may excuse them from this requirement, but poor scholarship will not.

Failure to Complete Lower Division General Education Requirements
Lower division (freshman and sophomore) General Education requirements are expected to be completed before entering the junior year (60 or more semester credits). Juniors who have not completed lower division General Education requirements must register for these courses each semester concurrently with upper-division (junior/senior) courses until the requirements are met.

Students who earn 90 semester credits without completion of lower division General Education requirements will be placed on academic probation regardless of the grade point average, and they will not be permitted to register for courses in their major until these requirements are met.

COLLEGE OF ARCHITECTURE AND DESIGN CONTINUATION REQUIREMENTS

Architecture, Upper Division
Architecture students must have a minimum grade point average of 2.3 when they reach 60 or more semester credits in order to enroll in junior-level courses in the College of Architecture and Design. Should an architecture student not meet this requirement, the student must repeat courses in which a grade of "C-" or less was earned or otherwise improve the grade point average to meet the requirement.

No more than two "D" grades (D+, D, or D-) (one in an architecture course and one in a general education course) course may be counted toward an architecture degree.

Graphic Design and Imaging
The College of Architecture and Design requires that students in the Bachelor of Fine Arts in Graphic Design and the Bachelor of Fine Arts in Imaging – Digital Arts degree programs earn a minimum grade of "B-" (2.7) in each studio course in the sophomore, junior, and senior years of the program. These courses may be repeated up to two times in order to improve performance. (Only grades of "C-" or lower may be recomputed.) Failure to satisfy this requirement will lead to suspension from the BFA program.

ACADEMIC STANDING COMMITTEE/READMISSION

Undergraduate students who have been suspended from the University because of poor scholarship may, after one calendar year, submit a written petition for readmission to the dean of students or the chairperson of the Academic Standing Committee. This petition should be received at least six weeks before the first day of class of the semester in which the student wishes to return.

Evidence of planning, curriculum load, and work activities are taken into consideration when reviewing petitions for readmission. Petitions should be well organized, typed, and should include the student's current address, phone number, student number, curriculum,

and reasons why the student had previous academic difficulty and why the student now feels he or she can be successful if readmitted.

The petition may include a letter from an employer attesting to competent work and maturity. An official transcript of courses taken at another institution must be submitted at the time the student applies for readmission. However, credit is not allowed for any work taken at another institution for the period of one calendar year following suspension. Once admitted, a student is required to abide by the graduation requirements outlined in the *Catalog* at the time of readmission. A student's requirements for graduation may be subject to reevaluation.

ENROLLMENT AT OTHER INSTITUTIONS

Students are expected to complete all courses for a Lawrence Tech degree at the University once they have been admitted. Transfer credit is generally not given for courses taken at other institutions after enrollment at Lawrence Tech, unless those courses cannot be completed at the University.

Students enrolled at Lawrence Tech may not take courses at other institutions after admission to Lawrence Tech and expect those credits to transfer without the prior written permission of the Credit Review Committee. Any courses taken in violation of this policy will be denied transfer or additional credit.

To be eligible for guest credit, students must have:

1. Achieved a 2.0 GPA at Lawrence Tech;
2. Completed 24 credit hours or two semesters at Lawrence Tech;
3. Satisfied the prerequisites for the course(s) that they wish to take at another institution. If prerequisites are in progress for the requested course(s) at the time of submission of the Guest Credit Approval form, a letter from the instructor(s) is required stating the student's grade in the course(s) as of that date and the instructor's opinion (at that point in time) of the student's capability to continue successfully in the requested course;
4. Completed the Guest Credit Approval form (available in Enrollment Services/Office of the Registrar or at www.ltu.edu/registrars_office/forms_to_print.index.asp).

Students must submit the Guest Credit Approval form to Enrollment Services/Office of the Registrar at least one month before the desired course begins. The Credit Review Committee meets every two weeks and reviews each request individually. The registrar will then send the student a letter informing him or her of the committee's decision.

For those courses approved, the student must receive at least a 2.0 in the course to have it transfer back to Lawrence Tech. It is the student's responsibility to have the official transcript sent to Enrollment Services/Office of the Registrar at Lawrence Tech. Until the official transcript arrives, the credit will not be placed on the student's transcript. In addition, only the course will transfer to Lawrence Tech, not the grade. Lastly, approved

guest credit courses may not be transferred back to Lawrence Tech to be used in grade point average recomputation.

DEAN'S LIST

In recognition of students who achieve superior scholastic records, a Dean's List is published at the close of each semester, and an appropriate notation is made on students' academic records. This includes all students who have carried a minimum of 12 credit hours and have earned a GPA of 3.5 or higher. Part-time students must complete two semesters with at least six credit hours each semester and earn a GPA of 3.5 or higher to be included on the Dean's List. If students have selected confidentiality status, their names will not appear on published lists.

TRANSCRIPTS (RECORDS)

A permanent record of all credits earned at or transferred to the University is maintained for each student in Enrollment Services/Office of the Registrar. These transcripts are preserved indefinitely. All graduates are mailed a copy of their academic transcript at Lawrence Tech as soon as possible after their degree is earned.

At all other times, students are charged a nominal fee for official copies of their Lawrence Tech transcript. Copies of transcripts will not be released without the student's authorization in writing. Transcripts will not be issued unless all financial obligations from prior semesters have been settled.

ARCHITECTURAL DRAWINGS AND REPORTS

All two- and three-dimensional architectural drawings and models, as well as reports and other written studies submitted in satisfaction of any required or elective architectural courses, become the property of the University and may be kept or returned at the sole discretion of the dean of the College of Architecture and Design. When such work is kept, arrangements will be made for the students to receive suitable photographic copies as a record of their design work.

FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT (FERPA)

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. These rights are:

1. The right to inspect and review the student's education records within 45 days of the day the University receives a request for access. Students should submit to Enrollment Services/Office of the Registrar written requests that identify the record(s) they wish to inspect. The University Registrar will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the Enrollment Services/Office of the Registrar, where the request was submitted, the University Registrar shall advise the student of the correct official to whom the request should be addressed.
2. The right to request the amendment of any of the student's education records that the student believes are inaccurate or misleading. Students may ask the University to amend a record that they believe is inaccurate or misleading. They should write the University official responsible for the record, clearly identify the part of the

record they want changed, and specify why it is inaccurate or misleading. If the University decides not to amend the record as requested by the student, the University will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

3. The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent to school officials with legitimate educational interests. A school official is defined as a person employed by the University in an administrative, supervisory, academic, or support staff position (including the law enforcement unit and health staff); a person or company with whom the University has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or a person assisting another school official in performing his or her tasks. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility.
4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by the University to comply with the requirements of FERPA. The name and address of the office that administers FERPA is:
   Family Policy Compliance Office
   U.S. Department of Education
   400 Maryland Avenue, SW
   Washington, DC 20202-4605

At Lawrence Technological University the following information is considered Directory Information about a student: dates of attendance, major field of study, class level, degrees and awards received, anticipated degree date, and confirmation that the student is enrolled (enrollment status).

In accordance with the provisions of the Family Educational Rights and Privacy Act (FERPA), this Directory Information can be released to the general public and may be listed in the campus directory, if one is published. Students may withhold this information from being released by completing the Student Request for Non-Disclosure Form. By completing this form, students are requesting that information NOT be released to non-university personnel nor listed in the campus directory, if one is published, for one year. This request remains in effect until removed by the student. Please note that in compliance with federal regulations there are situations in which particular information may be released, upon presentation of official documents, to designated state, local, or government agencies.

Students should consider carefully the impact of their decision to request confidential status. This means that after submission of the form, requests for this information from non-university persons or organizations will be refused. Friends or relatives trying to reach a student will not be able to do so through the University; the student's name will not appear in the printed Commencement program; information that the student is

enrolled at Lawrence Tech will be suppressed, so if a loan company, prospective employer, family member, etc., inquires about the student, they will be informed that there is no record of the student's attendance.

Lawrence Tech will honor the student's request to withhold this information but cannot assume responsibility for contacting the student for subsequent permission to release the Directory Information. Regardless of the effect upon the student, Lawrence Technological University assumes no liability as a result of honoring the student's instructions that this information be withheld.

Once a student has designated a confidential classification, it will be removed after one year. If a student wishes the classification removed prior to then, the student should submit a signed authorization requesting that it be removed. This authorization form is available in Enrollment Services/Office of the Registrar.

Policies, Procedures, and Regulations

ACADEMIC HONOR CODE

Academic integrity and honesty are basic core values of Lawrence Technological University. In carrying out its academic mission, Lawrence Technological University, like all universities, depends on the honesty and integrity of its faculty, staff, and students, and for this reason every member of the Lawrence Technological University community is charged with upholding the Academic Honor Code. Actions that breach the Code erode the trust of those who look to universities for honest evaluations of academic work arrived at through honest processes. Violations may also cause individual harm in that reports of performance made to post-graduate schools, professional societies, and employers would inaccurately represent a student's progress.

Lawrence Technological University is committed to creating an academic community that values both individual and collaborative efforts that promote learning and discovery. Such a community expects honesty and integrity in the work of all its members. The Academic Honor Code speaks to the work of individual students within the community. It should not be construed as arguing against the important collaborations that also occur among students on campus. This document is intended to clarify the adjudication of issues regarding academic honesty and fair play for students. Portions of this document have been adapted from the 2002–03 University of North Carolina at Wilmington Academic Honor Code and the 2002–03 Binghamton University Academic Honesty Code.

A. Academic Integrity

Students, faculty, and staff are expected to follow established standards of academic integrity and honesty. Academic misconduct entails dishonesty or deception in fulfilling academic requirements and includes but is not limited to cheating, plagiarism, or the furnishing of false information to the University or a University affiliate in matters related to academics. An affiliate of the University is any person, organization, or company who works in conjunction with Lawrence Technological University for the purposes of assisting students in fulfilling their academic requirements. It is therefore this institution's stated policy that no form of dishonesty among its faculty or students will be tolerated. Although all members of the University community have an obligation to report occurrences of dishonesty, each individual is principally responsible for his or her own conduct.

B. Academic Dishonesty Offenses

Violation of any of the following standards subject any student to disciplinary action:

1. Plagiarism

The term "PLAGIARISM" includes but is not limited to (a) the use, by paraphrase or direct quotation, of the published or unpublished work or creative and/or intellectual property in print, product, or digital media of another person without full and clear acknowledgment; (b) the unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers, reports, or other academic materials; or (c)

the appropriating, buying, receiving as a gift, or obtaining by any other means another person's work and the unacknowledged submission or incorporation of it in one's own work. Plagiarism is unethical, since it deprives the true author of his/her rightful credit and then gives that credit to someone to whom it is not due. Examples include:

- Quoting, paraphrasing, or summarizing written material, even a few phrases, without acknowledgment.
- Failing to acknowledge the source of either a major idea or an ordering principle central to one's own paper.
- Relying on another person's data, evidence, or critical method without credit or permission.
- Submitting another person's work as one's own.
- Using unacknowledged research sources gathered by someone else.
- Copying portions or outcomes of two- or three-dimensional creative property of previously published work.
- Copying items from Internet websites without acknowledgment of the source.

2. Bribery
The term "BRIBERY" includes the offering, giving, receiving, or soliciting of any consideration in order to obtain a grade or other treatment not otherwise earned by the student through his/her own academic performance.

3. Cheating
The term "CHEATING" includes but is not limited to (a) use of or giving to others any unauthorized assistance in taking quizzes or examinations; (b) dependence upon aids beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments; (c) the acquisition, without permission, of tests or other academic material belonging to a member of the University faculty or staff; or (d) the unauthorized use of any electronic or mechanical device during any program, course, quiz, or examination or in connection with laboratory reports or other materials related to academic performance.

4. Misrepresentation
The term "MISREPRESENTATION" includes any act or omission undertaken with intent to deceive an instructor for academic advantage. Examples include:

- Using a computer program generated by another and handing it in as one's own work unless expressly allowed by the instructor.
- Lying to an instructor to improve one's grade.
- Lying or misrepresenting facts when confronted with an allegation of academic dishonesty.

5. Conspiracy
The term "CONSPIRACY" means planning or acting with one or more persons to commit any form of academic dishonesty in order to gain academic advantage for oneself or another.

6. Fabrication – The term "FABRICATION" means the use of invented information or the falsification of research or other findings with the intent to deceive and thereby gain academic or professional advantage.

7. Multiple Submissions – The term "MULTIPLE SUBMISSIONS" means submitting substantial portions of the same work for credit more than once, unless there is prior explicit consent by the instructor(s) to whom the material is being or has been submitted.

8. Unauthorized Collaboration – The term "UNAUTHORIZED COLLABORATION" means collaborating on projects, papers, computer programs, lab reports, or other academic assignments where such collaboration has been prohibited by the instructor.

9. Sabotage – The term "SABOTAGE" means deliberately impairing, destroying, damaging, or stealing another's work or working material. Examples include:

- Destroying, stealing, or damaging another's lab experiment, computer program, term paper, exam, or project.
- Removing uncharged library materials with the effect that others cannot use them.
- Defacing or damaging library materials with the effect that others cannot use them.
- Hoarding or displacing materials within the library with the effect that others have undue difficulty using them.
- Interfering with the operation of a computer system so as to have an adverse effect on the academic performance of others.

C. Jurisdiction
All students enrolled at Lawrence Technological University are subject to the Academic Honor Code.

D. Responsibility of the University Community
1. General Responsibility
It shall be the responsibility of every faculty member, student, administrator, and staff member of the University community to uphold and maintain the academic standards and integrity of Lawrence Technological University. Any member of the University community who has reasonable grounds to believe that an infraction of the Academic Honor Code has occurred has an obligation to report the alleged violation.

2. Student Responsibility
Each student shall abide by the Academic Honor Code at all times.

3. The Responsibility of Individual Instructors
Instructors are encouraged to make their classes aware of the Academic Honor Code during the first week of each term.

4. Responsibility of the University Administration
The Office of the Dean of Students is responsible for the publication and dissemination of the Academic Honor Code and any amendments or changes approved by the Deans Council with the recommendation of the Faculty Senate and the Faculty Councils of the colleges. All new University faculty, administrative staff, personnel, and students should be advised of the Academic Honor Code upon becoming members of the University community.

5. Responsibility of Enrollment Services/Office of the Registrar and the Office of the Dean of Students
Enrollment Services/Office of the Registrar and the Office of the Dean of Students shall receive and maintain comprehensive records of all matters relating to violations of the Academic Honor Code. Enrollment Services/Office of the Registrar will receive a copy of the decision letter completed by the dean of the college, to be included in the student's academic record.

E. Reporting and Adjudication Procedures
1. An infraction of the Academic Honor Code may be reported by any member of the University community who has knowledge of such infraction. The infraction should be reported to the instructor of the course in which it occurred, where applicable. Such a report should be made within five (5) class days from the time of discovery unless extenuating circumstances prevent reporting.

2. Any student charged with a violation under this Code shall be presumed not responsible until it is proven that, more likely than not, the violation of the rule or regulation occurred.

3. Upon receiving a report of a violation or having reasonable evidence of a violation, the instructor in charge of the course or materials in question will inform the department chair or dean of the college in writing. The department chair or dean of the college will investigate the reported violation. The department chair or dean of the college will inform the student in writing of the reported violation and will request a written response from the student. If necessary, the department chair or dean of the college will conduct an interview with the student. The department chair or dean of the college will determine whether the student violated the Academic Honor Code.

a. While action on a complaint of violating the Academic Honor Code is pending, the status of the student shall not be altered except for reasons outlined in Section J of the Student Code of Conduct.
b. If the student is found in violation, the student will receive an F grade in the course. This grade will not be recomputed for GPA purposes. The department chair or dean of the college will notify the student in writing of the decision. A copy of the letter will be put in the student's academic record and disciplinary file.
c. A student found in second violation of the Academic Honor Code will be expelled from the University. See Article G for expulsion proceedings.

4. If no action is taken by the instructor, the reporting party may file a written report of the allegation of academic dishonesty with the department chair or dean of the college. The department chair or dean of the college will investigate the reported violation. The investigative process will be conducted according to the provisions in Section E-3 above.

5. A student who admits his or her involvement to a University official conducting the investigation in a case of academic dishonesty loses the right to appeal.

F. Appeal Process

1. Where appropriate, a student may appeal a finding of academic dishonesty to the dean of the college in which the course is offered within seven (7) class days. The appeal shall be in writing.

2. An appeal shall be limited to the review of the following:

a. To determine whether the student received fundamental fairness in the investigative and decision-making process.
b. To determine whether the facts in the case were sufficient to establish that a violation of the Academic Honor Code occurred.
c. To consider relevant and material new evidence.

3. A student cannot appeal the sanction(s) for academic dishonesty.

G. Expulsion Proceedings

1. Expulsion proceedings will be initiated by the dean of students for students found in second violation of the Academic Honor Code. The student will be contacted by the Office of the Dean of Students for a meeting to explain proceedings of expulsion.

2. Students being expelled will receive written notification from the dean of students indicating the sanction of expulsion and the process for appeal.

3. The sanction of expulsion may be appealed by the accused student to the provost within seven (7) school days of the decision. Such appeals shall be in writing and shall be delivered to the dean of students or designee.

4. Except as required to explain the basis of new information, an appeal shall be limited to a review of the documents and notes of the department chair or dean of the college and submission of information by the accused student and supporting documents for one or more of the following purposes:

a. To determine whether the student received fundamental fairness in the investigative and decision-making processes.

b. To determine whether the facts in the case were sufficient to establish that a violation of the Academic Honor Code occurred in both cases.

c. To consider relevant and material new evidence.

5. Following the appeal, the provost shall advise the accused student in writing of the determination of the appeal, and of the sanctions imposed, if any. A copy of the notification will be retained in the student's academic record and the student's disciplinary record.

Student Pledges

In adopting this Academic Honor Code, students of Lawrence Technological University recognize that academic honesty and integrity are fundamental values of the University community. The quality of a Lawrence Technological University education is dependent upon the community acceptance and enforcement of the Academic Honor Code. Students who enroll at Lawrence Technological University commit to holding themselves and their peers to the highest standard of academic integrity. An individual who becomes aware of a violation of the Academic Honor Code has an obligation to report this violation.

Members of the Lawrence Technological University community pledge to hold themselves and their peers to the highest standards of academic honesty and integrity.

Undergraduate Students – The following pledge is required on all academic work submitted by undergraduate students at Lawrence Technological University: "I have neither given nor received unauthorized aid in completing this work, nor have I presented someone else's work as my own."

Graduate Students – All graduate students at Lawrence Technological University are required to sign the student pledge when they start graduate studies: "I pledge that on all academic work that I submit, I will neither give nor receive unauthorized aid, nor will I present another person's work as my own."

STUDENT CODE OF CONDUCT

Lawrence Technological University is an institution that encourages the intellectual and personal growth of its students as scholars and citizens. Linking theory and practice with advanced learning technologies, Lawrence Technological University's mission is to provide superior undergraduate, graduate, and lifelong learning for leadership, professional achievement, and civic excellence. In this pursuit, the University recognizes that the transmission of knowledge, the pursuit of truth, and the development of individuals require the free exchange of ideas, self-expression, and the challenging of beliefs and customs. Academic freedom is essential to the achievement of these purposes.

Honesty, integrity, and caring are essential qualities of an educational institution, and the concern for values and ethics is important to the whole educational experience. The Student Code of Conduct outlines the rights and responsibilities and expected levels of conduct of students in the University community. Fundamental to the achievement of community among the members of the University is the recognition by all such members

that each shares a responsibility to observe University regulations. This obligation, which is an extension of the citizen's responsibility to observe the law of the land, is an essential corollary to participation in the academic rights afforded to members of the University.

A student voluntarily joins the Lawrence Technological University community and thereby assumes the obligation of abiding by the standards prescribed in the Student Code of Conduct. As such, students are required to engage in responsible social conduct that reflects credit upon the University community and to model good citizenship in any community. The University, through the Office of the Dean of Students, maintains the exclusive authority to impose sanctions for behaviors that violate the Student Code of Conduct.

All students enrolled at Lawrence Technological University have access to the Student Code of Conduct. Printed copies are available through the Office of the Dean of Students and the Office of University Housing. The Student Code of Conduct, along with other helpful information, also may be accessed online at www.ltu.edu/student_affairs/student_conduct.asp.

A. Definitions

1. The term "UNIVERSITY" means Lawrence Technological University.

2. The term "STUDENT" includes all persons taking courses at the University either full-time or part-time, pursuing undergraduate, graduate, or professional studies. Persons who withdraw after allegedly violating the Student Code, who are not officially enrolled for a particular term but who have a continuing relationship with the University or who have been notified of their acceptance for admission are considered "students," as are persons who are living in University residence halls, although not enrolled in this institution. This Student Code does apply at all locations of the University, including education centers in Wayne, Oakland, Macomb, and outlying counties in Michigan, Northern Michigan, and centers in other states and foreign countries.

3. The term "FACULTY MEMBER" means any person hired by the University to conduct classroom or teaching activities or who is otherwise considered by the University to be a member of its faculty.

4. The term "UNIVERSITY OFFICIAL" includes any person employed by the University performing assigned administrative or professional responsibilities.

5. The term "MEMBER OF THE UNIVERSITY COMMUNITY" includes any person who is a student, faculty member, University official, or any other person employed by the University. A person's status in a particular situation shall be determined by the dean of students.

6. The term “UNIVERSITY PREMISES” includes all land, buildings, facilities, and other property in the possession of or owned, used, or controlled by the University, including adjacent streets and sidewalks.

7. The term “ORGANIZATION” means any number of persons who have complied with the formal requirements for University recognition.

8. The term “STUDENT DISCIPLINE COMMITTEE” means any person or persons authorized by the dean of students to determine whether a student has violated the Student Code and to recommend sanctions that may be imposed when a regulations violation has been committed.

9. The term “STUDENT CONDUCT OFFICER” means a University official authorized on a case-by-case basis by the dean of students to impose sanctions upon any student found to have violated the Student Code. The dean of students may, in certain circumstances, authorize a student conduct officer to serve simultaneously as a student conduct officer and the sole member or one of the members of the Student Discipline Committee. The dean of students may authorize the same student conduct officer to impose sanctions in all cases.

10. The term “DISCIPLINE APPEALS COMMITTEE” means any person or persons authorized by the dean of students to consider an appeal from a Student Discipline Committee’s determination as to whether a student has violated the Student Code.

11. The term “SHALL” is used in the imperative sense.

12. The term “MAY” is used in the permissive sense.

13. The term “POLICY” means the written regulations of the University as found in, but not limited to, the Student Code, the *Student Handbook*, the *Guidelines for University Living*, the University webpage and computer use policy, and *Undergraduate* or *Graduate Catalogs*.

14. “LEVEL I” violations of the Student Code are those for which the sanctions may be a warning, disciplinary probation, special restrictions or loss of privileges, fines, restitution, imposed reassignment of course section or housing assignment, or assignments of discretionary sanctions. Level I violations will generally be heard by a student conduct officer.

15. “LEVEL II” violations of the Code are those for which the sanctions may be, in addition to those listed in Level I, suspension from University Housing and/or from the University, or expulsion from University Housing and/or from the University. Level II violations will generally be heard by the Student Discipline Committee.

16. The term “COMPLAINANT” means any person who submits a charge alleging that a student violated this Student Code. When a person believes that she/he has been a victim of another student’s misconduct, the student who believes she/he has been a victim will have the same rights under this Student Code as are provided to the complainant, even if another member of the University community submitted the charge itself.

17. The term “ACCUSED STUDENT” means any student accused of violating this Student Code.

B. Student Code Authority

1. The dean of students shall determine the composition of the Student Discipline Committee and Discipline Appeals Committee and determine which Student Discipline Committee, student conduct officer, and Discipline Appeals Committee shall be authorized to hear each matter.

2. The dean of students is that person designated by the University president to be responsible for the administration of the Student Code. The dean of students shall develop policies for the administration of the student conduct system and procedural rules for the conduct of Student Discipline Committee hearings that are not inconsistent with provisions of the Student Code.

3. Decisions made by the Student Discipline Committee and/or student conduct officer designated by the dean of students shall be final, pending the normal appeal process.

4. The Student Discipline Committee may be designated as arbiter of disputes within the student community in cases that do not involve a violation of the Student Code. All parties must agree to arbitration and to be bound by the decision with no right of appeal.

C. Conduct – Rules and Regulations

Acts of academic dishonesty are regulated by procedures outlined in the Academic Honor Code. Any student found to have committed the following misconduct is subject to the disciplinary sanctions outlined in Section H:

1. Acts of dishonesty, including but not limited to the following: cheating, plagiarism, or other forms of academic dishonesty; furnishing false information to any University official, faculty member, or office; forgery; alteration or misuse of any University document, record, or instrument of identification; helping or attempting to help another student commit an act of dishonesty; tampering with the election of any University-recognized student organization.

2. Disruption or obstruction of teaching, research, administration, disciplinary proceedings, other University activities, including its public-service functions on

or off campus or other authorized non-University activities, when the act occurs on University premises.

3. Physical abuse, verbal abuse, threats, intimidation, harassment, coercion, stalking, and hate crimes or acts that are racially motivated or due to one's sexual orientation, gender expression, and/or other conduct that threatens or endangers the health or safety of any person.

4. Attempted or actual theft of and/or damage to property of the University or property of a member of the University community or other personal or public property, on or off campus.

5. Hazing, defined as an act that endangers the mental or physical health or safety of a student, or which destroys or removes public or private property, for the purpose of initiation, admission into, affiliation with, or as a condition for continued membership in a group or organization. The express or implied consent of the victim will not be a defense. Apathy or acquiescence in the presence of hazing are not neutral acts; they are violations of this regulation.

6. Failure to comply with directions of University officials or law enforcement officers acting in performance of their duties and/or failure to identify oneself to these persons when requested to do so.

7. Unauthorized possession, duplication, or use of keys to any University premises or unauthorized entry to or use of University premises.

8. Violation of any University policy, rule, or regulation published in hard copy, posted on campus, or available electronically on the University website.

9. Violation of federal, state, or local law on University premises or at University-sponsored or supervised activities.

10. Use, possession, manufacturing, or distribution of marijuana, heroin, narcotics, or other controlled substances, except as expressly permitted by law; use or possession of drug paraphernalia.

11. Use, possession, manufacturing, or distribution of alcoholic beverages, except as expressly permitted by the law and University regulations, or public intoxication. Alcoholic beverages may not, in any circumstances, be used by, possessed by, or distributed to any person under 21 years of age.

12. Possession of firearms, explosives, any object that by its intended or actual use may be used to threaten or harm people or damage or destroy property, or other weapons or dangerous chemicals on University premises.

13. Participation in an on-campus or off-campus demonstration, riot, or activity that disrupts the normal operations of the University and infringes on the rights of other members of the University community; leading or inciting others to disrupt scheduled and/or normal activities within any campus building or area; intentional obstruction that unreasonably interferes with freedom of movement, either pedestrian or vehicular, on campus.

14. Obstruction of the free flow of pedestrian or vehicular traffic on University premises or at University-sponsored or supervised functions, or violation of any regulations outlined in the Lawrence Tech Parking and Traffic Regulations.

15. Conduct which is disorderly, lewd, or indecent; breach of the peace; or aiding, abetting, or procuring another person to breach the peace on University premises or at functions sponsored, or participated in, by the University or members of the academic community. Disorderly conduct includes but is not limited to: any unauthorized use of electronic or other devices to make an audio or video record of any person while on University premises without his/her knowledge, or without his/her effective consent when such recording is likely to cause injury or distress. This includes but is not limited to surreptitiously taking pictures of another person in a gym, locker room, or restroom.

16. Theft or other abuse of computer facilities and resources, including but not limited to: unauthorized entry into a file to use, read, change, or delete the contents or for any other purpose; unauthorized transfer of a file; use of another individual's identification and password; use of computing facilities to interfere with the work of another student, faculty member, or University official; use of computing facilities to send obscene or abusive messages; use of computing facilities to interfere with normal operation of the University computing system; use of computing facilities and resources in violation of copyright laws; any violation of the University's Computing and Network Policy.

17. Tampering with any telecommunications services, including but not limited to: telephone, cable television, and/or voicemail; providing unauthorized service to another room, suite, or apartment by any means through unauthorized installation of wiring jacks or extensions.

18. Abuse of the student conduct system, including but not limited to: failure to obey the summons of the Student Discipline Committee, Discipline Appeals Committee, student conduct officer, or University official to appear for a meeting or hearing as part of the student conduct system; falsification, distortion, or misrepresentation of information before a Student Discipline Committee, Discipline Appeals Committee, or student conduct officer; disruption or interference in bad faith with the orderly conduct of a proceeding; attempting to discourage an individual's proper participation in, or use of, the student conduct system; attempting to influence the impartiality of a member of a Student Discipline Committee or Discipline Appeals Committee prior to, and/or during,

and/or after a student conduct proceeding; harassment (verbal or physical) and/or intimidation of a member of the Student Discipline Committee or Discipline Appeals Committee prior to, during, and/or after a student conduct proceeding; failure to comply with the sanction(s) imposed under the Student Code; influencing or attempting to influence another person to commit an abuse of the student conduct system.

19. Actions that endanger the student, the University or local community, the academic process, or cause harm to self or others.

D. Jurisdiction of the Lawrence Technological University Student Code

The Lawrence Technological University Student Code shall apply to conduct that occurs on University premises, at University-sponsored activities, and to off-campus conduct that adversely affects the University community and/or the pursuit of its objectives. Each student shall be responsible for his/her conduct from the time of application for admission through the actual awarding of a degree, even though conduct may occur before classes begin or after classes end, as well as during the academic year and during periods between terms of actual enrollment (and even if their conduct is not discovered until after a degree is awarded). The Student Code shall apply to a student's conduct even if the student withdraws from school while a disciplinary matter is pending. The dean of students shall decide whether the Student Code shall be applied to conduct occurring off campus, on a case-by-case basis, in his/her sole discretion.

E. Violation of Law and University Discipline

1. University disciplinary proceedings may be instituted against a student charged with conduct that potentially violates both the criminal law and this Student Code (that is, if both possible violations result from the same factual situation) without regard to the pendency of civil or criminal litigation in court or criminal arrest and prosecution. Proceedings under this Student Code may be carried out prior to, simultaneously with, or following civil or criminal proceedings off campus at the discretion of the dean of students. Determinations made or sanctions imposed under this Student Code shall not be subject to change because criminal charges arising out of the same facts that gave rise to violation of University rules or regulations were dismissed, reduced, or resolved in favor of or against the criminal law defendant.

2. When a student is charged by federal, state, or local authorities with a violation of law, the University will not request or agree to special consideration for that individual because of his or her status as a student. If the alleged offense is also being processed under the Student Code, the University may advise off-campus authorities of the existence of the Student Code and how such matters are typically handled within the University community. The University will attempt to cooperate with law enforcement or other agencies in the enforcement of criminal law on campus and in the conditions imposed by criminal courts for the rehabilitation of student violators (provided that the conditions do not conflict with campus rules, regulations, or sanctions). Individual students and other

members of the University community, acting in their personal capacities, remain free to interact with governmental representatives as they deem appropriate.

If a student is charged with an off-campus violation of federal, state, or local laws, but not with any other violation of this Code, disciplinary action may be taken by the University and sanctions imposed for grave misconduct which demonstrates flagrant disregard for the University community. In such cases, no sanction may be imposed unless the student has been found guilty in a court of law or has declined to contest such charges, although not actually admitting guilt (e.g., "no contest" or "nolo contendere").

F. Student Code of Conduct Procedures
All suspected violations of the Code will be reviewed in accordance with the procedures outlined below.

1. Disciplinary Correspondence
   All disciplinary correspondence will be sent to the student's official mailing address as listed with Enrollment Services/Office of the Registrar. The University reserves the right to use other reasonable means to notify students.

2. Filing Complaints
   a. Any member of the University community may make a complaint and/or referral or offer information concerning such complaint and/or referral to the Office of the dean of students. A complaint or referral made against a student or students alleging violation(s) of the Student Code of Conduct shall be directed to the dean of students for review. Any complaint should be prepared in writing on a University incident report form and should be submitted as soon as possible after the event takes place, preferably within 48 hours.
   b. While action on a complaint of violating a University rule or regulation is pending, the status of the student shall not be altered except for reasons outlined in Section J.

3. Presumption of Non-Violation
   Any student charged with a violation under this Code shall be presumed not responsible until it is proven that, more likely than not, the violation of the rule or regulation occurred.

4. Preliminary Investigation
   When the dean of students or designee receives information that a student has allegedly violated University rules, regulations, or local, state, or federal law, the dean or designee shall investigate the alleged violation and determine whether further action is necessary. After completing a preliminary investigation, the dean or designee may:

   a. Find no basis for the complaint and dismiss the allegation as unfounded, or

b. Contact the student for a discussion and either:
    (1) Dismiss the allegation.
    (2) Identify that the alleged violation(s) equate to a Level I infraction and assign the case to a student conduct officer to conduct a student conduct meeting with the student(s).
    (3) Identify that the alleged violation(s) equate to a Level II infraction and schedule a hearing with the Student Discipline Committee.

5. Summoning a Student for a Student Conduct Meeting

   A student conduct meeting is a meeting between a student(s) involved in an alleged violation of the Code and a student conduct officer and may include sanctions. In some cases, the meeting may resolve the matter.

   a. The student conduct officer shall provide the student with:
      (1) Written notice of the charge(s) and an outline of rights.
      (2) Review of all available information, documents, exhibits, and a list of witnesses that may testify against the student.
   b. Following receipt of the notice of charges, a student:
      (1) May elect not to contest the charges and to accept responsibility for them. If this election is made, the student must sign a waiver of the right to a hearing, and must accept the sanction imposed by the student conduct officer. The decision to waive a hearing and accept the sanction is final and not appealable.
      (2) May contest the charges and elect to proceed to a hearing. The hearing shall be scheduled not less than five (5) nor more than 15 calendar days from the student conduct meeting.

G. Hearing Process

Hearings provide the forum in which parties to an allegation are afforded the opportunity to present information for review by a Student Discipline Committee presided over by the chair of the Committee and moderated by the dean of students. The dean of students is an ex-officio member of the Committee. A time shall be set for a Student Discipline Committee hearing not less than five (5) nor more than 15 calendar days after the student has been notified. The maximum time limit for scheduling of hearings may be extended at the discretion of the dean of students or designee.

Hearings shall be conducted by the Student Discipline Committee according to the following guidelines, except as provided by article J below:

1. In cases in which the Student Discipline Committee has been authorized by the dean of students to conduct a hearing, the recommendations of the members of the Student Discipline Committee shall be considered in an advisory capacity by the dean of students in determining and imposing sanctions.

2. Composition: The Student Discipline Committee is composed of 15 members. Recommendations for membership on the Student Discipline Committee from the deans of each academic college, the faculty, the administration and staff of the University, and the executive committee of Student Government will be sought by the dean of students on an annual basis, or more frequently as needed. At the discretion of the dean of students, general solicitation of the student body for participation may be made. Based upon these recommendations and/or solicitations, candidates who meet eligibility requirements will be invited to apply and interview for participation on the Student Discipline Committee.

3. Term of service: Students shall serve for one academic year and may continue to serve at the discretion of the provost and the dean of students.

4. Student eligibility: All students, full- or part-time, shall be eligible for recommendation to the Student Discipline Committee provided they have maintained a 2.3 cumulative grade point average, are not currently on disciplinary probation, and have not been suspended from the residence halls or the University.

5. Training: All members of the Student Discipline Committee, upon receiving notice of appointment, shall be given all necessary information about their responsibilities and the means for carrying them out.

6. Five students from the Student Discipline Committee will be chosen by the dean of students to hear a proceeding.

7. Hearings normally shall be conducted in private.

8. The complainant, the accused student, and their advisors, if any, shall be allowed to attend the entire portion of the Student Discipline Committee hearing at which information is received (excluding deliberations). Admission of any other person to the hearing shall be at the discretion of the Student Discipline Committee and/or the dean of students or designee.

9. In the case of Student Discipline Committee hearings involving more than one accused student, the dean of students or designee, at his/her discretion, may permit the Student Discipline Committee hearings concerning each student to be conducted either separately or jointly.

10. The complainant and the accused student have the right to be assisted by any advisor they choose, at their own expense. The advisor may be an attorney. The complainant and/or the accused are responsible for presenting his or her own information and, therefore, advisors are not permitted to speak or to participate directly in any hearings before the Student Discipline Committee. A student should select as an advisor a person whose schedule allows attendance at the

scheduled date and time for the Student Discipline Committee because delays will not normally be allowed due to the scheduling conflicts of an advisor.

11. The complainant, the accused student, and the Student Discipline Committee may arrange for witnesses to present information to the Student Discipline Committee. The University will try to arrange the attendance of possible witnesses who are members of the University community, if reasonably possible, and who are identified by the complainant and/or accused student at least two (2) business days prior to the Student Discipline Committee hearing. Witnesses will provide information to and answer questions from the Student Discipline Committee. Questions may be suggested by the accused student and/or complainant to be answered by each other or by other witnesses, with such questions directed to the chairperson, rather than to the witness directly. This method is used to preserve the educational tone of the hearing and to avoid creation of an adversarial environment. Questions of whether potential information will be received shall be resolved at the discretion of the chairperson of the Student Discipline Committee, in consultation with the dean of students or designee.

12. Pertinent records, exhibits, and written statements (including Student Impact Statements) may be accepted as information for consideration by the Student Discipline Committee, at the discretion of the dean of students.

13. All procedural questions are subject to the final decision of the dean of students.

14. After the portion of the Student Discipline Committee hearing concludes in which all pertinent information has been received, the Student Discipline Committee shall determine by majority vote whether the accused student has violated each section of the Student Code that the student is charged with violating.

15. The Student Discipline Committee's determination shall be made on the basis of whether it is more likely than not that the accused student violated the Student Code.

16. Formal rules of process, procedure, and/or technical rules of evidence, such as are applied in criminal or civil court, are not used in Student Code proceedings.

17. There shall be a single verbatim record, such as a transcription or tape recording, of all hearings before a Student Discipline Committee (not including deliberations). Deliberations shall not be recorded. Transcriptions and/or tapes made during Student Discipline Committee hearings shall be the property of the University. These materials are confidential. They are made available in case of appeal and, upon request, to the Discipline Appeals Committee hearing the appeal.

18. If the accused student, with notice, does not appear before a Student Discipline Committee hearing, the information in support of the charges shall be presented

and considered even if the accused student is not present. If the accused student fails to attend the hearing, it shall be deemed that he or she denies all allegations. When appropriate, a sanction will be determined and the student will be notified in writing.

The Student Discipline Committee may accommodate concerns for the personal safety, well-being, and/or fears of confrontation of the complainant, accused student, or other witness during the hearing by providing separate facilities, by using a visual screen, and/or by permitting participation by telephone, videophone, closed circuit television, video conferencing, videotape, audio tape, written statement, or other means, where and as determined in the sole judgment of the dean of students to be appropriate.

H. Sanctions

1. The following sanctions may be imposed upon any student found to have violated the Student Code:
    a. WARNING – A notice in writing to the student that the student is violating or has violated institutional regulations.
    b. PROBATION – A written reprimand for violation of specified regulations. Probation is for a designated period of time and includes the probability of more severe disciplinary sanctions if the student is found to violate any institutional regulation(s) during the probationary period.
    c. LOSS OF PRIVILEGES – Denial of specified privileges for a designated period of time.
    d. LOSS OF ACADEMIC CREDIT – Failing grade assigned for the course due to academic dishonesty.
    e. FINES – Previously established and published fines may be imposed.
    f. RESTITUTION – Compensation for loss, damage, or injury. This may take the form of appropriate service and/or monetary or material replacement.
    g. DISCRETIONARY SANCTIONS – Work assignments, essays, service to the University, or other related discretionary assignments. (Such assignments must have the approval of the dean of students.)
    h. RESIDENCE HALL SUSPENSION – Separation of the student from the residence halls for a definite period of time, after which the student is eligible to return. Conditions for readmission may be specified.
    i. RESIDENCE HALL EXPULSION – Permanent separation of the student from the residence halls.
    j. UNIVERSITY SUSPENSION – Separation of the student from the University for a definite period of time, after which the student is eligible to return. Conditions for readmission may be specified.
    k. UNIVERSITY EXPULSION – Permanent separation of the student from the University.
    l. REVOCATION OF ADMISSION AND/OR DEGREE – Admission to or a degree awarded from the University may be revoked for fraud, misrepresentation, or other violation of University standards in obtaining

the degree, or for other serious violation committed by a student prior to graduation.

m. WITHHOLDING DEGREE – The University may withhold awarding a degree otherwise earned until the completion of the process set forth in this Student Code of Conduct, including the completion of all sanctions imposed, if any.

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

3. Other than University suspension, expulsion, or revocation or withholding of a degree, disciplinary sanctions shall not be made part of the student's permanent academic record, but shall become part of the student's disciplinary record. Upon graduation, the student's confidential record may be expunged of disciplinary actions, other than residence hall expulsion, University suspension, University expulsion, or revocation or withholding of a degree, upon application to the dean of students. Cases involving the imposition of sanctions other than residence hall expulsion, University suspension, University expulsion, and revocation or withholding of a degree shall be expunged from the student's disciplinary record three (3) years after the student completes all requirements for graduation.

4. In situations involving both an accused student(s) (or group or organization) and a student(s) claiming to be the victim of another student's conduct, the records of the process and of the sanctions imposed, if any, shall be considered to be part of the education records of both the accused student(s) and the student(s) claiming to be the victim because the educational career and chances of success in the academic community of each may be impacted.

5. The following sanctions, in addition to those listed above, may be imposed upon groups or student organizations: loss of selected rights and privileges for a specified period of time, and/or deactivation/loss of all privileges, including University recognition, for a specified period of time.

6. In each case in which a student conduct officer determines that a student has violated the Student Code, the recommendation of the student conduct officer shall be considered by the dean of students in determining and imposing sanctions. In cases in which the Student Discipline Committee has been authorized to determine that a student has violated the Student Code, the recommendation of all members of the Student Discipline Committee shall be considered by the dean of students in determining and imposing sanctions. The dean of students is not limited to sanctions recommended by members of the Student Discipline Committee.

7. Following the Student Discipline Committee hearing, the dean of students shall advise the accused student(s), group, and/or organization (and complaining student who believes she/he was the victim of another student's conduct) in

writing of the Committee's determination and of the sanction(s) imposed, if any. A copy of the notification will be retained in the student's disciplinary record. Cases involving suspension or expulsion will also be filed in the student's academic record.

I. Appeals

1. A decision reached by the Student Discipline Committee or a sanction imposed may be appealed by the accused student(s) or complainant(s) to the Discipline Appeals Committee within seven (7) school days of the decision. Such appeals shall be in writing and shall be delivered to the dean of students or designee.

2. Composition: The Discipline Appeals Committee is composed of three (3) members: (a) the chair of the Faculty Senate; (b) the assistant provost for enrollment management; (c) the president of Student Government.

3. Except as required to explain the basis of new information, an appeal shall be limited to review of the verbatim records of the Student Discipline Committee hearing and supporting documents for one or more of the following purposes:

    a. To determine whether the Student Discipline Committee hearing was conducted fairly in light of the charges and information presented, and in conformity with prescribed procedures, giving the complaining party a reasonable opportunity to prepare and present evidence that the Student Code was violated, and giving the accused student a reasonable opportunity to prepare and to present a response to those allegations. Deviations from designated procedures will not be a basis for sustaining an appeal unless significant prejudice results.
    b. To determine whether the decision reached regarding the accused student was based on substantial information; that is, whether the facts in the case that, if believed by the fact finder, were sufficient to establish that a violation of the Student Code occurred.
    c. To determine whether the sanction(s) imposed was appropriate for the violation of the Student Code that the student was found to have committed.
    d. To consider new information sufficient to alter a decision or other relevant facts not brought out in the original hearing because such information and/or facts were not known to the person appealing at the time of the original Student Discipline Committee hearing.

4. If the Discipline Appeals Committee upholds an appeal, the matter may be returned to the original Student Discipline Committee for reopening of the Student Discipline Committee hearing to allow reconsideration of the original determination and/or sanction(s).
    a. In cases involving appeals by students accused of violating the Student Code, the Discipline Appeals Committee may, upon review of the case,

reduce but not increase the sanctions imposed by the Student Discipline Committee.

b. In cases involving appeals by persons other than the student(s) accused of violating the Student Code, the Discipline Appeals Committee may, upon review of the case, reduce or increase the sanctions imposed by the Student Discipline Committee.

5. Following the appeal, the dean of students shall advise the accused student(s) in writing of the determination of the Discipline Appeals Committee and of the sanction(s) imposed, if any. A copy of the notification will be retained in the student's disciplinary record. Cases involving University suspension, expulsion, or revocation or withholding of a degree will be filed in the student's academic record.

J. Exceptional Procedures

1. Interim Suspension
   In certain circumstances, the dean of students or designee may impose a University or residence hall suspension prior to the hearing before the Student Discipline Committee. Interim suspension is an action requiring that a student immediately leave the campus and University property.
   a. Interim suspension may be imposed only: a) to ensure the safety and well-being of members of the University community or preservation of University property; b) to ensure the student's own physical or emotional safety and well-being; or c) if the student poses an ongoing threat of disruption of or interference with the normal operations of the University. During the interim suspension, the student shall be denied access to housing facilities and/or the campus (including classes) and/or all other University activities or privileges for which the student might otherwise be eligible, as the dean of students or designee may determine to be appropriate.
   b. Any student who is suspended on an interim basis and returns to the campus and University property during the suspension shall be subject to further disciplinary action and may be treated as a trespasser. Permission to be on campus for a specific purpose (e.g., to take an exam, to consult with the dean of students, or to participate in the disciplinary procedures) may be granted in writing by the dean of students or designee.

2. Suspension from the Housing Facilities
   The director of residence life or the dean of students or designee may, when charges are served, suspend an accused student(s) from the housing facilities pending the hearing and determination thereof, whenever the continued presence of such a student would constitute a danger to the student or to the safety of persons or property in the housing facilities, or would pose a threat of disruptive interference with the normal conduct of housing facility activities and functions, or the seriousness of the charges warrants such action. The dean of students or designee shall grant an immediate review (by the end of the next business day

after the suspension) on request of any student so suspended with respect to the basis for such a suspension, at which time the suspended student may have the right to present statements tending to show that the basis for the suspension from the housing facilities does not exist. Suspension may apply to all housing facilities, an individual residence hall/apartment, or any portion thereof.

3. Residence Hall/Temporary Reassignment and Restriction from Facilities
   The director of residence life or the dean of students or designee may temporarily reassign a resident to another facility and/or restrict a resident from specific campus facilities pending an investigation and/or hearing whenever the continued presence of a resident in a particular campus facility would constitute a danger to the student or to the safety of persons or property in the housing facilities and campus facilities, or the seriousness of the allegations warrants such action. The director of residence life shall grant an immediate review (by the end of the next business day after the temporary reassignment and/or restriction) on request of any resident so reassigned and/or restricted with respect to the basis for such a reassignment and/or restriction.

4. Temporary Restriction from Personal Contact
   The director of residence life or the dean of students or designee may temporarily restrict a student from any personal, verbal, written, telephone, electronic, and third-party contact with another person pending an investigation and/or hearing whenever the contact could constitute a danger to the person or to the safety of the person or property, or the seriousness of the allegations warrants such action. Any student so restricted may obtain an explanation of the basis for such restriction upon request.

5. Withdrawal Prior to Student Conduct Proceedings
   The student who withdraws or fails to return to the University while disciplinary action is pending will be ineligible for readmission until the outstanding matter is resolved. The University reserves the right to formally restrict individual(s) from the campus grounds while such action is pending. Any further readmission would require an appeal in writing to the dean of students or designee and approval by the dean of students or designee.

K. Interpretation and Review

1. Any question of interpretation regarding the Student Code shall be referred to the dean of students or his/her designee for final determination.
2. The Student Code will be reviewed every three (3) years under the responsibility of the dean of students with the input of an advisory team.

NON-DISCRIMINATORY POLICY

Lawrence Technological University adheres and conforms to all federal, state, and local civil rights regulations, statutes, and ordinances. No person, student, faculty, or staff member will knowingly be discriminated against relative to the above statutes. Lawrence

Technological University is an equal opportunity employer. Direct inquiries regarding non-discriminatory policies to the Division of Student Affairs, 248.204.4100.

SEXUAL HARASSMENT POLICY

It is the policy of Lawrence Technological University to maintain an environment free of sexual harassment for students, faculty, staff, or any other constituency. Sexual harassment is contrary to the standards of the University community. It diminishes individual dignity and impedes equal employment, educational opportunities, and equal access to freedom of academic inquiry. It will not be tolerated at Lawrence Technological University.

What Is Sexual Harassment?

Harassment on the basis of sex is a violation of the Elliott-Larsen Civil Rights Act; Michigan Civil Service Commission Rules; the Office of Federal Contract Compliance regulations; and Title VII of the Civil Rights Act of 1964. According to guidelines issued by the Equal Employment Opportunity Commission in 1980,

> "Unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature, even between people of the same sex constitutes sexual harassment when:
>
> 1. Submission to such conduct or communication is made either explicitly or implicitly a term or condition of an individual's employment, education, or participation in a University activity; or
> 2. Submission to, or rejection of, such conduct or communication by an individual is used as the basis for decisions affecting an individual's employment, education, or participation in a University activity; or
> 3. Such conduct or communication has the purpose or effect of unreasonably interfering with an individual's work or educational performance or of creating an intimidating, hostile, or offensive employment or education environment.
>
> "Sexual harassment can also exist when there has been no tangible job detriment (i.e., a significant change in employment status, such as hiring, firing, etc.). Courteous, respectful, pleasant, non-coercive mutual interactions between employees are not considered sexual harassment.
>
> "Personal (i.e., intimate) relationships that occur between persons who are in a supervisory-subordinate work relationship must be reported to the next level of management. In such situations, the department will take appropriate action." (According to the United States Supreme Court in Oncale v. Sundowner Offshore Services, Inc., No. 96-569, 1998.)

Although these guidelines, based on Title VII, apply specifically to sexual harassment in the workplace, they should be interpreted to apply to students as well under Title IX of the 1972 Education Amendments. As has been pointed out by the National Advisory Council on Women's Educational Programs (NACWEP), there is a serious problem "of

harassment by gatekeepers – those who teach required courses or who have the authority to make critical decisions about a student's advancement. The extraordinary importance of such positions lends an exceptional degree of significance to every interaction with students, and makes sexual harassment of all types particularly harmful."

Common Types of Harassment

The NACWEP describes five classifications of harassment commonly reported by students and working women.

1. Generalized sexist remarks or behavior (e.g., "This is a man's job," "That's women's work," "Women/men are incompetent at/are better suited to..."). Leering or staring, crude sexual remarks, off-color jokes, suggestive stories, and other related behaviors are also grouped in this category.

"This type of behavior is close to racial harassment in appearance; the sentiments or actions involved are often fiercely anti-male or anti-female and are not intended to lead to sexual activity. They are directed to the (individual) because of gender and can often affect whole classrooms; the offense may be 'generalized' both by its nature and its audience. There can be an inherent sexual content in or underlying such remarks that establishes a tone which in its awkwardness is more damaging than many overt acts." (Frank J. Till, "Sexual Harassment: A Report on the Sexual Harassment of Students, the National Advisory Council on Women's Educational Programs, August 1980." Reprinted from *Sexual Harassment: Definition and Prevention,* State University of New York at Binghamton, 1988. Reprinted with permission.)

2. Inappropriate and offensive sexual advances (e.g., requests for social or sexual encounters, often accompanied by touching).

This type of harassment, while not necessarily threatening, usually makes the recipient uncomfortable. This discomfort may cause the recipient to avoid the perpetrator in the future, thus limiting his or her ability to function properly in the academic environment. Discomfort caused by harassment will almost certainly affect future professional and personal relationships.

3. Solicitation of sexual activity or other sex-related behavior by promise of rewards (e.g., grades, promotions, promises of greater opportunities, etc.).

"This category, in its extreme, literally amounts to an attempt to purchase sexual behavior. In its more blatant forms this type of behavior can be prosecuted as a criminal act ... even 'banter' along this vein may cause harm. Students may be mystified and confused by the interaction due to the power of the initiator. This is especially the case where the student propositioned is young or naive, and may fail to fully grasp the significance of the request." (Till, "Sexual Harassment," 16.)

4. Coercion of sexual activity by threat of punishment (e.g., refusal to comply with a sexual request or invitation results in a threat of failure, loss of job or promotion, or access to academic referrals).

"What is at stake is often more than one grade or a single recommendation – too frequently it is access to a discipline and so a career is jeopardized." (Till, "Sexual Harassment," 17.)

5. Sexual crimes and misdemeanors (e.g., criminal sexual assault [rape, indecent exposure, etc.]) across authority lines (faculty/student or employer/employee) or among colleagues and peers.

"This category refers to acts which, if reported to police authorities, would be considered crimes or misdemeanors." (Till, "Sexual Harassment," 22.)

Preventing Sexual Harassment
Although the ultimate burden for prevention of harassment rests with those in supervisory positions, others should be aware that their actions may be construed as harassment. Following are some suggestions to supervisors, staff, faculty, and students for preventing sexual harassment, regardless of who is the perpetrator and who is the recipient.

- Avoid sexist remarks, off-color stories, or lewd jokes.
- Keep doors open when possible.
- Ask someone to accompany you if you suspect that you may be harassed.
- Make it plain that your intentions are not sexual in nature.
- Make clear, through your behavior, conversation, and actions, that you find sexual harassment offensive and inappropriate.

Combating Sexual Harassment
Employees, students, or faculty who feel they are experiencing this form of discrimination should:

1. *Say No Clearly*. Inform the harasser that his or her attentions are unwanted. If the behavior persists, write a memo to the harasser asking him or her to stop; keep a copy.
2. *Document the Harassment.* Record the date, time, and place of each incident. Keep a copy of this record at home.
3. *Get Emotional Support.* Talk to your family and friends.
4. *Document Work Evaluations.* Keep copies of performance evaluations and memos that attest to the quality of your work.
5. *Identify Witnesses/Other Victims.* You are probably not the first person who has been mistreated by this individual. Ask around; you may find others who will support your charge. (Sexual Harassment: What Every Working Woman Needs to Know, cs.utk.edu/~bartley/other/pto5.html.)

The least effective way to deal with sexual harassment is to ignore it. Unless the recipient of unwanted sexual attention takes some kind of action (whether formal or informal), the harasser is very likely to continue or even escalate the harassing behavior.

The following suggestions for combating sexual harassment reflect a variety of options, ranging from informal methods to formal procedures.

Confidential Counseling
Students may obtain information about or assistance with sexual harassment issues from the Office of the Dean of Students. Staff, faculty, and administrators should seek help from the Office of Human Resources. University representatives can advise and support complainants and witnesses in a confidential setting. The complainant, alleged harasser, and any witness shall be informed that all records of complaints, statements, interviews, contents of meetings, results of investigations, and any other relevant materials will be kept confidential by the employer, except where disclosure is required by a grievance process or pursuant to a legal action.

Unless otherwise authorized by law, disclosure or publication by any person of the complaint, the facts, or the identity of involved parties or witnesses is prohibited and subject to disciplinary action. Discussions with representatives of the above-mentioned offices will not be considered official reports to the University and will not, without additional action by the complainant, result in intervention or corrective action. When intervention and discipline result against the alleged harasser, appropriate reference will be made in his or her file to protect the privacy of the complainant and witnesses.

Informal Resolution Process
At the complainant's option, a sexual harassment report or complaint will be taken from staff by the Office of Human Resources and from students by the Office of the Dean of Students or any dean, director, department head, the director of residence life, and/or their designees. Each college or other University organization will designate both men and women to receive complaints.

The person who receives a sexual harassment report of complaint will advise the person who makes the complaint about the informal and formal resolution alternatives available. At the complainant's option, the person receiving the complaint can:

- provide information about sexual harassment;
- help the complainant deal directly with the alleged offender;
- assist with or mediate a resolution of the problem within the complainant's unit; and/or
- help the complainant prepare a written complaint and pursue formal action.

Informal resolution measures should address the particular circumstances. No action will be taken against the alleged offender if the resolution is kept informal. Any discussion with the accused individual should, unless the provost or director of human resources specifically decides otherwise, include the supervisor of accused staff, faculty, or

administrator. Any discussion with an accused student will include a member of the Division of Student Affairs and the student's department chair.

Formal Resolution Process
Either subsequent to or instead of following the informal process, a complainant may elect to make a formal charge of sexual harassment. The University will investigate all formal charges of sexual harassment and take appropriate actions pursuant to the results of the findings.

There are several mechanisms available to pursue a formal charge, and their availability depends on the status of the complainant:

1. A student should notify the Office of the Dean of Students. If this is not possible, then the student may contact the Offices of the President or Provost.
2. A member of the staff, faculty, or administration may notify his or her supervisor, a department head or dean, the Offices of the President or Provost, the Office of Human Resources, or the Office of the Dean of Students. A student-employee may also notify any of these.
3. Contract employees should follow the same procedure followed by staff, faculty, and administrators.

Call the Office of Civil Rights at 216.522.4970 to make a sexual harassment complaint. Report all incidents of criminal sexual assault to the Department of Campus Safety at 248.204.3945 or the Southfield Police Department at 248.354.4720.

Counseling Can Help
Sexual harassment undermines the confidence of a student or employee and adversely affects his/her attitude and job or academic performance. All students and employees may talk, confidentially, to trained counselors in the Division of Student Affairs if they believe they have been sexually harassed.

Counselors can be an immediate source of help by:

- encouraging the victim to report the incident(s);
- acting as a liaison between the victim and management;
- helping the victim readjust to the work or school environment; and
- helping the victim regain confidence. (Reprinted from *Where Do You Draw the Line? Sexual Harassment in the Workplace*, American Counseling Association, 4. Reprinted with permission. No further reproduction authorized without written permission of American Counseling Association.)

Counselors can also help management develop a proactive approach to dealing with sexual harassment issues by incorporating discussions on the topic during workshops, seminars, and/or training sessions.

PARTICIPATION IN THE U.S. DRUG PREVENTION PROGRAM

Lawrence Technological University is committed to promoting and maintaining a work and academic environment that is free from illegal use of alcohol and drugs, in accordance with all federal, state, and local laws as well as the Drug Free Schools and Campus Safety Act. Lawrence Technological University is in compliance with all provisions of the U.S. Department of Education Drug Prevention Program, which is a condition of the University's eligibility to receive federal funds or any other form of federal financial assistance.

Applicable policies are provided in section 701of the *Employee Handbook*, section 3.14 of the *Faculty Handbook*, and in the Policies, Procedures, and Regulations section of the *Student Handbook*. The University specifically prohibits the unlawful possession, use, or distribution of illicit drugs and alcohol by students and employees on its property or as a part of its activities (except at University functions at which alcohol use is approved). Use of alcoholic beverages at any University function requires the approval of the provost or designee.

Employees, students, and campus visitors age 21 years or older, who consume alcohol at University functions or while on University business where such use is approved, are expected to use alcohol responsibly and not engage in illegal, unprofessional, or disruptive behavior. Violators will be subject to penalties, which may include expulsion or separation from the University. Any employee or student found to be in violation of University policy regarding drugs or alcohol will be subject to disciplinary action up to and including dismissal or expulsion in accordance with applicable disciplinary procedures.

Possession, use, or distribution of illicit drugs, possession or consumption of alcoholic beverages by individuals under 21 years of age, and distribution of alcohol without a license or permit issued by a competent legal authority are violations of local, state, and federal laws. It is the policy of the University to cooperate fully in any prosecution based on violation of these laws.

A variety of serious health risks are associated with the use of illicit drugs and the abuse of alcohol. These include permanent damage to the liver, brain, and other vital organs, heart damage or malfunction, including sudden death, and accidents caused by impaired judgment or abilities. Individuals who may have a drug dependency or alcohol abuse problem are advised to contact the Oakland County Drug and Substance Abuse Center, 248.858.5200.

LIABILITY DISCLAIMER

Lawrence Technological University shall not be liable for any injuries to, or property damage or loss suffered by, any student regardless of cause. This disclaimer of liability shall apply to, but not by way of limitation, the following:

- Any injury or damage incurred on property owned by or under the control of the University, or its subsidiaries, such as classrooms, apartments, or other housing, any other structures, all common areas and grounds, and vehicles;
- Any injury or damage incurred as a participant, spectator or otherwise, in any intramural or intercollegiate or other event or contest, athletic or otherwise, or while in transit thereto or therefrom;
- Any injury or damage suffered while engaged in or attending a classroom or related activity, whether required or elective, and regardless of cause;
- Any injury or damage suffered by reason of theft, fire, damage by the elements, or other casualty;
- Any injury or damage suffered by reason of any act or omission of any University trustee, officer, member of the faculty or staff, employee, contractor, or student.
- By applying for admission or readmission to the University, or by continuing their enrollment with the University for a subsequent semester, students accept the foregoing disclaimer and agree to be bound thereby. Emergency referrals are made to community agencies. Any expenses incurred are the responsibility of the student.

Degrees and Graduation

Lawrence Technological University offers curricula leading to the following degrees and certifications. (For information on graduate degrees, see the *Graduate Catalog* (www.ltu.edu/futurestudents/graduate/graduate_catalog.asp?_wds=gr):

UNDERGRADUATE DEGREES

Associate of Arts
Radio and Television Broadcasting

Associate of Science
Chemical Technology
Communications Engineering Technology
Construction Engineering Technology
General Studies
Manufacturing Engineering Technology
Mechanical Engineering Technology

Bachelor of Arts
Architectural Studies
English and Communication Arts

Bachelor of Fine Arts
Game Art
Graphic Design
Interaction Design

Bachelor of Interior Architecture

Bachelor of Science
Architecture
Audio Engineering Technology
Biomedical Engineering
Business Administration
Chemical Biology
Chemistry
Civil Engineering
Computer Engineering
Computer Science
Construction Management
Electrical Engineering
Engineering Technology
Environmental Chemistry
Humanities
Industrial Design

Industrial Operations Engineering
Information Technology
Mathematics
Mathematics and Computer Science
Mechanical Engineering
Media Communication
Molecular and Cell Biology
Physics
Physics and Computer Science
Psychology
Robotics Engineering
Transportation Design

Pre-Professional Programs (non-degree)
Pre-Dental
Pre-Law
Pre-Medical

GRADUATE DEGREES

Direct-Entry Master of Architecture

Master of Architecture (also online)

Master of Arts in Environmental Graphic Design

Master of Business Administration (also online)

Master of Civil Engineering

Master of Construction Engineering Management

Master of Educational Technology (also online)

Master of Engineering in Manufacturing Systems

Master of Engineering Management (also online)

Master of Interior Design

Master of Science
Architectural Engineering
Automotive Engineering
Civil Engineering
Computer Science
Electrical and Computer Engineering

Industrial Engineering (also online)
Information Systems
Mechanical Engineering
Mechatronic Systems Engineering
Technical and Professional Communication

Master of Science Education

Master of Urban Design

Doctor of Business Administration

Doctor of Engineering in Manufacturing Systems

Doctor of Engineering in Mechanical Engineering

Doctor of Management in Information Technology

Doctor of Philosophy in Civil Engineering

Doctor of Philosophy in Management

CERTIFICATES
Lawrence Tech also awards a variety of undergraduate and graduate certificates.

Undergraduate
Alternate Energy Engineering Technology
Animation
Biochemical Engineering
Bioelectronics
Biomechanics
Building Information Model and Computer Visualization (online)
Computer Science
Electrical Power Systems
Embedded Systems
Entrepreneurial Strategy
Industrial/Organizational Psychology
Premedical Studies
Set Design
Technical and Professional Communication
Television and Video Production

Graduate
Aeronautical Engineering
Architectural Management (online)
Bioinformatics

Critical Studies in Architecture
Electrical Power Systems
Energy and Environment Management
Energy Engineering
Health Information Technology Management
Information Assurance Management
Instructional Design, Communication, and Presentation
Instructional Technology
Interdisciplinary Sustainability
Manufacturing Systems
Manufacturing Systems for the Defense Industry
Nonprofit Management and Leadership (also online)
Project Management (also online)
Robotics Education
Sustainable Architecture
Technical and Professional Communication
Telecommunications Engineering
Urban Design
Workplace Technology (also online)
Writing for the Digital Age

HONORS PROGRAM

High-achieving students are invited to participate in the Lawrence Tech Honors Program. Incoming first-year students with a 3.5 minimum high school GPA and a minimum 24 ACT composite (or SAT equivalent) qualify for the Honors Program. (Transfer students are not eligible.) Lawrence Tech offers honors course work in either stand-alone honors courses, regular courses with an "honors option," or special sections of standard courses. The Honors Program encompasses 21 credit hours of the core course work required of all undergraduates and nine credit hours of course work in the student's chosen major. The completion of honors course work leads to the distinction of graduating "With Honors." This distinction is noted on the student's transcript and diploma.

The Honors Program aims to:

- serve and challenge high-achieving students through rigorous course work;
- encourage students to enhance and diversify their college experience by taking courses, including interdisciplinary projects, beyond the requirements of their majors;
- enhance the intellectual and social climate for high-achieving students through participation in the University's Honors Society;
- develop students' leadership potential through academic achievement and service to the University and the community; and
- provide one-on-one advising through the Honors Program coordinator to aid the student as he/she prepares to enter his/her professional field or graduate studies.

SCHOLARS PROGRAM

Students committed to succeed academically while building leadership skills are invited to apply to participate in the Lawrence Tech Scholars Program. Scholars motivate each other within a comprehensive network of academic, peer-driven support. Student-led service projects at Lawrence Tech and in the broader community enrich undergraduate life for Scholars, while social events provide enjoyment outside of the classroom.

Scholars maintain a dedicated study room on campus, a targeted peer-tutoring program, and a devoted social network.

Interested students can apply at www.ltu.edu/scholars/apply.asp.

DOUBLE MAJORS

Students who want to broaden and enhance their educations have the opportunity to earn majors in two areas in a reasonable timeframe. In order to earn a double major, students simply complete all of the course requirements for both majors. Because of overlapping core course requirements and open electives in both majors, a double major can be earned, for example, in mathematics and humanities, with as few as 135 credit hours. The number of credit hours required varies depending on the choice of majors.

Interested students are encouraged to consult the department chairs of the two majors being considered. Careful planning and course scheduling will facilitate the completion of both majors in the shortest time.

UNDECLARED MAJORS

The University welcomes students interested in exploring their educational options prior to declaring a major. While completing general education courses common to all degree programs, undeclared students may also select introductory courses in various disciplines during their first year as a way to learn more about these areas of study. Academic advisors and career services professionals are available to assist students in selecting the major best suited to their interests and abilities.

SIMULTANEOUS ENROLLMENT

Students may be simultaneously enrolled in appropriate associate and bachelor's degree programs. Typical combinations are:

AS in Chemical Technology/BS in Chemistry
AS in General Studies/BS in any discipline
AS in Manufacturing Engineering Technology/BS in Engineering Technology
AS in Mechanical Engineering Technology/BS in Engineering Technology

THE LEADERSHIP PROGRAM

The University works to ensure all students develop their leadership skills with an emphasis on character, professionalism, and integrity. As part of their academic program, all Lawrence Tech undergraduates are required to complete a comprehensive leadership curriculum, which includes the University Seminar, the Leadership Models and Practices

course, the Leadership Seminar Series, and the Leadership Capstone. Students interested in more in-depth leadership training can choose to earn a leadership certificate.

The Office of Leadership Programs oversees the implementation and successful completion of the undergraduate leadership curriculum and coordinates with academic programs to promote leadership development and practice in the classroom. The office also coordinates co-curricular and extracurricular activities, opportunities to develop diversity awareness and participate in study abroad and other international experiences, and service learning and volunteer opportunities for students.

For more information on the Leadership Program, visit www.ltu.edu/leadership or call the Office of Leadership Programs at 248.204.2414.

THE CORE CURRICULUM

The distinctive Lawrence Tech Core Curriculum provides a comprehensive, interactive engagement with writing, speaking, literature, history, philosophy, mathematics, science, and the arts. The Core is structured to give students an intellectual experience in common with fellow students through shared reading, directed discussion, group presentations, and problem-solving teamwork. Unlike general education requirements selected "cafeteria-style," the carefully designed content and distinctive delivery of Lawrence Tech's Core Curriculum ensures engagement at the highest level with the ideas and texts that have shaped human civilization. Instead of listening to lectures, students learn actively through lively discussion and engagement with their peers.

The Core learning community, shared with students from all majors, is built on:

- Four courses in humanities, based on reading the great books and experiencing the great art of the world's civilizations:
  - Foundations of the American Experience
  - Development of the American Experience
  - World Masterpieces 1
  - World Masterpieces 2
- Two courses in communication, written, oral, and visual:
  - English Composition
  - Technical and Professional Communication
- Two courses in mathematics, where what is studied depends on the major selected
- Two courses in the natural sciences, including laboratory experience
- One upper-division elective in the humanities or social sciences, to add depth to the educational experience.

In face-to-face contact with experienced, notable scholars, students gain:

- The ability to read and analyze challenging texts
- The poise to articulate ideas orally and in writing
- The capacity to evaluate conflicting ideas
- The savvy to seek alternative solutions to problems in many fields

- The stamina to succeed in difficult projects
- The experience of working in, and leading, teams
- An understanding of the past and the role of a citizen in a free society
- The competency to simplify complex problems through the manipulation of symbols
- The discipline to apply scientific principles to improve understanding
- The confidence to be creative

Designed to promote excellence, the Core Curriculum seeks to prepare students to take a leadership role in the diverse world in which they will learn, build their careers, and contribute to their communities. The Core's blend of deep knowledge, broad understanding, and analytical thinking seeks to provide the confidence to help students determine their life's course, make meaningful contributions to the lives of others, and achieve success in their professional fields.

The development of the scientific method is one of the hallmarks of Western thought. The Natural Sciences Core exposes students to a full year of rigorous training in one or more of the natural sciences, including at least one laboratory course. The value of this exposure is not limited to the technical skills acquired. No matter what major is selected, the goal is to understand more fully scientific thinking, its limitations, and its implication for other disciplines.

In the Humanities Core, students read many of the best books written in science, literature, philosophy, and politics. They discuss those original texts, defend their interpretations of them, and analyze and evaluate the ideas under discussion. They are expected to write clear, well-reasoned papers about what they've read and discussed. Students will learn the value of editing and perfecting what they write, working in teams, and presenting ideas orally.

In the Mathematics Core, students work to develop both mastery of skills and an understanding of the impact of mathematics on Western culture. Beyond being able to perform basic arithmetical operations, students will be expected to understand the use of symbols to represent numbers, manipulate those symbols, and use those skills to solve complex problems. The goal is to understand relationships within data through equations, inequalities, and graphs. Students are exposed to higher-level abstraction through the concept of functions and their manipulation, and to calculus, including its impact on the development of science and Western thought.

REQUIREMENTS FOR GRADUATION

The University reserves the right to modify its graduation and other academic requirements as may seem necessary from time to time. It is obligated only during the academic year of the student's registration by requirements published in the *Undergraduate Catalog* for that year.

Core Requirements
Lawrence Technological University is a focused, technologically oriented university which places emphasis on preparing students for careers in management, engineering, technology, architecture and design, computer science, science, the humanities, communication, and mathematics. Underlying specific program objectives is a principle that all graduates of the University, regardless of their major area, should receive a liberal education that prepares them to contribute as citizens and enlightened professionals.

The undergraduate Core requirements ensure that students interact with students and faculty in program categories other than their major and obtain both breadth and depth in the humanities, social sciences, mathematics and analysis, and the natural sciences, consistent with the basic educational philosophy of the University.

These requirements are summarized by six basic statements that apply to all baccalaureate curricula:

1. All graduates must be literate and skilled in communication, including basic English composition and specialized communication appropriate to their individual major programs;
2. All graduates must be aware of the diverse basis of our culture and must demonstrate both breadth and depth in an area of the arts and humanities;
3. All graduates must be aware of the foundations of our society and the development of social issues;
4. All graduates must be aware of the scientific understanding of the natural world, including laboratory experience;
5. All graduates must have analytical skills consistent with the technological focus of the University, including mathematics and the use of computers in their major fields;
6. All graduates must have a cohesive major program that integrates their basic education with both theory and practical applications in an area of interest to the University faculty.

Curriculum Requirements
Students who enter the University as freshmen (less than 30 hours of transfer credit) seeking a baccalaureate degree, must satisfy the Core requirements through completion of the following course sequences. (Students who transfer to Lawrence Tech with more than 30 semester hours should follow the transfer procedures outlined in the Admission to the University section of this *Catalog*.) The credits shown are the minimum required to satisfy requirements in a category.

Communication

English Composition	3 credits
Technical and Professional Communication	3 credits

Humanities and Social Sciences

Foundations of the American Experience and Development of the American Experience	6 credits
World Masterpieces 1 and 2	6 credits
Additional social science elective or course specified for a major	3 credits
Junior- or senior-level elective	3 credits
Minimum Communication, Humanities, and Social Sciences TOTAL	24 credits

Mathematics and Analysis

BS majors: Mathematics through basic calculus	7 credits
Non-BS majors: Demonstration of competency in use of the computer in the major field	4 credits

Natural Sciences

Two Natural Science courses	6 credits
Science laboratory	1 credit
Minimum Natural Sciences and Mathematics TOTAL	14 credits
Minimum Core Requirements TOTAL	38 credits

Degrees are awarded to candidates who have fulfilled the following requirements:

- Satisfactory completion of all requirements in one of the degree programs as set forth in the *Catalog*. Any student required to take Basic Studies courses (course level zero) will receive credit hours and grade points for such courses, but the credit hours earned for these Basic Studies courses will not be included in the total hours required for graduation;
- Minimum GPA of 2.0 in the major;
- Minimum GPA of 2.0 in all credit hours earned at Lawrence Tech;
- Completion at Lawrence Tech of the last two semesters of work for a degree
  For Associate degrees, this is a minimum of 24 credit hours, including 12 hours in the specialty courses of the chosen curriculum;
  For Bachelor's degrees, this is a minimum of 30 credit hours, including 14 hours in the student's major;
- Submission of a Petition for Graduation approximately one year preceding the date of expected graduation. Contact Enrollment Services/Office of the Registrar for specific graduation petition due dates. A new petition must be submitted in the event requirements for graduation are not completed within one academic year of the submission of the petition.
- Full payment of all financial obligations to the University;
- Successful completion of the writing proficiency examination.

Degree/Diploma Honors
Diploma honors will be granted to degree recipients on the basis of the student's record for all course work in the degree program at Lawrence Tech. Only courses taken at the University qualify for honor point credits.

For Associate degrees, transfer students must have completed a minimum of 30 semester hours at Lawrence Tech to be eligible for diploma honors.

For Bachelor's degrees, a transfer student must have completed a minimum of 60 semester hours at Lawrence Tech to be eligible for diploma honors.

The words *Cum Laude* will be inscribed on the diploma if the graduate has earned a GPA of at least 3.25.

The words *Magna Cum Laude* will be inscribed on the diploma if the graduate has earned a GPA of at least 3.5.

The words *Summa Cum Laude* will be inscribed on the diploma if the graduate has earned a GPA of at least 3.75.

COURSE NUMBER AND LEVEL
On the pages of course descriptions that follow, each course is identified by an alphanumeric course number. The alphabetic prefix represents the subject area.

College of Architecture and Design

Architectural Engineering	EAE
Architecture and Design	ARC
Fine Arts	ART
Game Art	GAM
Industrial Design	IDD
Interior Architecture/Design	ARI
Transportation Design	ATD

College of Arts and Sciences

Accounting	ACC
Biology	BIO
Botany	BOT
Chemistry	CHM
Communication	COM
Creative Writing	CRW
English as a Second Language	ESL
Forensic Science	FSC
Geology	GLG
Language and Literature	LLT
Leadership	LDR

Management	MGT
Master of Education Technology	MET
Mathematics and Computer Science/Math Co-op	MCS
Media Communication	MCO
Natural Science Co-op	SCO
Physical Science	PSC
Physics	PHY
Psychology	PSY
Radio and Television Broadcasting	RTS
Science Education	SCE
Spanish	SPN
Social Science	SSC
Study Abroad	SAP

College of Engineering

Architectural Engineering	EAE
Biomedical Engineering	BME
Biomedical Engineering Technology	BMT
Civil Engineering	ECE
Construction Engineering Technology	TCE
Electrical and Computer Engineering	EEE
Electrical Contracting Technology	TEC
Electrical Engineering Technology	TEE
Engineering Co-Op	ECO
Engineering, General	EGE
Engineering Tech Co-Op	TCO
Industrial Engineering Technology	TIE
Industrial/Operations Engineering	IOE
Mechanical Engineering	EME
Mechanical Engineering Technology	TME
Mechatronics Engineering	MSE
Robotics Engineering	ERE
Technology Alternative Energy	TAE
Technology Audio Systems	TAS
Technology Operations Management	TOM

College of Management

Accounting	ACC
Dissertation	DIS
Doctor of Business Administration	DBA
Finance	FIN
Global	GLO
Global Leadership Management	GLM
Health IT Management	HTM
Human Resource Management	HRM
Information Technology	INT

Industrial Operations	MIO
Management	MGT
Management Information Systems	MIS
Marketing	MKT
Operations Management	OPM
Research	RES

The first number following the alphabetic prefix indicates the academic level of the course:
0 = Basic Studies
1 = Freshman
2 = Sophomore
3 = Junior
4 = Senior
5 = Senior/Grad
6 and above = graduate level

Basic Studies courses (course level zero) do not provide degree credit. The last of the four numbers normally indicates the semester hours of credit assigned to the course. For example, ARC4653 carries three hours credit.

REQUIREMENTS FOR GRADUATION/GRADUATION DEADLINE
Petitions to Graduate for each semester have specific due dates:

Expected date of graduation	Petition to Graduate due date
May	April 15
July	April 15 *(if attending Commencement)* or July 15 *(if NOT attending Commencement)*
December	November 15

It is the student's responsibility to be aware of these dates and adhere to them. Petition to Graduate forms can be downloaded at www.ltu.edu/graduation. Students may submit their forms to the DTE Energy One-Stop Center in the A. Alfred Taubman Student Services Center or fax them to 248.204.2228.

Processing Petitions to Graduate after their due date, if approved by Enrollment Services/Office of the Registrar, requires that a substantial processing fee be assessed to the student. Further, availability of caps, gowns, and diplomas in time for Commencement cannot be guaranteed.

Students must also pay a graduation fee, which is non-refundable after one academic year. If students do not complete their graduation requirements as planned within one academic year, a new Petition to Graduate and graduation fee must be submitted.

The University reserves the right to modify its graduation and other academic requirements as may be deemed necessary. It will be obligated only during the academic

year of the student's registration by requirements published in the *Undergraduate Catalog* for that year.

CATALOG OF ENTRY – LIMITATIONS

Although graduation requirements of the University may change while a student is enrolled, students are normally expected to meet the graduation requirements outlined in the *Catalog* that is in effect at the time they matriculate, as long as the courses are still offered by the University. Substitutions may be made for required courses that may no longer be available. However, if the new graduation requirements may be adapted to a student's current course of study without increasing his or her credit hour requirements or existing prerequisites, the new requirements shall prevail.

Students interrupting their studies for three calendar years or more must reapply for admission (see the Admission to the University section, Transfers Within the University/Interruption of Studies, in this *Catalog*). If readmitted, the *Catalog* in effect at the time of readmission is used to determine graduation requirements.

College of Architecture and Design

Dean
Glen S. LeRoy, FAIA, FAICP
A129, 248.204.2805

Assistant Dean and Director of Graduate Studies
Ralph K. Nelson, AIA
A129, 248.204.2808

ABOUT THE COLLEGE OF ARCHITECTURE AND DESIGN
The College of Architecture and Design at Lawrence Technological University is among the 30 oldest and the 10 largest schools of architecture in the United States. It was founded on the conviction that universal truths underlie all existence and provide the scientific and aesthetic foundation for the study of architecture and design as it relates to the service of humankind. These incorporate technology, the physical and social sciences, the arts, economics, and law.

Above all, Lawrence Tech's architecture and design curricula emphasize the human condition and focus on humankind as the primary beneficiary of all artistic and technological endeavors.

No single style or philosophy, other than the pursuit of excellence in the comprehensive response to human needs, dominates the curricula of the College of Architecture and Design. To this end, the faculty are drawn from a broad spectrum of creative and technical backgrounds. Not only does this maximize the students' exposure to a variety of differing philosophies and ideals, but it also offers the student contact with respected practicing professionals who are leaders in their fields of endeavor.

Obviously, architecture and design cannot be created in isolation. Their full success depends on supportive harmony among all creative disciplines. Therefore, Lawrence Tech emphasizes the study of architecture and design that recognizes the interrelationship of technical, economic, social, environmental, and philosophical factors. The college rejects any isolated or unilateral science, philosophy, or art that inhibits the full development of a student's skills and ideals. Lawrence Tech educates architects, artists, designers, engineers, and managers who are well prepared for the complex demands dictated by contemporary society.

The curricula of Lawrence Tech's College of Architecture and Design are structured in seven undergraduate programs, a 168-credit Master of Architecture professional degree program, and a Master of Interior Design, Master of Urban Design, and a Master of Arts in Environmental Graphic Design.

Students are cautioned that course selection approval at the time of registration is based on stated prerequisite requirements and the student's ability to maintain adequate academic progress in collateral courses as indicated in the respective curriculum outlines.

A master plan of studies may be formulated by the student, in consultation with an advisor, based on the "Guide to Course Offerings," available in the college's administrative office.

For first-hand experience, great emphasis is placed on field trips that may be a part of any course offered by the College.

Transfer students are encouraged to enter any of the degree programs in which they have an interest and for which they have the qualifications. When a complete or accurate description of previous course work is lacking, transfer students may be asked to present a portfolio of work, complete specific studio problems, or enroll in certain courses to ensure correct placement within the program.

Lawrence Tech's College of Architecture and Design is a member of the Association of Collegiate Schools of Architecture and the National Institute for Architectural Education. The Master of Architecture professional degree program is accredited by the National Architectural Accrediting Board (NAAB). The Bachelor in Interior Architecture program is accredited by the Foundations for Interior Design Education Research (FIDER) and the National Association of Schools of Art and Design (NASAD). The Bachelor of Fine Arts in Graphic Design and the Bachelor of Fine Arts in Interaction Design are also accredited by NASAD.

The following statements have been prepared by the NAAB for inclusion in the catalogs of all architecture programs:

> "In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit U.S. professional degree programs in architecture, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted a six-year, three-year, or two-year term of accreditation, depending on its degree of conformance with established educational standards.
>
> "Master's degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree, which, when earned sequentially, comprise an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree."

DEGREE PROGRAMS

All studies in the College of Architecture and Design creatively integrate the sciences, humanities, and technologies with the design process. Each year's design studios build on course work previously assimilated, and all studio courses must be completed in strict sequential order. In broad terms, the programs are rooted in the rational subjective mastery of basic knowledge, the development of intuitive skill, and the maximization of the student's social and environmental awareness.

Year one is a foundation and introduction into the world of creativity, design, and representation together with general education courses and specialized communications. Year two is a discovery of the integration of cultural awareness and the creative world through liberal studies and design methods, concepts, and theories. In year three there is an exploration of thought and design philosophy through technological, analytical, and conceptual integrations. Year four involves the integration by the individual student of all previous design issues and an opportunity for topic concentration through elective studios.

Bachelor of Arts in Architectural Studies
Students with a Bachelor of Arts in Architectural Studies possess an understanding of the world of architecture from a variety of perspectives. Architecture is a dynamic field involving the design and production of buildings and spaces that are inspiring, functional, sustainable, and responsive to their physical and social contexts. Lawrence Technological University's Architectural Studies program can competitively position students for a career in architecture, journalism, and a variety of other areas. The program focuses on the interdisciplinary nature of architecture in the complex modern world. Graduates possess an educational foundation that can enable them to pursue a number of career options and opportunities for advanced degrees and also to assume leadership roles within the cultural environment.

Bachelor of Fine Arts in Game Art
The Bachelor of Fine Arts in Game Arts program is intense, studio-oriented, interdisciplinary, and far-reaching. The program consists of 128 credit hours and is designed to develop a body of knowledge, skills, and experience in game art with a focus on game design, game mechanics, art asset creation, and game scripting and programming. The program is taught in tandem with the Bachelor of Science in Computer Science's concentration in Game Software Development.

The Bachelor of Fine Arts in Game Art provides a comprehensive overview of the emerging field of game art that ranges from animation and art asset creation to the latest innovations in electronic multimedia and the time-based media of video and sound. Students get experience in the fundamental skills, history, and theory of game design. Critical thinking and creativity – important to the development of the person as well as the professional – are stressed throughout the curriculum. Emphasis will be placed on students developing a distinctive point-of-view for their creative activities. Studies in literature, the sciences, philosophy, math, and history all contribute to the vision of the game arts professional.

Theory and practice, Lawrence Tech's underlying teaching philosophy, are essential to an effective and marketable designer. All students are required to complete a 150-hour internship program in which they apply their theoretical knowledge to real-life situations and receive mentoring from practicing professionals.

Bachelor of Fine Arts in Graphic Design
The Bachelor of Fine Arts in Graphic Design is a comprehensive overview of the ever-changing field of graphic design that ranges from traditional print media to the latest innovations in electronic multimedia and the time-based media of video and sound. Design is commercial, social, public, and political. Students get experience in the fundamental skills, history, and theory of graphic design. Critical thinking and creativity – important to the development of the person as well as the professional – are stressed throughout the curriculum. Emphasis will be placed on students developing a distinctive point-of-view for their creative activities. Studies in literature, the sciences, philosophy, math, and history all contribute to the vision of the graphic design professional.

Theory and practice, Lawrence Tech's underlying teaching philosophy, are essential to an effective and marketable designer. All students are required to complete a 150-hour internship program in which they apply their theoretical knowledge to real-life situations and receive mentoring from practicing professionals.

Bachelor of Fine Arts in Interaction Design
The Bachelor of Fine Arts in Interaction Design degree is based on a broad foundation in the fine arts and visual communication with the application of a variety of media and techniques to achieve creative solutions to fine arts and design problems. The primary goal of this degree is to creatively apply the design process in the development of hand drawing, Internet designs, photography, motion graphics, and other emerging technologies to meet the needs of corporate and private enterprises. Elective courses are available within the College of Architecture and Design so students have an opportunity to explore other creative disciplines. Elective courses are also available within the University in programs such as business, computer science, or engineering. This four-year program prepares students for entry into the Master of Arts in Environmental Graphics program.

Bachelor of Interior Architecture
The Bachelor of Interior Architecture degree program prepares students for careers in interior architecture and design through placing value and emphasis on technical, social, psychological, cultural, environmental, economical, spiritual, and physical factors to comprehensively respond to human needs. The program is integrated with the undergraduate program in architecture, providing students the opportunity to experience the interrelationships among disciplines as they are exposed to a variety of design theories and philosophies. Critical thinking and creativity are important in the development of the person as well as the professional and are emphasized throughout the curriculum. This four-year program also prepares students for entry into the Master of Interior Architecture program.

Bachelor of Science in Architecture
All architecture majors are admitted into a professional degree program that takes five years and one summer to complete and results in a Bachelor of Science in Architecture and a Master of Architecture.

The Bachelor of Science in Architecture degree program is designed to provide a broad foundation for the development of social and environmental awareness, problem-solving ability and design creativity. This four-year pre-professional program prepares students for entry into the Master of Architecture professional degree program that is accredited by the National Architectural Accreditation Board (NAAB). It also prepares students to enter the Master of Urban Design program. Students must have a 3.0 minimum GPA at the end of the BS in Architecture to automatically advance into the master's degree programs. Additional requirements must be met for entry into the master's program if the 3.0 minimum GPA is not obtained.

Bachelor of Science in Industrial Design
Industrial design is problem solving that balances the interface between technology and esthetics to meet human needs. Industrial designers create concepts, specifications, and products that are responsible, functional, and sustainable.

Industrial designers develop these concepts, specifications, and products through research, analysis, and the synthesis of data guided by the special requirements of the client or manufacturer. They are trained to prepare clear and concise recommendations through drawings, models, and presentations.

The Bachelor of Science in Industrial Design shares fundamental building blocks with the architecture program and is a sibling of the transportation design program. Bachelor of Science in Industrial Design focuses on the innovative integration of professional practice to include business case assessment, entrepreneurship, leadership, product psychology, customer journey experience, marketing, sustainability, packaging, and cultural geography.

Bachelor of Science in Transportation Design
The Bachelor of Science in Transportation Design aims to prepare students for careers in the fields of transportation and industrial design by combining a rigorous design education with an integration of engineering and technology principles. The curriculum is unique in that it simulates a corporate design studio by integrating industry scenarios and seminars by visiting professionals into the daily classroom experience. In addition to core studios based on transportation products, students have the flexibility to tailor the program to their particular interests in industrial design, including animation, storyboarding, conceptual gaming design, product, apparel, graphics, and color and trim.

Direct-Entry Master of Architecture
Students who enter the architecture program as freshmen can complete the National Architecture Accrediting Board (NAAB) accredited Master of Architecture degree in five years and two summers. Students must have a 3.0 GPA after completing all undergraduate-level courses to advance to the upper-division master's level courses. Students finishing the lower division courses with a GPA below 3.0 can obtain the Bachelor of Science in Architecture, as long as all other degree requirements are met.

Please note: It is the Master of Architecture degree that is accredited by the NAAB.

DUAL DEGREES
Students may earn two degrees – BS in Architecture and Bachelor of Interior Architecture – in as few as five years by carefully preplanning their course work. Qualified dual degree students may also earn a graduate degree, in addition to the dual degrees, in a total of seven years through the careful structuring of course work. Students desiring dual degrees in architecture and interior architecture, architecture and civil engineering, architecture and graphic design, architecture and interaction design, architecture and architectural engineering or architecture and construction management must consult with an advisor in the freshman year for assistance in properly sequencing course work.

MASTER OF ARCHITECTURE (MArch)
The 36-credit Master of Architecture (MArch) graduate degree program meets the academic credentials for professional licensing in the field of architecture established by the National Architectural Accrediting Board (NAAB). The program emphasizes leadership qualities for future architects who may work in teams in professional practice or pursue non-traditional practice. For detailed information on the graduate programs, see the *Graduate Catalog* (www.ltu.edu/futurestudents/graduate/graduate_catalog.asp?_wds=gr).

MASTER OF INTERIOR DESIGN
The 37-credit Master of Interior Design degree is a post-professional program aimed at people who hold an undergraduate degree in interior design. The program combines theory and issues with research and studio projects that allow intensive examination of an area of interest.

MASTER OF URBAN DESIGN
The 34-credit-hour Master of Urban Design (mUD) can be completed in three semesters. The program welcomes students with diverse undergraduate degrees and backgrounds and features a pedagogical and research emphasis that builds upon the University's commitment to its urban and suburban context. The Master of Urban Design is designed to help students develop a body of knowledge, skills, and experience in urban design with a focus on sustainable urbanism – a balanced and holistic systems approach to design and policy initiatives that addresses the complex environmental, economic, and social forces that affect global city and regional forms.

BACHELOR OF ARTS IN ARCHITECTURAL STUDIES (Global Studies)
TOTAL SEMESTER CREDIT HOURS: 120

Freshman Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
ARC 1012	Art/Architecture Awareness	2

ARC 1213	Visual Communications 1	3
ART 1113	Basic Design 1	3
SSC 2413	Foundations/American Exp.	3
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 2103	Tech & Prof Communications	3
MCS 1414 **or**	Calculus 1 **or**	
MCS 1254	Geometry in Art	4
SSC 2423	Development/American Exp.	3
ARC 1223	Visual Communications 2	3
ART 1133	Basic Design 2	3
	TOTAL	16

Sophomore Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1213	World Masterpieces 1	3
ARC 3613	History/Designed Enviro 1	3
PHY 2213	College Physics 1	3
PHY 2221	College Physics 1 Lab	1
ARC 2813 **or**	Elec Meth 1 **or**	
ART 2813	EMI	3
LLT XXX3	Foreign Language	3
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1223	World Masterpieces 2	3
ARC 3623	History/Designed Enviro 2	3
ART 2113	Life Drawing	3
SSC 2303	Economics	3
LLT XXX3	Foreign Language	3
LDR 2001	Leadership Models and Practices	1
COM 3000	Writing Proficiency Exam	0
	TOTAL	16

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*

Study Abroad: **Note Global Studies requires study abroad program.** Course selection to be preapproved based on program offerings. Also see Paris Summer Abroad.

LLT XXX3	Foreign Language	3
SSC 3383	International Economics	3
ARC/ART XXX3	Elective	3
SSC XXX3	Elective	3
	TOTAL	12

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LDR 3000	Leadership Seminar Series	0
SSC 3733	Aesthetics	3
ARC XXX3	Elective	3
LLT 3613	Literature and Art	3
SSC 3723	Ethics	3
PHY/CHM/BIO/ GLG/FSC XXX3	Elective	3
	TOTAL	15

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ART 3653	Non-Western Trad/Art 1	3
LLT/SSC/PSY XXX3	Jr./Sr. Elective	3
ARC 4183	20th Century Architecture	3
ARC 4623	Japanese Architecture	3
ARC XXX3	Elective	3
LDR 4000	Leadership Capstone	0
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ART 3663	Non-Western Trad/Art 2	3
ARC XXX3	Elective	3
SSC 3253	Golden Age of Greece	3
SSC 3713	Topics in Philosophy	3
SSC 4643	World Religions	3
	TOTAL	15

Architectural Studies Advisor

Gretchen Rudy, 248.204.2853, grudy@ltu.edu, A112

BACHELOR OF ARTS IN ARCHITECTURAL STUDIES (History/Theory)

TOTAL SEMESTER CREDIT HOURS: 120

Freshman Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
ARC 1012	Art/Design Awareness	2
ARC 1213	Visual Communications 1	3
ART 1113	Basic Design 1	3
SSC 2413	Foundations/American Exp.	3
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 2103	Tech & Prof Communications	3
MCS 1414 or	Calculus 1 **or**	
MCS 1254	Geometry in Art	4
SSC 2423	Development/American Exp.	3
ARC 1223	Visual Communications 2	3
ART 1133	Basic Design 2	3
	TOTAL	16

Sophomore Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1213	World Masterpieces 1	3
ARC 3613	History/Designed Enviro 1	3
PHY 2213	College Physics 1	3
PHY 2221	College Physics 1 Lab	1
ARC 2813 **or**	Elec Meth 1 **or**	
ART 2813	EMI	3
LLT XXX3	Foreign Language	3
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1223	World Masterpieces 2	3
ARC 3623	History/Designed Enviro 2	3
ART 2113	Life Drawing	3
SSC 2303	Economics	3
LLT XXX3	Foreign Language	3
LDR 2001	Leadership Models and Practices	1
COM 3000	Writing Proficiency Exam	0
	TOTAL	16

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*

Note: Optional Study Abroad. Can replace with preapproved courses comparable to cultural studies, LLT/SSC elective, Foreign Language, and/or Art/Arch Studio Elective(s) **- OR -**

	Cultural Studies	3
	Foreign Language or Elective	3
LLT XXX3	Literature Elective	3
ARC/ART XXX3	Elective	3
	TOTAL	12

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LDR 3000	Leadership Seminar Series	0
SSC 3733	Aesthetics	3
ARC XXX3	Elective	3

LLT 3613	Literature and Art	3
SSC 3723	Ethics	3
SSC/PHY/CHM/BIO/ GLG/FSC XXX3	Elective	3
	TOTAL	15

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ART 3633	Traditions of Art 1	3
LLT/SSC/PSY XXX3	Jr./Sr. Elective	3
SSC 4643	World Religions	3
ARC 4183	20th Century Architecture	3
ARC XXX3	Elective	3
LDR 4000	Leadership Capstone	0
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ART 3643	Traditions of Art 2	3
ARC XXX3	Elective	3
SSC 3253	Golden Age of Greece	3
ARC 4113	Great Books of Architecture	3
SSC 3713	Topics in Philosophy	3
	TOTAL	15

Architectural Studies Advisor

Gretchen Rudy, 248.204.2853, grudy@ltu.edu, A112

BACHELOR OF ARTS IN ARCHITECTURAL STUDIES (Studio Arts)

TOTAL SEMESTER CREDIT HOURS: 120

Freshman Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
ARC 1012	Art/Design Awareness	2
ARC 1213	Visual Communications 1	3
ART 1113	Basic Design 1	3
SSC 2413	Foundations/American Exp.	3
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 2103	Tech & Prof Communications	3
MCS 1414 **or** MCS 1254	Calculus 1 **or** Geometry in Art	4
SSC 2423	Development/American Exp.	3

ARC 1223	Visual Communications 2	3
ART 1133	Basic Design 2	3
	TOTAL	16

Sophomore Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1213	World Masterpieces 1	3
ARC 3613	History/Designed Enviro 1	3
PHY 2213	College Physics 1	3
PHY 2221	College Physics 1 Lab	1
ARC 2813 **or**	Elec Meth 1 **or**	
ART 2813	EMI	3
LLT XXX3	Foreign Language	3
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1223	World Masterpieces 2	3
ARC 3623	History/Designed Enviro 2	3
PHY/CHM/BIO/		
GLG/FSC XXX3	Elective	3
SSC 2303	Economics	3
LLT XXX3	Foreign Language	3
LDR 2001	Leadership Models and Practices	1
	TOTAL	16

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*

Note: Optional Study Abroad. Can replace with preapproved courses comparable to cultural studies, LLT/SSC elective, Foreign Language, and/or Art/Arch Studio Elective(s) - **OR** -

ART 2523	Graphic Design 1	3
ART 3023	Photography	3
ARC/ART XXX3	Elective	3
ARC/ART XXX3	Elective	3
	TOTAL	12

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LDR 3000	Leadership Seminar Series	0
SSC 3733	Aesthetics	3
ART 3213	Sculpture	3
LLT 3613	Literature and Art	3
SSC 3723	Ethics	3
ART 2113	Life Drawing	3
	TOTAL	15

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ART 3633	Traditions of Art 1	3
LLT/SSC/PSY XXX3	Jr./Sr. Elective	3
ARC 4183	20th Century Architecture	3
ARC 4113	Great Books of Architecture	3
ARC XXX3	Elective	3
LDR 4000	Leadership Capstone	0
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ART 3643	Traditions of Art 2	3
ARC XXX3	Elective	3
SSC 3253	Golden Age of Greece	3
SSC 3713	Topics in Philosophy	3
SSC 4643	World Religions	3
	TOTAL	15

Architectural Studies Advisor

Gretchen Rudy, 248.204.2853, grudy@ltu.edu, A112

BACHELOR OF FINE ARTS IN GAME ART

TOTAL SEMESTER CREDIT HOURS: 125

Freshman Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
PSY 1213	Introductory Psychology	3
ART 1113	Basic Design 1	3
ARC 1012	Art/Architecture Awareness	2
MCS 1643	Intro to Games and Animation	3
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ART 2813	Electronic Method. for Imaging	3
GAM 1123	Game Genre Development	3
SSC 2413	Foundations of Amer. Exp.	3
ART 1133	Basic Design 2	3
MCS 1254	Geometry in Art	4
	TOTAL	16

Sophomore Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*

LLT 1213	World Masterpieces 1	3
ART 2113	Life Drawing	3
GAM 2123	2 D Animation	3
MCS 3563	Game Design	3
GAM 2213	History of Game Design	3
SSC 2423	Develop. of Amer. Exp.	3
	TOTAL	18

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1223	World Masterpieces 2	3
COM 2103	Technical and Prof. Comm.	3
ART 3633	Traditions of Art 1	3
GAM 2313	Integrated Game Studio 1	3
GAM 2133	3D Animation 1	3
LDR 2001	Leadership Seminar Series	1
	TOTAL	16

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 2193	Scripting for Game Design	3
CRW 2513	Creative Writing	3
ART 2623	Imaging Studio 1	3
ART 3563	Traditions of Art 2	3
GAM 3143	3D Animation 2	3
COM 3000	Writing Proficiency Exam	0
LDR 3000	Leadership Seminar Series	0
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
PHY/CHM/BIO	Elective	3
PHY/CHM/BIO	Lab	1
GAM 3313	Integrated Game Studio 2	3
GAM 3413	Game Mechanics	3
ART/GAM	History Elective	3
ART/ARC/ARI	Open Elective	3
	TOTAL	16

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
GAM 4514	Game Art: Senior Project 1	4
ART 4512	Senior Seminar 1	2
PHY/CHM/BIO	Elective	3
ART 3343	New Media	3
MGT 2113 **or**	Intro to Business Law **or**	
MKT 3033	Entrepreneurial Marketing	3
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
GAM 4524	Game Art: Senior Project 2	4
ART 4522	Senior Seminar 2	2
LLT/SSC/PSY 3000/4000	Junior/Senior Elective	3
ART 4922	Internship Studies	2
ART 3323	Portfolio Design	3
LDR 4000	Leadership Capstone	0
	TOTAL	14

Game Art Advisor
Steven Rost, 248.204.2862, srost@ltu.edu, A218

BACHELOR OF FINE ARTS IN GRAPHIC DESIGN
TOTAL SEMESTER CREDIT HOURS: 131

Freshman Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
SSC 2413	Foundations of Amer. Exp.	3
ART 1113	Basic Design 1	3
ART 2223	Sketching for Illustration	3
ARC 1012	Art/Architecture Awareness	2
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ART 2813	Electronic Method. for Imaging	3
SSC 2423	Develop. of Amer. Exp.	3
MCS 1254	Geometry in Art	4
ART 1133	Basic Design 2	3
ART 2113	Life Drawing	3
	TOTAL	16

Sophomore Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1213	World Masterpieces 1	3
ART 2413	Typography	3
PHY/CHM/BIO	Elective	3
PHY/CHM/BIO	Lab	1
ART 3633	Traditions of Art 1	3
ART 2523	Graphic Design 1	3
LDR 2001	Leadership Seminar Series	1
	TOTAL	17

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1223	World Masterpieces 2	3
COM 2103	Technical and Prof. Comm.	3
PSY 1213	Introductory Psychology	3
ART 3643	Traditions of Art 2	3
ART 3513	Graphic Design 2	3
ART 2523	Imaging Studio 1	3
	TOTAL	18

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ART 3523	Graphic Design 3	3
ART 3563	History of Graphic Design	3
ART 3213	Sculpture	3
ART xxxx	Elective	3
ART 3023	Photography	3
COM 3000	Writing Proficiency Exam	0
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ART 4513	Graphic Design 4	3
ART xxxx	History Elective	3
ART 3033	Digital Photography	3
ART 3043	Video Imaging	3
PHY/CHM/BIO/GLG/FSC	Elective	3
ART 3343	New Media	3
LDR 3000	Leadership Seminar Series	0
	TOTAL	18

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ART 4514	Imaging Thesis 1	4
ART 4513	Graphic Design 4	3
ART 3323	Portfolio Design	3
MGT 2113 **or**	Intro. to Business Law **or**	
MKT 3033	Entrep. Mrktg.	3
ART 4512	Senior Seminar (Co-req)	2
ART 4922	Internship Studies	2
	TOTAL	17

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ART 4524	Imaging Thesis 2	4
ART/ARC/ARI	Elective	3
LLT/SSC/PSY 3000/4000	Junior/Senior Elective	3
ART 4522	Senior Seminar	2
	Open Elective	3
LDR 4000	Leadership Capstone	0
	TOTAL	15

Graphic Design Advisor
Steven Rost, 248.204.2862, srost@ltu.edu, A218

BACHELOR OF FINE ARTS IN INTERACTION DESIGN
TOTAL SEMESTER CREDIT HOURS: 131

Freshman Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
SSC 2413	Foundations of Amer. Exp.	3
ART 1113	Basic Design 1	3
ART 2223	Sketching for Illustration	3
ARC 1012	Art/Architecture Awareness	2
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ART 2813	Electronic Method. for Imaging	3
SSC 2423	Develop. of Amer. Exp.	3
MCS 1254	Geometry in Art	4
ART 1133	Basic Design 2	3
ART 2113	Life Drawing	3
	TOTAL	16

Sophomore Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1213	World Masterpieces 1	3
ART 2413	Typography	3
PHY/CHM/BIO/GLG	Elective	3
PHY/CHM/BIO/GLG	Lab	1
ART 3633	Traditions of Art 1	3
ART 2523	Graphic Design 1	3
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*

LLT 1223	World Masterpieces 2	3
COM 2103	Technical and Prof. Comm.	3
PSY 1213	Introductory Psychology	3
ART 3643	Traditions of Art 2	3
ART 2623	Imaging Studio 1	3
ART xxxx	Elective	3
LDR 2001	Leadership Models/Practices	1
	TOTAL	19

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ART 3613	Imaging Studio 2	3
ART 3563	History of Graphic Design	3
ARC 3213	Sculpture	3
ART xxxx	(Digital Arts) Elective	3
ART 3023	Photography	3
COM 3000	Writing Proficiency Exam	0
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ART 3623	Imaging Studio 3	3
ART xxxx	History Elective	3
ART 3033	Digital Photography	3
ART 3043	Video Imaging	3
PHY/CHM/BIO/GLG	Elective	3
ART 3343	New Media	3
LDR 3000	Leadership Seminar	0
	TOTAL	18

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ART 4614	Imaging Thesis 1	4
ART/ARC/ARI	Elective	3
ART 3323	Portfolio Design	3
MGT 2113 or MKT 3033	Intro. to Business Law	3
ART 4922	Internship Studies	2
ART 4612	Senior Seminar	2
	TOTAL	17

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ART 4626	Imaging Thesis 2	4
ART/ARC/ARI	Elective	3
LLT/SSC/PSY 3000/4000	Junior/Senior Elective	3
ART 4622	Senior Seminar	2
	Open Elective	3
LDR4000	Leadership Capstone	0
	TOTAL	15

Interaction Design Advisor
Steven Rost, 248.204.2862, srost@ltu.edu, A218

BACHELOR OF INTERIOR ARCHITECTURE
TOTAL SEMESTER CREDIT HOURS: 132

Freshman Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
SSC 2413	Foundations of Amer. Exp.	3
ARC 1012	Art/Architecture Awareness	2
ART 1113	Basic Design 1	3
ARC 1213	Visual Communication 1	3
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 2103	Technical and Prof. Comm.	3
SSC 2423	Development of Amer. Exp.	3
MCS 1254	Geometry in Art	4
ART 1133	Basic Design 2	3
ARC 1223	Visual Communication 2	3
	TOTAL	16

Sophomore Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1213	World Masterpieces 1	3
ARC 3613	Hist. of the Designed Env. 1	3
PHY 2213	College Physics 1	3
PHY 2221	College Physics Lab	1
ARC 2117	Integrated Design Studio 1	7
ARC 2813	Electronic Method. 1	3
	TOTAL	20

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*

LLT 1223	World Masterpieces 2	3
ARC 3623	Hist. of the Designed Env. 2	3
PHY 2223	College Physics 2	3
ARC 2126	Integrated Design Studio 2	6
PHY 2231	College Physics 2 Lab	1
LDR 2001	Leadership Seminar Series	1
	TOTAL	17

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS/SSC/LLT/PSY/COM	Elective	3
ARC 2514	Structures 1	4
ARC 2313	Building Systems 1	3
ARI 3113	Furniture and Millwork	3
ARI 3114	Interior Architecture 1	4
COM 3000	Writing Proficiency Exam	0
	TOTAL	17

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ARC 3413	Environmental Systems 1	3
ARC 2323	Building Systems 2	3
ART 2523	Graphic Design 1	3
ARI 3124	Interior Architecture 2	4
ARI 3123	Interior Materials & Textiles	3
LDR 3000	Leadership Seminar Series	0
	TOTAL	16

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ARC 4234	Allied Design: Interior Arch.	4
ARI 4223	Interior Design Practice	3
ARI 4113	Hist. of Interiors and Furn.	3
ARI 4143	Advanced Lighting	3
ARC/ART/ARI	Elective	3
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ARI 4922	Internship Studies	2
ARI 4123	Environmental Psychology	3
ARI 4134	Interior Architecture 3	4
ART	Art History Elective	3
LLT/SSC/PSY 3000/4000	Junior/Senior Elective	3
LDR 4000	Leadership Capstone	0
	TOTAL	15

Interior Architecture Advisor
Jin Feng, jfeng@ltu.edu, 248.204.2863, A211

BACHELOR OF SCIENCE IN ARCHITECTURE
TOTAL SEMESTER CREDIT HOURS: 132/133

Freshman Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
MCS 1214	Intro Math Analysis 1*	4
ARC 1012	Art/Design Awareness	2
ART 1113	Basic Design 1	3
ARC 1213	Visual Communications 1	3
	TOTAL	15/16

*or replace with MCS 1203 Logic when MCS 1214 is excused by placement or MA2 transfer

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 2103	Tech & Prof Communication	3
LLT 1213	World Masterpieces 1	3
MCS 1224	Intro Math Analysis 2	4
ART 1133	Basic Design 2	3
ARC 1223	Visual Communications 2	3
	TOTAL	16

Sophomore Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1223	World Masterpieces 2	3
ARC 3613	History/Designed Enviro 1	3
PHY 2213	College Physics 1	3
PHY 2221	College Physics 1 Lab	1
ARC 2117	Integrated Design Studio 1	7
ARC 2813	Electronic Methods 1	3
	TOTAL	20

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
SSC 2413	Foundations /American Exp.	3
ARC 3623	History/Designed Enviro 2	3
PHY 2223	College Physics 2	3
PHY 2231	College Physics 2 Lab	1
ARC 2126	Integrated Design Studio 2	6
LDR 2001	Leadership Seminar Series	1
	TOTAL	17

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 3000	Writing Proficiency Exam	0
SSC 2423	Development/American Exp.	3
ARC 2313	Building Systems 1	3
ARC 2514	Structures 1	4
ARC 3117	Integrated Design Studio 3	7
	TOTAL	17

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ARC 3423	HVAC & Water Systems	3
ARC 2323	Building Systems 2	3
ARC 2321	Bldg Systems Global Lecture	1
ARC 3523	Structures 2	3
ARC 3126	Integrated Design Studio 4	6
LDR 3000	Leadership Seminar Series	0
	TOTAL	16

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ARC 4XX4	Allied Design Studio	4
ARC 4443	Acoustical, Elec. & Illum. Sys.	3
ARC 4533	Structures 3	3
ARC 4183	20th Century Architecture	3
ARC/ART/ARI XXX2	Elective	2
LDR 4000	Leadership Capstone	0
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ARC 4114	Arc Design Studio 5	4
ARC 4543	Structures 4	3
ARC/ART/ARI XXX3	Elective	3
ARC/ART/ARI XXX3	Elective	3
LLT/SSC/PSY 3XX3-4XX3	Jr./Sr. Elective	3
	TOTAL	16

Architecture Advisors

Scott Shall 248.204.2860, sshall@ltu.edu Room A129D
Jane McBride, 248.204.2819, jmcbride@ltu.edu, Room A116

BACHELOR OF SCIENCE IN INDUSTRIAL DESIGN

TOTAL SEMESTER CREDIT HOURS: 127/128

Freshman Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
ARC 1012	Art/Architecture Awareness	2
COM 1103	English Composition	3
IDD 1114	ID Studio 1	4
ART 1113	Basic Design 1	3
MCS 1203 **or**	Logic **or**	
MCS 1214	Math Anal. 1	3/4
	TOTAL	16/17

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 2103	Technical and Prof. Comm.	3
MCS 1224	Intro. to Math Anal. 2	4
LLT 1213	World Masterpieces 1	3
IDD 1124	ID Studio 2	4
ART 1133	Basic Design 2	3
	TOTAL	17

Sophomore Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1223	World Masterpieces 2	3
IDD 2215	Visual Virtualization 1	5
PHY 2213	College Physics 1	3
PHY 2221	College Physics 1 Lab	1
IDD 2214	ID Studio 3	4
LDR 2001	Leadership Seminar Series	1
	TOTAL	17

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
SSC 2413	Foundations of Amer. Exp.	3
PHY 2223	College Physics 2	3
PHY 2131	College Physics 2 Lab	1
IDD 2225	Visual Virtualization 2	5
IDD 2224	ID Studio 4	4
	TOTAL	16

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
SSC 2423	Development of Amer. Exp.	3
IDD 3316	ID Studio 5	6
ATD 3616	Integrated Con. Design A	6
COM 3000	Writing Proficiency Exam	0
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ATD 4524	Manufacturing Process	4
IDD 3326	ID Studio 6	6
ATD 3626	Integrated Con. Design B	6
ATD 2832	Practicum	2
LDR 3000	Leadership Seminar Series	0
	TOTAL	18

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ATD 4513	Professional Practice	3
ATD 4414	Rapid Technology	4
ATD 4516	Trans. Design Studio 7T	6
LDR 4000	Leadership Capstone	0
	TOTAL	13

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ATD 3723	Transportation History	3
ATD 4526	Design Studio 8	6
ARC/ART/ARI/ATD	Elective	3
LLT/SSC/PSY 3000/4000	Junior/Senior Elective	3
	TOTAL	15

Industrial Design Advisor

Keith Nagara, knagara@ltu.edu, 248.204.2813, A150

BACHELOR OF SCIENCE IN TRANSPORTATION DESIGN

TOTAL SEMESTER CREDIT HOURS: 127/128

Freshman Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
ARC 1012	Art/Architecture Awareness	2
COM 1103	English Composition	3
ATD 1914	Trans. Design Studio 1C	4
ART 1113	Basic Design 1	3
MCS 1203 **or**	Logic **or**	
MCS 1214	Math Anal. 1	3/4
	TOTAL	16/17

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 2103	Technical and Prof. Comm.	3
MCS 1224	Intro. to Math Anal. 2	4
LLT 1213	World Masterpieces 1	3

ATD 1924	Trans. Design Studio 2C	4
ART 1133	Basic Design 2	3
	TOTAL	17

Sophomore Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1223	World Masterpieces 2	3
ATD 2813	Digital Tech. Surface 1	3
PHY 2213	College Physics 1	3
PHY 2221	College Physics 1 Lab	1
ATD 2816	Trans. Design Studio 3E	6
LDR 2001	Leadership Seminar Series	1
	TOTAL	17

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
SSC 2413	Foundations of Amer. Exp.	3
PHY 2223	College Physics 2	3
PHY 2131	College Physics 2 Lab	1
ATD 2823	Digital Tech. Surface 2	3
ATD 2826	Trans. Design Studio 4E	6
	TOTAL	16

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
SSC 2423	Development of Amer. Exp.	3
ATD 3716	Trans. Design Studio 5I	6
ATD 3616	Integrated Con. Design A	6
COM 3000	Writing Proficiency Exam	0
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ATD 4524	Manufacturing Process	4
ATD 3726	Trans. Design Studio 6I	6
ATD 3626	Integrated Con. Design B	6
ATD 2832	Practicum	2
LDR 3000	Leadership Seminar Series	0
	TOTAL	18

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ATD 4513	Professional Practice	3
ATD 4414	Rapid Technology	4
ATD 4516	Trans. Design Studio 7T	6
LDR 4000	Leadership Capstone	0
	TOTAL	13

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ATD 3723	Transportation History	3
ATD 4526	Trans. Design Studio 8T	6
ARC/ART/ARI/ATD	Elective	3
LLT/SSC/PSY 3000/4000	Junior/Senior Elective	3
	TOTAL	15

Transportation Design Advisor
Keith Nagara, knagara@ltu.edu, 248.204.2813, A150

DIRECT-ENTRY MASTER OF ARCHITECTURE
TOTAL SEMESTER CREDIT HOURS: 168

First Year (Freshman)
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
MCS 1203	Logic	3
ARC 1012	Art/Architecture Awareness	2
ART 1113	Basic Design 1	3
ARC 1213	Visual Communication 1	3
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 2103	Technical and Prof. Comm.	3
LLT 1213	World Masterpieces 1	3
MCS 1224	Intro. to Math Anal. 2	4
ART 1133	Basic Design 2	3
ARC 1223	Visual Communication 2	3
	TOTAL	16

Second Year (Sophomore)
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1223	World Masterpieces 2	3
ARC 3613	Hist. of the Designed Env. 1	3
PHY 2213	College Physics 1	3
PHY 2221	College Physics Lab	1
ARC 2117	Integrated Design Studio 1	7
ARC 2813	Electronic Method. *or equiv*	3
	TOTAL	20

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
SSC 2413	Foundations of Amer. Exp.	3
ARC 3623	Hist. of the Designed Env. 2	3

PHY 2223	College Physics 2	3
ARC 2126	Integrated Design Studio 2	6
PHY 2231	College Physics Lab 2	1
LDR 2001	Leadership Seminar Series	1
	TOTAL	17

Third Year (Junior)

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
SSC 2423	Development of Amer. Exp.	3
ARC 2313	Building Systems 1	3
ARC 2514	Structures 1	4
ARC 3117	Integrated Design Studio 3	7
COM 3000	Writing Exam	0
	TOTAL	17

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ARC 3423	HVAC & Water Systems	3
ARC 2323	Building Systems 2	3
ARC 3523	Structures 2	3
ARC 3126	Integrated Design Studio 4	6
ARC 2321	Building Sys.-Global Lect	1
LDR 3000	Leadership Seminar Series	0
	TOTAL	16

Fourth Year (Senior)

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ARC 4xx4	Allied Design Studio	4
ARC 4443	Acoustical, Elec. & Illum. Syst.	3
ARC 4533	Structures 3	3
ARC 4183	20th Century Architecture	3
ARC/ART/ARI xxx2	2 Credit Elective	2
LDR 4000	Leadership Capstone	0
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ARC 4114	Arch Design Studio 5	4
ARC 4543	Structures 4	3
ARC/ART/ARI xxx3	3 Credit Elective	3
ARC/ART/ARI xxx3	3 Credit Elective	3
LLT/SSC/PSY 3xx3/4xx3	Junior/Senior Elective	3
	TOTAL	16

Fifth Year (Graduate)

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ARC 5804	Critical Practice Studio	4
ARC 5423	Ecological Issues	3

ARC 5013	Research Methods	3
ARC 5643	Design Theory	3
ARC 5814	ADS 1 (or Thesis 1)	4
ARC 5824	ADS 2 (or Thesis 2)	4
	TOTAL	21

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ARC 5913	Professional Practice	3
ARC 6833	Practice Portfolio	3
ARC 5xx2 or 6xx2	Elective 1	2
ARC 5xx2 or 6xx2	Elective 2	2
ARC 5xx2 or 6xx2	Elective 3	2
Non-ARC 5xx3 or 6xx3	Non-ARC Elective	3
	TOTAL	15

Note: Students pursuing a dual degree (such as architecture and interior architecture) must consult an advisor to schedule course work. To be official dual degree candidates, students must file a Dual Degree Declaration form with Enrollment Services/Office of the Registrar (www.ltu.edu/registrars_office/forms_to_print.index.asp).

Architecture Advisors
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College of Arts and Sciences

Dean
Hsiao-Ping H. Moore
S101, 248.204.3500

Associate Dean
Glen A. Bauer
S101, 248.204.3500

ABOUT THE COLLEGE OF ARTS AND SCIENCES

The goal of Lawrence Tech's College of Arts and Sciences is to develop in all students the ability to think critically, to solve problems creatively, and to make imaginative and rational decisions. The College prepares students for success at the University and for active, responsible, and creative lives. It cultivates the desire to excel in professional and personal endeavors and the ability to understand and work with people of various cultures.

In Arts and Sciences, teaching excellence comes first. Through its Core Curriculum, students share a common experience encompassing the wide varieties of human thought. Instructors employ new learning technologies to teach the best in classical and contemporary thought and practice. The college is guided in all of its endeavors by its motto: "A Classic Education for a Technological World."

The college is committed to the enhancement of learning for people of all backgrounds and ages. It works for expanded educational and career opportunities for women and minorities. It offers programs for elementary and secondary school children and their teachers. It offers a range of programs that serve the professional community.

In all of its activities, the college is driven by its commitment to the primary value of free, informed choice as the basis for responsible action. Complementing this goal, Arts and Sciences strives to foster civility in social relations – a civility that grows out of respect for the worth of all individuals.

CORE CURRICULUM

The College of Arts and Sciences seeks to prepare students to grow intellectually and carry out fully their responsibility to those around them, whether in their families or in their public and professional lives.

The Core Curriculum provides a well-rounded educational experience for all Lawrence Tech students. Students encounter the greatest literary and philosophical works that humankind has produced, and they discuss them with professors in small classes. They explore the sciences in hands-on laboratory environments and gain a solid foundation in mathematics. Composition and communications courses develop a high level of accomplishment in speaking and writing.

QUEST: OPENED MINDS OPEN DOORS

Quest is an innovative experiential learning program open to College of Arts and Sciences majors that allows students to pursue a project over and above the requirements of a course with mentoring from a faculty, staff, or alumni "guide." Students can complete one project per year over a three-year period. Participation in Quest can begin as early as the freshman year with students having one year to complete a project. Quest offers students the opportunity to test and try different career paths and/or explore their interests beyond their majors.

Projects

The students' projects must meet these three criteria:

1. They enhance the experience of learning at Lawrence Tech through performance, presentation, display, publication, demonstration, or instruction.
2. They have both theoretical and practical components and display original problem-solving skills.
3. They require submission of a portfolio that documents the rationale, development, and outcomes of the project as well as the impact of the project on the students' career goals.

Categories

Students may choose projects organized within three categories:

Arts – Projects that stretch students beyond their majors, relate their majors to the creative arts, or relate the arts to a career path.

- Participation in *Prism*, the Society of Dramatic Arts, Musician's Society, Artist's Guild
- Video/multimedia development, dance, photography, fine arts, game development
- Emphasis on interdisciplinarity and the theory and practice of creativity
- Projects that combine math, computer science, and art or the natural sciences and art

Leadership – Projects that explore a career path, are team-oriented, bridge international and traditional student populations, promote Lawrence Tech community building, foster mentoring among students, provide solutions to issues of local and/or national concern, or stimulate peace and prosperity locally and globally. Students' Junior Year Leadership Project may count toward Quest credit if the project fulfills the Quest criteria.

- Professional development
- Entrepreneurialism
- Service
- Global awareness

Research – Projects that explore career paths in research or graduate education.

- Assisting faculty in original research and/or conducting original research in the natural sciences, math and computer science, humanities, or the social sciences
- Presentation at undergraduate conferences, publication encouraged.

Narrative Transcript
Upon satisfactory completion of the project(s) and submission of a detailed portfolio, students receive, along with a traditional GPA transcript, a narrative transcript describing their Quest projects. Students also receive special recognition at graduation.

Funding
Funding for projects and summer stipends are available through competitive grants from the Quest program. For more information on the Quest program visit www.ltu.edu/arts_sciences/quest.asp or contact Jeff Morrissette, 248.204.3619

DEGREE PROGRAMS
The college provides undergraduate degree programs in business administration (see below, in College of Arts and Sciences, Undergraduate Management Programs) chemical biology, chemical technology, chemistry, computer science, English and communication arts, environmental chemistry, general studies, humanities, information technology (see below, in College of Arts and Sciences, Undergraduate Management Programs), mathematics, mathematics and computer science, media communication, molecular and cell biology, physics, physics and computer science, psychology, and radio and television broadcasting. Pre-medical and pre-dental programs are arranged through the Department of Natural Sciences and pre-law through the Department of Humanities, Social Sciences, and Communication. The undeclared program provides special services and support for students not yet ready to enter specific majors. In addition, the college offers minors and dual majors (see descriptions included in individual program curriculum guides).

The college continually develops courses and programs in response to social, economic, and technological changes. With a strong undergraduate education, Arts and Sciences graduates can prepare for immediate entry to professional life and for graduate or professional school.

Associate of Arts in Radio and Television Broadcasting
A partnership between Lawrence Tech and the Specs Howard School of Media Arts makes it possible for students to earn their Associate of Arts in Radio and Television Broadcasting by combining the extensive practical knowledge gained at Specs Howard with courses from Lawrence Tech's core liberal arts curriculum and the University's Media Communication program. The goal of the Associate of Arts in Radio and Television Broadcasting program is to help students develop the skills needed for a successful career, including:

- highly developed written and oral communication skills;
- a thorough understanding of rhetorical and ethical considerations that play a key role in broadcasting and news presentations; and
- courses in literature, history, philosophy, mathematics, science, and the arts, providing a comprehensive, interactive engagement with the ideas and texts that have shaped human civilization.

Associate of Science in Chemical Technology
Students in the Associate of Science in Chemical Technology program have available to them the same facilities and experiences as students in the four-year chemistry program. This degree is designed to be completed in only two years and will qualify students to work as skilled technicians alongside professional chemists and chemical engineers.

Associate of Science in General Studies
The Associate of Science in General Studies is designed for students seeking a high-quality two-year liberal arts degree or a stepping stone into a four-year program. This program also serves as an ideal dual major component for students needing to establish financial aid eligibility for the Michigan Tuition Incentive Program.

Students in general studies benefit from Lawrence Tech's outstanding faculty, small class sizes, the structured Core Curriculum, state-of-the-art technology, and impressive laboratory facilities. In addition, students receive personal guidance from academic advisors genuinely interested in their needs and educational goals.

The general studies program at Lawrence Tech offers:

- carefully designed courses that help the student develop proficiency in key subject areas, such as mathematics, science, and communication;
- core courses, common to all Lawrence Tech degree programs, in which students develop the ability to think both critically and creatively;
- diverse opportunities to complete selected courses in areas such as engineering, computer science, architecture and design, science, business, and others in preparation for pursuing a four-year degree;
- comprehensive tutoring and support services from the Academic Achievement Center;
- student access to Lawrence Tech's state-of-the-art computer and laboratory facilities.

Bachelor of Arts in English and Communication Arts
The Bachelor of Arts in English and Communication Arts embraces Lawrence Tech's philosophy of theory and practice by combining the study of literature with creative writing and experience in technical and professional communication. The English and Communication Arts program prepares students for professional careers in written, oral, and computer-based communication. The degree also provides excellent preparation for law school and graduate programs in the humanities. Students:

- learn from outstanding faculty, experts, and practitioners in their field;
- participate in small classes that enhance team-building and problem-solving skills;
- develop their creativity through projects using state-of-the-art technology; and
- gain experience as interns in business, industry, and publishing-related fields.

Certificate in Technical and Professional Communication

A Certificate in Technical and Professional Communication, consisting of 15 semester hours of study, is available to Lawrence Tech degree candidates or to students enrolling specifically for the certificate. Students interested in proceeding beyond the certificate level can complete additional course work to earn a minor in technical and professional communication. Requirements for the minor include the courses required for the certificate, plus one additional communication course at the 2000 level or higher.

Bachelor of Science in Chemical Biology
Molecules large and small play a crucial role in the functioning of larger organisms. Recent advances in the life sciences and in biotechnology have created industries with a deep need for scientists and technicians who are well versed in both biology and chemistry. This dual knowledge – chemical biology – constitutes an emerging discipline that lies at the very core of the biotechnology industry. Lawrence Tech's Bachelor of Science in Chemical Biology was the first such program in the Midwest. Graduates of this unique interdisciplinary program are positioned to pursue careers in the pharmaceutical and biotechnology industries as well as graduate work in chemistry, biochemistry, molecular biology, and chemical biology. This curriculum also satisfies the requirements for admission to medical, dental, or veterinary schools.

Bachelor of Science in Chemistry
Bachelor of Science in Environmental Chemistry
Lawrence Tech’s programs in chemistry and environmental chemistry place a strong emphasis on laboratory experience. There are several options within the chemistry program at Lawrence Tech.

Students who choose the degree option certified by the American Chemical Society are broadly prepared to find employment in chemistry laboratories, research, industry, medicine, biochemistry, government, and education. Students are also well positioned for subsequent graduate work in chemistry, biochemistry, or materials science.

Students who select the engineering chemistry option receive preparation in both chemistry and engineering and may pursue positions in traditional chemistry fields as well as many of those normally filled by chemical engineers. It is an attractive option for students who wish to pursue dual majors in chemistry and in engineering.

The bachelor’s program in environmental chemistry offers preparation for careers in pollution prevention; hazardous waste management; chemical health and safety; environmental analysis, inspection and compliance; and the synthesis of biodegradable and photodegradable materials. It also allows students to enter graduate programs in environmental engineering and hazardous waste management.

In all of these programs, students can:

- design a program to meet their career objectives;
- qualify to become skilled chemical laboratory professionals immediately following graduation;

- work with equipment and instrumentation offering preparation for real-world employment;
- acquire the computer and communication skills needed for success in chemistry and the life sciences;
- participate in small classes that foster interaction with teachers and fellow students; and
- be welcomed to an award-winning American Chemical Society student chapter.

Bachelor of Science in Computer Science
Computer science is associated with the development and analysis of computer software, algorithms, and technologies. Most information-age technologies are the end result of years of work by computer scientists. The Bachelor of Science in Computer Science at Lawrence Tech offers students a sound foundation in computer science complemented by a broad core of courses in the sciences and liberal arts. A background in mathematics enables students to contribute to scientific applications or continue with graduate work in computer science.

Software development is a major emphasis of the program, and depending on their personal goals, students may choose one of four concentrations: Scientific Software Development, Business Software Development, Network Software Development, or Game Software Development.

Computer science majors can concentrate on intelligent systems, autonomous robots, game development, computer security, Web application development, data mining, networks, and virtual environments – just to name a few subject areas. Career opportunities occur in a wide variety of settings, such as large or small software companies, computer service companies, and in various other fields, including industry, government, banking, and health care.

Certificate in Computer Science
A Certificate in Computer Science, consisting of 30 credit hours, is available. Students must earn a 2.0 GPA in all courses to earn the certificate.

Bachelor of Science in Humanities
The humanities attempt to make sense of our human experience. They explore, for example, what makes a society just, or why a free society is best. They tell us about our history, and about our imagination as expressed in painting, film, or literature. They explore how we can best communicate, and how to think about the social and philosophical implications of other disciplines such as science and technology.

The Bachelor of Science in Humanities emphasizes a solid liberal arts education while encouraging creativity:

1. It provides a solid foundation in the different areas of the humanities and allied social sciences. Humanities students take challenging courses in philosophy, literature, history, communication, psychology, and economics.

2. Most of our humanities courses follow the Great Books method, which requires that the students read classic texts and come to discuss them in small classes under the guidance of a highly qualified professor. In contrast with lectures, this method sharpens the students' reading, writing, and critical thinking skills.
3. Apart from the more traditional areas, the Department of Humanities, Social Sciences, and Communication also offers a great variety of courses in such fields as creative writing and media communication (including radio, television, and film), as well as the opportunity to work in internships and to do individual or small-group research under the supervision of a faculty member (e.g., the Quest Program).
4. In keeping with the theme of intellectual exploration, the Bachelor of Science in Humanities offers a large number of open electives. This feature makes it easy for humanities majors to become double majors. It also makes the major quite suitable for pre-law and pre-med students, as well as for those who plan to enroll in an MBA program or devote themselves to public service.
5. All in all, however, the main appeal of the Bachelor of Science in Humanities program is the opportunity students have to develop their creative intellect in an area of their own choosing. Under the tutelage of their thesis advisor, students design a series of no less than four related courses that give them the background to write a senior thesis or carry out a senior project. A student may, for example, take courses in oral storytelling, creative writing, and playwriting, and cap this training with a play as a senior project. Perhaps the project would include a production of the play by Lawrence Tech's Society of Dramatic Arts. Or the student may take classes in art, aesthetics, and neuropsychology, culminating in a senior thesis on the neuropsychology of art. The possibilities to mature as a creative thinker are endless.

The humanities curriculum will help develop students' ability to solve problems creatively, and to make imaginative and rational decisions – giving them an edge to succeed in the workplace as well as prosper in the competitive global economy of the 21st century.

Bachelor of Science in Mathematics

The influence of mathematical ideas is increasing in a large number of disciplines. Recent advances in physics, chemistry, and astronomy rely heavily on mathematical ideas, and the biological sciences often use mathematical models. Mathematics is used with increasing frequency in the social sciences, particularly in economics and psychology. The Lawrence Tech Bachelor of Science in Mathematics focuses on helping students master both mathematical theories and their practical applications, offering them a competitive edge in any career.

In addition to finding employment in the fields already mentioned, mathematics majors are sought after by almost every bureau and branch of the federal government. A degree in mathematics also provides excellent preparation for graduate study in such areas as accounting, economics, or computer science as well as mathematics.

Bachelor of Science in Mathematics and Computer Science

Mathematics and computer science are closely related fields. Problems in computer science are often formalized and solved with mathematical methods; in fact, the computer industry employs more mathematicians than any other single field. As society becomes increasingly dependent on computers and other means of information processing, the need for people trained in mathematics and computer science is expected to grow exponentially. Because computer technology is embedded in so many products, services, and systems, jobs requiring math and computer science can be found in virtually every industry.

The Bachelor of Science in Mathematics and Computer Science at Lawrence Tech is a broad and intensive program that enables students to pursue a wide variety of career paths and offers them the opportunity to develop a deeper understanding of the foundations of mathematics and the relation of mathematical tenets to problem solving in the arena of computer science. Compared with a degree in mathematics or computer science alone, it provides the most rigorous preparation for higher-level problem solving and for graduate school.

As undergraduates, students participate in research projects and have opportunities to engage in team-oriented activities, including state and national competitions, designed to prepare them to take part in, and lead, project teams on the job. Students will gain experience using advanced mathematical and computing tools to solve real-world problems and will receive the background necessary for graduate work in either computer science or applied mathematics.

Within the computer industry, individuals with mathematical and computer science expertise are employed by Internet service providers, Web search portals, and data processing, hosting, and related services firms. Others work for government, manufacturers of computer and electronic products, insurance companies, financial institutions, and universities and in the areas of artificial intelligence, biomedical information systems, computer design and engineering, computer networking, gaming systems, information technology, search engines, systems and software engineering, and computerized package distribution systems.

Bachelor of Science in Media Communication

Lawrence Tech's Bachelor of Science in Media Communication program aims to prepare students for careers in the news and entertainment fields. Courses cover topics including cinematography, screenwriting, broadcast television production, film and video editing, online publications, Web design, and social media. The curriculum gives students the opportunity to develop analytical and communications skills and a hands-on understanding of media technology. The cornerstone of this distinctive program is a strong emphasis on civic and social responsibility as well as ethics. Internships provide real-world experience in film/video production, broadcast and/or corporate environments and opportunities to expand the students' base of expertise.

The Bachelor of Science in Media Communication provides a concentration in Film, Television and Video Production. The concentration's hands-on approach encompasses

not only essential technical training but also one-on-one mentoring. The highly specialized curriculum continually evolves to reflect the ever-changing demands of the broadcast industry.

The Film, Television, and Video Production concentration aims to prepare students to:

- enter their field with a superior theoretical, technical, creative, and ethical foundation that distinguishes them from other media specialists;
- think critically with an impressive background in communication and writing that will serve them not only in their careers, but in their lives;
- become leading-edge producers, writers, reporters, editors, technicians, or related communication professionals who can work independently or in teams; and
- showcase their creative and technical ability in an electronic resume that represents the best of their original productions.

The Media Communication program at LTU also offers a concentration in Architectural Studies. This concentration provides an understanding of the history, theories and practices of architecture and the built environment. Students gain the skills necessary to be expert communicators and commentators on the issues of architecture, the built environment, ecology, sustainability, and urbanity. With this concentration, students can leverage their interest in architecture, cities, and the general built environment with marketable media skills.

Certificate in Television and Video Production
The Television and Video Production certificate is a unique 15-credit-hour sampling of camera technique, editing, writing, and communication, which takes advantage of the latest technology**.**

Bachelor of Science in Molecular and Cell Biology
The first undergraduate degree of its kind in southeastern Michigan, Lawrence Tech's Bachelor of Science in Molecular and Cell Biology is a comprehensive degree with an emphasis on the role of individual cells and molecules in influencing the biology of organisms, populations, and communities. Its focus is on the interaction of cells and molecules that gives the cells their functionality and ultimately the properties of life. An integrative program encompassing the breadth of biological disciplines, the BS in Molecular and Cell Biology curriculum prepares students for any of the multiple paths they may follow in the life sciences, including especially medical school and graduate research.

Bachelor of Science in Physics
Bachelor of Science in Physics and Computer Science
The physics degree programs at Lawrence Tech place a strong emphasis on laboratory experience and the use of computers to prepare students for scientific study, research and development, and medical, dental, and law school entrance. The programs also provide useful skills in preparation for immediate career opportunities. The Bachelor of Science in Physics has several electives that enable students to design their degrees to match their

career goals and interests, including lasers and holography, nuclear physics, biomedical engineering, geophysics, health physics and nuclear medicine, science education, patent law, and astronomy.

The Bachelor of Science in Physics is designed for those who wish to work in research and development in industry and in interdisciplinary research. This degree can readily be pursued as a dual major with one of the engineering disciplines. Three concentrations are offered: biophysics, applied physics, and chemical physics.

The Bachelor of Science in Physics and Computer Science prepares students to apply computers and sensor technology to the solving of practical problems.

In each of these physics programs, students can:

- gain computer skills that allow analysis of data gathered with interfaced sensors;
- design a program to meet career objectives;
- engage in a field leading to the exciting research that drives the technological revolution, from radio astronomy to lasers, medical imaging, and supercomputers;
- join the many Lawrence Tech physics students who have gone on to the nation's top graduate programs in physics or related fields;
- participate in small classes where they interact closely with teachers and students;
- find opportunities to participate as an undergraduate in special programs at national facilities, such as Oak Ridge, Argonne, Fermilab, and Los Alamos; and
- acquire the communication skills necessary for a successful career.

Bachelor of Science in Psychology
Few things are as fascinating as human behavior. At Lawrence Tech, an interest in psychology can be transformed into a rewarding and fulfilling career. The occupational outlook for psychologists is bright, with a variety of career tracks available at all degree levels.

Lawrence Tech's major in psychology prepares students for immediate entry into a variety of careers based on understanding human motivation and interaction. The degree also can provide a solid foundation for advanced and professional degrees. Psychology is among the fastest growing professional areas, and Lawrence Tech offers students three pathways into this exciting field: clinical psychology, industrial/organizational psychology, or pre-med/biobehavioral psychology.

Students working toward a bachelor's degree in psychology at Lawrence Tech begin with a core of foundational course work and finish with interdisciplinary course work and electives in their chosen concentration. Each concentration requires students to participate in basic and applied behavioral research, including cutting-edge laboratory experience, and offers hands-on experience in the workplace through internships.

The three concentrations offered in the Bachelor of Science in Psychology program are:

Clinical Psychology – This concentration offers students a broad-based understanding of individual and group behavior. After building a foundation in human development, social psychology, and abnormal psychology, students move to more specialized courses. They explore, for example, learning and memory, the relationship between drugs and behavior, and how people function in organizations. Students study the old masters, such as Freud and Pavlov, as well as the most recent breakthroughs in neuropsychology and cognitive behavioral therapy.

Graduates with this concentration most often work in health-related fields and frequently work in schools with children and adolescents. The clinical psychology concentration is also solid preparation for work toward advanced degrees. Those who wish to pursue a master's degree elsewhere may become eligible for the Limited License in Psychology. This helps graduates enter the fields of psychological testing and applied social psychology as well as in human services dealing with chemical dependency, public health, family counseling, labor relations, and social work. With a doctorate in clinical psychology, students can obtain full licensure to provide assessment and treatment working in academic settings, hospitals, community health centers, or private practice.

Industrial/Organizational Psychology – By choosing this option, students can work in industry and business immediately after graduation. Students explore leadership, decision-making, motivation, organizational behavior management, cultural diversity in the workplace, job performance, and recruiting, testing, and training in both psychology and business administration courses.

The industrial/organizational psychology program can be especially useful for students who wish to prepare for advanced degrees, such as the MBA, or to combine graduate study in psychology with other business training.

Pre-Med/Biobehavioral Psychology – The focus of this concentration is to prepare students for medical school or for a career in the exciting field of biotechnology. Lawrence Tech's psychology program seeks to provide not only a solid foundation in science, mathematics, computers, and the humanities, but also an integrated academic and technical background in psychopharmacology and the behavioral sciences that can enhance a student's eligibility for employment in the pharmaceutical, biotechnology, or health-related industries.

This option fulfills the requirements for Lawrence Tech's pre-medical program. Psychology is, in fact, one of the three most popular undergraduate majors, along with biology and chemistry, for students applying to medical school. A psychology degree can give students a distinct advantage, preparing them for the preprofessional entrance exams and allowing them to specialize later in neuroscience, psychiatry, and a variety of medical specialties.

Certificate in Industrial/Organizational Psychology
There is a strong demand in the field for those who are able to combine the study of psychology with technical expertise in another discipline. The focus of this certificate is

on the application of psychological principles to the problems facing people within the context of business and industry.

This 16-credit-hour certificate can be earned along with any of Lawrence Tech's undergraduate degrees or as a standalone program.

Undeclared
The College of Arts and Sciences welcomes students interested in exploring their educational options prior to declaring a major. While completing general education courses common to all degree programs, undeclared students may also select from introductory courses in architecture, business, communication, computers, engineering, mathematics, science, or any other discipline offered at the University as a way to learn more about these areas of study. A network of academic advisors and career services professionals are available to assist students in selecting the major best suited to their interests and abilities. As course work is completed and GPA standards are attained, students may apply for admission into their desired baccalaureate programs at the University.

UNDERGRADUATE MANAGEMENT PROGRAMS

The Bachelor of Science in Business Administration and the Bachelor of Science in Information Technology degree programs are jointly administered by the College of Arts and Sciences and the College of Management. The first two years (approximately 60 credit hours) are advised and administered through the College of Arts and Sciences. Students successfully completing 60 credit hours are then advised and administered for their final 60 (approximately) credit hours through the College of Management. Diplomas for students graduating with a Bachelor of Science in Administration or a Bachelor of Science in Information Technology will indicate the College of Management.

Bachelor of Science in Business Administration
Whether you have your sights set on becoming the next CEO of a global firm, flexing your creative muscles to execute award-winning marketing campaigns, or running your own business, the Bachelor of Science in Business Administration will prepare you to lead in a changing world. The Business Administration degree provides a strong foundation in business combined with a concentration of the student's choice and a broad liberal arts education emphasizing the communication and critical thinking skills employers demand. It is an excellent choice for transfer students who wish to gain maximum credit for courses already completed. Students can:

- get real business experience in and out of the classroom through consulting projects, Quest projects and participation in on-campus activities like the Collegiate Entrepreneurs Organization;
- earn concentrations or minors in Digital Marketing, Entrepreneurship, Industrial and Organizational Psychology, Technical and Professional Communication, and more, or create a customized concentration designed around a student's career goals;

- compete to earn scholarship funds while learning and helping a community organization through the Community Connect competition;
- earn early admission to the MBA program;
- learn from an outstanding faculty with extensive industry and academic experience;
- participate in small classes that encourage team-building and personal interaction with their instructors and peers;
- gain expert advising from a faculty member in their program, maximizing opportunities at Lawrence Tech and creating a path for success after graduation;
- earn a bachelor's degree in 60 hours if they already have an associate degree;
- complete the junior and senior year requirements in the classroom or online;
- take advantage of paid internships; and
- participate in a network of links to professional organizations and industrial partners.

Bachelor of Science in Information Technology

The Bachelor of Science in Information Technology combines fundamental business concepts with current technologies. Students learn to solve complex business problems by applying the technology learned through their course work. Students develop and/or enhance existing skills for careers in such as fields as network administration, systems analysis, business analysis, systems programming, application support, and Internet-related technologies. All students in the program prepare for the Institute for Certification of Computing Professionals (ICCP) examination, a three-part test covering management, software engineering, and systems development. Students who successfully complete the ICCP examination can earn the Certified Computing Professional designation and be ready to pursue advanced-level certifications. Students can complete their junior and senior year requirements in the classroom or online.

The Bachelor of Science in Information Technology is designed with four goals in mind:

1. To provide students with the theoretical concepts necessary for success in industry.
2. To give students hands-on experience using current technologies.
3. To provide students with an employable skill set.
4. To provide industry with highly trained and competent information technology professionals.

The Bachelor of Science in Information Technology is especially well suited to transfer students or for students with associate degrees, who are often able to complete their bachelor's degree with as few as 60 additional credit hours at Lawrence Tech. Freshman students are also welcomed into the program. Courses transferred from other institutions or taken at Lawrence Tech will be evaluated as electives or Lawrence Tech equivalents. Qualified students can apply for early admission to the MBA or MSIS program.

Certificate in Entrepreneurial Strategy

The Certificate in Entrepreneurial Strategy is a 12-credit-hour program constructed so that it can be a stand-alone academic certificate or attached to any of the undergraduate management degrees.

DEGREE REQUIREMENTS – COLLEGE OF ARTS AND SCIENCES
In addition to those given in the Degrees and Graduation section, a prescribed set of course requirements must be satisfied for each degree program. The specific courses that fulfill these requirements are shown in the curriculum outlines below.

ASSOCIATE OF ARTS IN RADIO AND TELEVISION BROADCASTING
TOTAL SEMESTER CREDIT HOURS: 60
Students receive 24 credit hours (awarded as transfer credits) upon completion of an eight-month curriculum at the Specs Howard School of Media Arts. The following 36 credit hours must be taken at Lawrence Tech.

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
COM 2103	Technical and Prof. Communication	3
COM 2443	Introduction to Rhetoric/Logic	3
MCO 2543	Writing for Electronic and Print Media	3
	Media Communication elective	3
LLT 1213	World Masterpieces 1	3
LLT 1223	World Masterpieces 2	3
SSC 2413	Foundations of Amer. Exp.	3
SSC 2423	Development of Amer. Exp.	3
MCS 1254	Geometry in Art	4
	Natural Science	3
	Natural Science lab	1

For more information or to speak with an advisor, contact the Department of Humanities, Social Sciences, and Communication at 248.204.3520, email humchair@ltu.edu, or visit Room S225 in the Science Building.

ASSOCIATE OF SCIENCE IN CHEMICAL TECHNOLOGY
TOTAL SEMESTER CREDIT HOURS: 62

First Semester

Course Number	*Subject*	*Cr. Hrs.*
CHM 1213	University Chemistry 1	3
CHM 1221	University Chemistry 1 Lab	1
COM 1001	University Seminar	1
COM 1103	English Composition	3
MCS 1214*	Intro. to Math Analysis 1*	4
MCS 1003**	Intro. to Computer Applications**	3
	TOTAL	15

Second Semester

Course Number	*Subject*	*Cr. Hrs.*
CHM 1223	University Chemistry 2	3
CHM 1232	University Chemistry 2 Lab	2
LLT 1213	World Masterpieces 1	3
MCS 1224*	Intro. to Math Analysis 2*	4
SSC 2413	Foundations of Amer. Exp.	3
	TOTAL	15

Third Semester

Course Number	*Subject*	*Cr. Hrs.*
CHM 2313	Organic Chemistry 1	3
CHM 2342	Analytical Chemistry	2
CHM 2352	Analytical Chemistry Lab	2
MCS 1142	Intro to C	2
MCS 2023*	Statistical Methods*	3
SSC 2423	Development of Amer. Exp.	3
LDR 2001	Leadership Models and Practices	1
	TOTAL	16

Fourth Semester

Course Number	*Subject*	*Cr. Hrs.*
CHM 2323	Organic Chemistry 2	3
CHM 2332	Organic Chemistry Lab	2
CHM 2631	Instrumental Lab	1
LLT 1223	World Masterpieces 2	3
PHY 1154	Intro. to Physical Principles	4
	Humanities Elective	3
	TOTAL	16

* Qualified students wishing to continue on to the Bachelor of Science in Chemistry, Environmental Chemistry, or Chemical Biology should follow the calculus-based mathematics sequence for those degrees.
** If MCS 1003 is excused by placement, replace with COM 2103, Technical and Professional Communication.

For more information, contact the Department of Natural Sciences at 248.204.3600, email nschair@ltu.edu, or visit Room S322 in the Science Building.

ASSOCIATE OF SCIENCE IN GENERAL STUDIES
TOTAL SEMESTER CREDIT HOURS: 60

First Semester

Course Number	*Subject*	*Cr. Hrs.*
COM 1002	University Seminar	2
COM 1103	English Composition	3
MCS 1003	Intro. to Computer Applications	3
MCS xxx3	Mathematics	3
	Elective	3
	TOTAL	14

Second Semester

Course Number	*Subject*	*Cr. Hrs.*
LLT 1213	World Masterpieces 1	3
SSC 2413	Foundations of Amer. Exp.	3
COM 2103	Technical and Prof. Comm.	3
MCS 1xx4	Mathematics	4
	Elective	3
	TOTAL	16

Third Semester

Course Number	*Subject*	*Cr. Hrs.*
LLT 1223	World Masterpieces 2	3
SSC 2423	Development of Amer. Exp.	3
	Natural Sciences 1	3
	Electives	6
	TOTAL	15

Fourth Semester

Course Number	*Subject*	*Cr. Hrs.*
LDR 2001	Leadership Models and Practices	1
	Hum., Soc. Science, Comm. Elective	3
	Natural Sciences 2	3
	Natural Sciences Lab	1
	Electives	7
	TOTAL	15

While enrolled in the general studies program, students preparing to enter Lawrence Tech's four-year degree programs will complete courses that fulfill the general education requirements common to all curricula. In most cases, students will also have the opportunity to complete foundational courses specific to their intended majors, provided that the applicable course prerequisites have been satisfied. Initial course selections will be determined on the basis of students' placement assessment results.

To be eligible to transfer into a four-year major, students must have achieved satisfactory performance in a minimum of 12 credit hours of course work, including specific courses applicable to their programs of choice. Students must see their academic advisors for additional information on course prerequisites, appropriate choices for elective courses,

transfer eligibility requirements, and further information specific to their degree programs. Students participating in the Michigan Tuition Incentive Program (TIP) must complete the General Studies degree to be eligible for Phase II benefits.

For more information or to speak with an advisor, contact the College of Arts and Sciences at 248.204.3500, email scidean@ltu.edu, or visit Room S101 in the Science Building.

BACHELOR OF ARTS IN ENGLISH AND COMMUNICATION ARTS
TOTAL SEMESTER CREDIT HOURS: 122

Freshman Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
LLT 2xx3	Foreign Language 1	3
PSY 1213	Introductory Psychology	3
MCS 1203	Logic	3
	TOTAL	13

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1213	World Masterpieces 1	3
SSC 2413	Foundations of Amer. Exp.	3
LLT 2xx3	Foreign Language 2	3
MCS 1xx4	Mathematics	4
	Natural Sciences 1	3
	Natural Sciences Lab	1
	TOTAL	17

Sophomore Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
CRW 2513	Creative Writing	3
COM 2103	Technical and Prof. Comm.	3
LLT 1223	World Masterpieces 2	3
SSC 2423	Development of Amer. Exp.	3
	Natural Sciences 2	3
COM 3000	Writing Proficiency Exam	0
LDR 2001	Leadership Models and Practices	1
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 2113	Speech	3
COM 2443	Intro. to Rhetoric and Logic	3
LLT 3443	Am Lit: Contact to the Civil War	3
LLT 3413	Brit Lit: Self and Society	3
LLT 2003	Sophomore Internship/Project	3
	TOTAL	15

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 3423	Brit Lit: Reason and Revolution	3
LLT 3453	Am Lit: Reconst. To Present	3
COM 3553	Interpersonal and Nonverb. Comm.	3
LLT 3613 **or**	Literature and Art **or**	
LLT 3623	Literature and Science	3
SSC 3733	Aesthetics	3
LDR 3000	Leadership Seminar Series	0
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 3433	Brit Lit: Victorian and Modern	3
LLT 3463	Am Lit: Race, Ethnicity, Identity	3
CRW 3113	Special Topics in Creative Writing	3
LLT 4533	Criticism, Theory, Cultural Studies	3
	Open Elective	3
	TOTAL	15

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 4213	Shakespeare in Production	3
LLT 4513	Seminar in Literature	3
COM 3543	Technical Editing	3
CRW 4113	Advanced Creative Writing	3
	Open Elective	3
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 4223	Senior Internship	3
LLT 4904	Senior Thesis	4
SSC 4513	Seminar in Social Science	3
	Open Electives	6
	TOTAL	16

CERTIFICATE IN TECHNICAL AND PROFESSIONAL COMMUNICATION

Course Number	*Subject*	*Cr. Hrs.*
COM 2103	Technical and Prof. Comm.	3
COM 2113	Speech	3
COM 3553 **or**	Interpersonal and Nonverbal Comm. **or**	
COM 3563	Collaborative Communication for Leaders	3
Two additional Comm. electives at the 2000 level or higher		6
	TOTAL	15

For more information or to speak with an advisor, contact the Humanities, Social Sciences, and Communication Department at 248.204.3520, email humchair@ltu.edu, or visit Room S225 in the Science Building.

BACHELOR OF SCIENCE IN CHEMICAL BIOLOGY
TOTAL SEMESTER CREDIT HOURS: 126

Freshman Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
BIO 1213	Biology 1	3
BIO 1221	Biology 1 Lab	1
COM 1001	University Seminar	1
COM 1103	English Composition	3
CHM 1213	University Chemistry 1	3
CHM 1221	University Chemistry 1 Lab	1
MCS 1414	Calculus 1	4
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
BIO 1223	Biology 2	3
BIO 1231	Biology 2 Lab	1
CHM 1223	University Chemistry 2	3
CHM 1232	University Chemistry 2 Lab	2
LLT 1213	World Masterpieces 1	3
MCS 1424	Calculus 2	4
	TOTAL	16

Sophomore Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
CHM 2313	Organic Chemistry 1	3
LLT 1223	World Masterpieces 2	3
MCS 2414	Calculus 3	4
PHY 2413	University Physics 1	3
PHY 2421	University Physics 1 Lab	1
SSC 2413	Foundations of Amer. Exp.	3

	TOTAL	17

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
BIO 2203	Anatomy and Physics	3
BIO 2201	Anatomy and Physics Lab	1
CHM 2323	Organic Chemistry 2	3
CHM 2332	Organic Chemistry Lab	2
PHY 2423	University Physics 2	3
PHY 2431	University Physics 2 Lab	1
SSC 2413	Development of Amer. Exp.	3
LDR 2001	Leadership Models and Practices	1
	TOTAL	17

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
CHM 2342	Analytical Chemistry	2
CHM 2352	Analytical Chemistry Lab	2
CHM 3452	Intermed. Inorganic Chemistry	2
CHM/BIO	Technical Elective	3
MTH xxx3	Adv. Math Elective	3
COM 2103	Technical and Prof. Comm.	3
COM 3000	Writing Proficiency Exam	0
LDR 3000	Leadership Seminar Series	0
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
CHM 3423	Physical Chemistry 1	3
CHM 3431	Phys Chemistry 1 Lab	1
CHM 2631*	Instrumental Lab*	1
CHM 4723*	Adv. Organic Chemistry*	3
PSC 3001	Intro. to Projects in Science	1
BIO 2323	Molecular Genetics	3
SSC/PSY xxx3	Elective	3
	TOTAL	15

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
CHM 3403	Biochemistry	3
CHM 3411	Biochem Lab	1
CHM/BIO xxx3	Technical Elective	3
CHM 4912	Senior Project 1	2
LLT xxx3	Jr./Sr. Elective	3
LDR 4000	Leadership Capstone	0
	Open Elective	3
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
BIO 3113	Cell Biology	3
BIO 3121	Cell Biology Lab	1
CHM 4403*	Adv. Biochemistry*	3
CHM 4922	Senior Project 2	2
SSC/PSY xxx3	Jr./Sr. Elective	3
	Open Elective	3
	TOTAL	15

* These courses are offered every two years. An individual plan of work will be developed in consultation with the student's advisor.

For more information, contact the Department of Natural Sciences at 248.204.3600, email nschair@ltu.edu, or visit Room S322 in the Science Building.

BACHELOR OF SCIENCE IN CHEMISTRY
TOTAL SEMESTER CREDIT HOURS: 125

Freshman Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
CHM 1213	University Chemistry 1	3
CHM 1221	University Chemistry 1 Lab	1
MCS 1414	Calculus 1	4
SSC 2413	Foundations of Amer. Exp.	3
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
CHM 1223	University Chemistry 2	3
CHM 1232	University Chemistry 2 Lab	2
LLT 1213	World Masterpieces 1	3
MCS 1424	Calculus 2	4
SSC 2423	Development of Amer. Exp.	3
	TOTAL	15

Sophomore Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
CHM 2313	Organic Chemistry 1	3
CHM 2342	Analytical Chemistry	2
CHM 2352	Analytical Lab	2
PHY 2413	University Physics 1	3
PHY 2421	University Physics 1 Lab	1
MCS 2414	Calculus 3	4
LDR 2001	Leadership Models and Practices	1
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
CHM 2323	Organic Chemistry 2	3
CHM 2332	Organic Chemistry Lab	2
LLT 1223	World Masterpieces 2	3
MCS 3403 **or**	Probability & Statistics **or**	
MCS 2423	Differential Equations	3
PHY 2423	University Physics 2	3
PHY 2431	University Physics 2 Lab	1
	TOTAL	15

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
CHM 3434	Physical Chemistry 2	4
CHM 3441	Physical Chemistry 2 Lab	1
CHM 3452	Intermed. Inorganic Chemistry	2
CHM 3403	Biochemistry	3
CHM 3411	Biochemistry Lab	1
CHM 3001	Computational Chemistry 1	1
COM 2103	Technical and Prof. Comm.	3
COM 3000	Writing Proficiency Exam	0
LDR 3000	Leadership Seminar Series	0
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
CHM 3423	Physical Chemistry 1	3
CHM 3431	Physical Chemistry 1 Lab	1
CHM 4632*	Instrumental Analysis Lab*	2
CHM 4643*	Adv. Inorganic Chemistry*	3
PSC 3001	Intro. to Projects in Science	1
SSC/PSY xxx3	Elective	3
	Open Elective	3
	TOTAL	16

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
CHM 3463*	Adv. Synthesis Lab*	3
CHM 4001	Computational Chemistry 2	1
CHM xxx3	Chemistry Elective	3
CHM 4912	Senior Project 1	2
LLT xxx3	Jr./Sr. Elective	3
LDR 4000	Leadership Capstone	0
	Open Electives	4
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
CHM 4522*	Adv. Spectroscopy*	2
CHM 4541*	Adv. Spectroscopy Lab*	1
CHM 4723*	Adv. Organic Chemistry*	3
CHM 4922	Senior Project 2	2
SSC/PSY xxx3	Jr./Sr. Elective	3
	Open Electives	6
	TOTAL	17

* These courses are offered every two years. An individual plan of work will be developed in consultation with the student's advisor.

Engineering Chemistry Concentration

TOTAL SEMESTER CREDIT HOURS: 128

Freshman Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
CHM 1213	University Chemistry 1	3
CHM 1221	University Chemistry 1 Lab	1
MCS 1414	Calculus 1	4
SSC 2413	Foundations of Amer. Exp.	3
	TOTAL	15

SECOND SEMESTER

CHM 1223	University Chemistry 2	3
CHM 1232	University Chemistry 2 Lab	2
LLT 1213	World Masterpieces 1	3
MCS 1424	Calculus 2	4
SSC 2423	Development of Amer. Exp.	3
	TOTAL	15

Sophomore Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
CHM 2313	Organic Chemistry 1	3
EXX xxx2	Engr Computer Applications 2	
LLT 1223	World Masterpieces 2	3
PHY 2413	University Physics 1	3
PHY 2421	University Physics 1 Lab	1
MCS 2414	Calculus 3	4
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
CHM 2323	Organic Chemistry 2	3
CHM 2332	Organic Chemistry Lab	2
EGE 1023	Engineering Materials I	3
MTH 2423	Differential Equations	3
PHY 2423	University Physics 2	3
PHY 2431	University Physics 2 Lab	1
LDR 2001	Leadership Models and Practices	1
	TOTAL	16

Junior/Senior Years (Engineering Chemistry Concentration)

Because of its highly flexible nature, there is no standard enrollment pattern for the Engineering Chemistry concentration in the junior and senior years. A detailed plan of work leading to the degree will be established in collaboration with the student's advisor by the fall term of the junior year. Unlike other chemistry degrees at Lawrence Tech, the specified curriculum for the engineering chemistry concentration does not automatically lead to certification of the degree by the American Chemical Society (ACS). With an appropriate selection of electives (especially laboratory electives), ACS certification can be awarded on a case-by-case basis. Students wishing to obtain ACS certification within the engineering chemistry concentration should consult with their advisors as early as possible to ensure that a suitable mix of electives is chosen.

The following courses are required to complete the BS in Chemistry with a concentration in Engineering Chemistry

Course Number	*Subject*	*Cr. Hrs.*
CHM 3423	Physical Chemistry 1	3
CHM 3431	Physical Chemistry Lab 1	1
CHM 3434	Physical Chemistry 2	4
CHM 3441	Physical Chemistry Lab 2	1
CHM 3452	Intermed. Inorganic Chemistry	2
CHM 4912	Senior Project 1[1]	2
CHM 4922	Senior Project 2[1]	2
CHM xxxx	Chemistry Electives[2]	9
COM 2103	Technical and Prof. Comm.	3

COM 3000	Writing Proficiency Exam	0
LDR 3000	Leadership Seminar Series	0
LDR 4000	Leadership Capstone	0
EEE 2123	Circuits	3
EME 2011	Eng. Materials Lab	1
EME 3013	Mechanics of Materials	3
EME 3043	Dynamics	3
EME 3024	Fluid Mechanics	4
EME 4013	Heat Transfer	3
EME 3033	Engr. Numerical Methods	3
	Engineering Electives	6
LLT 3xx3	Junior/Senior Elective	3
PSC 3001	Intro. to Projects in Science	1
SSC/PSY	Junior/Senior Elective	3
SSC/PSY	Elective	3
	Open Elective	3

1. Dual majors may substitute the corresponding engineering course, providing the project topic is approved in writing by both departments.
2. A list of currently approved courses can be obtained from the department website or in room S322 in the Science Building.

For more information contact the Department of Natural Sciences at 248.204.3600, or email nschair@ltu.edu, or visit Room 322 in the Science Building.

BACHELOR OF SCIENCE IN ENVIRONMENTAL CHEMISTRY
TOTAL SEMESTER CREDIT HOURS: 123

Freshman Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
CHM 1213	University Chemistry 1	3
CHM 1221	University Chemistry 1 Lab	1
MCS 1414	Calculus 1	4
SSC 2413	Foundations of Amer. Exp.	3
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
CHM 1223	University Chemistry 2	3
CHM 1232	University Chemistry 2 Lab	2
LLT 1213	World Masterpieces 1	3
MCS 1424	Calculus 2	4
SSC 2423	Development of Amer. Exp.	3
	TOTAL	15

Sophomore Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
CHM 2313	Organic Chemistry 1	3
CHM 2342	Analytical Chemistry	2
CHM 2352	Analytical Chemistry Lab	2
PHY 2413	University Physics 1	3
PHY 2421	University Physics 1 Lab	1
MCS 2414	Calculus 3	4
LDR 2001	Leadership Models and Practices	1
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
CHM 2323	Organic Chemistry 2	3
CHM 2332	Organic Chemistry Lab	2
BIO 1223	Biology 2	3
BIO 1231	Biology 2 Lab	1
PHY 2423	University Physics 2	3
PHY 2431	University Physics 2 Lab	1
LLT 1223	World Masterpieces 2	3
	TOTAL	16

Junior Year (Example)

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
CHM 3434	Physical Chemistry 2	4
CHM 3441	Physical Chemistry 2 Lab	1
CHM 3452	Intermed. Inorganic Chemistry	2
CHM 3403	Biochemistry	3
CHM 3411	Biochemistry Lab	1
CHM 3001	Computational Chemistry 1	1
COM 2103	Technical and Prof. Comm.	3
COM 3000	Writing Proficiency Exam	0
LDR 3000	Leadership Seminar Series	0
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
CHM 3423	Physical Chemistry 1	3
CHM 3431	Physical Chemistry 1 Lab	1
CHM 4632*	Instrumental Analysis Lab*	2
MCS xxx3	Jr./Sr. Math Elective	3
PSC 3001	Intro. to Projects in Science	1
GLG 1103	Geology	3
SSC/PSY xxx3	Elective	3
	TOTAL	16

Senior Year (Example)

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
CHM 3463*	Adv. Synthesis Lab*	3
CHM 4001	Computational Chemistry 2	1
CHM 3383*	Environmental Chemistry*	3
CHM 4912	Senior Project 1	2
LDR 4000	Leadership Capstone	0
LLT xxx3	Jr./Sr. Elective	3
	Open Elective	3
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
CHM 4522*	Adv. Spectroscopy*	2
CHM 4541*	Adv. Spectroscopy Lab*	1
CHM 3392*	Environmental Sampling Methods*	2
CHM 3592*	Environmental Chemistry 2*	2
CHM 4922	Senior Project 2	2
SSC/PSY xxx3	Jr./Sr. Elective	3
	Open Elective	3
	TOTAL	15

* These courses are offered every two years. An individual plan of work will be developed in consultation with the student's advisor.

For more information contact the Department of Natural Sciences at 248.204.3600, email nschair@ltu.edu, or visit Room 322 in the Science Building.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

Business Software Development Concentration

TOTAL SEMESTER CREDIT HOURS: 122

The Business Software Development concentration for the Bachelor of Science in Computer Science is designed for the student interested in non-scientific applications. It prepares the student for database, Web, and business application development.

Freshman Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
MCS 1524	Intro. to Discrete Math	4
MCS 1142	Intro. to C	2
MCS 1214	Intro. to Math Analysis 1	4
SSC 2413	Foundations of Amer. Exp.	3
	TOTAL	17

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1213	World Masterpieces 1	3
SSC 2423	Development of Amer. Exp.	3
MCS 1224	Intro. to Math Analysis 2	4
MCS 1514	Computer Science 1	4
	TOTAL	14

Sophomore Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1223	World Masterpieces 2	3
MCS 2514	Computer Science 2	4
MCS 2523	Discrete Math	3
SSC/PSY xxx3	Elective	3
	Natural Sciences 1	3
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 2103	Technical and Prof. Comm.	3
LDR 2001	Leadership Models and Practices	1
MCS 2534	Data Structures	4
MCS 3633	Functional Prog	3
	Natural Sciences 2	3
	Natural Sciences Lab	1
	TOTAL	15

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 2113	Statistics 1	3
MSC 3543	Data Base Systems	3
MCS 3663	Architecture and Assembly	3
MCS xxx3	Computer Science Electives (2)	6
COM 3000	Writing Proficiency Exam	0
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 2123	Statistics 2	3
MCS 4663	Operating Systems	3
MCS xxx3	Computer Science Elective	3
LDR 3000	Leadership Seminar Series	0
	Open Electives	6
	TOTAL	15

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 4613	Computer Networks	3

MCS 4833	Senior Project	3
SSC/PSY xxx3	Junior/Senior Elective	3
	Open Electives	6
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT xxx3	Junior/Senior Elective	3
MCS 4643	Comparative Prog. Languages	3
MCS 4653	Theory of Computation	3
LDR 4000	Leadership Capstone	0
	Open Electives	6
	TOTAL	15

Game Software Development Concentration

TOTAL SEMESTER CREDIT HOURS: 129

The Game Software Development concentration for the Bachelor of Science in Computer Science is an exciting option for students interested in preparing for a career in the rapidly expanding game development industry.

Freshman Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
PSY 1213	Introductory Psychology	3
MCS 1142	Intro. to C	2
MCS 1414	Calculus 1	4
MCS 1643	Intro. to Games and Animation	3
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
SSC 2413	Foundations of Amer. Exp.	3
LLT 1213	World Masterpieces 1	3
MCS 1424	Calculus 2	4
MCS 1514	Computer Science 1	4
MCS 16x3	Game Genre Studio	3
	TOTAL	17

Sophomore Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
GAM 2213	History of Game Design	3
MCS 3563	Game Design	3
LDR 2001	Leadership Models and Practices	1
MCS 2414	Calculus 3	4
MCS 2514	Computer Science 2	4
MCS 2523	Discrete Math	3

	TOTAL	18

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
SSC 2423	Development of Amer. Exp.	3
LLT 1223	World Masterpieces 2	3
MCS 2534	Data Structures	4
MCS 2xx3	Sophomore Game Studio	3
PHY 2413	University Physics 1	3
PHY 2421	University Physics 1 Lab	1
	TOTAL	17

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 2103	Technical and Prof. Comm.	3
MCS 3863	Linear Algebra	3
MCS 3663	Architecture and Assembly	3
LLT 4523	Creative Writing	3
PHY 2423	University Physics 2	3
PHY 2431	University Physics 2 Lab	1
COM 3000	Writing Proficiency Exam	0
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 3543	Data Base Systems	3
MCS 3573	Game Development	3
MCS 3633	Functional Programming	3
MCS 3503	Graphics Programming	3
MCS 4633	Artificial Intelligence	3
MCS 4663	Operating Systems	3
LDR 3000	Leadership Seminar Series	0
	TOTAL	18

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 4613	Computer Networks	3
MCS 4833	Senior Project	3
MCS 4653	Theory of Computation	3
MCS 3683	Principles of Animation	3
LDR 4000	Leadership Capstone	0
	TOTAL	12

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT xxx3	Junior/Senior Elective	3
SSC/PSY xxx3	Junior/Senior Elective	3
MCS 4643	Comparative Prog. Languages	3
MCS4623	Software Engineering	3
MCS 4843	Senior Project 2	3
	TOTAL	15

Network Software Development Concentration

TOTAL SEMESTER CREDIT HOURS: 122

The Network Software Development concentration for the Bachelor of Science in Computer Science is designed for the student interested in the technical aspects of networking. It prepares the student for analysis and tuning of networks and distributed computing environments.

Freshman Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
MCS 1142	Intro. to C	2
MCS 1214	Intro. to Math Analysis 1	4
MCS 1524	Intro. to Discrete Math	4
	TOTAL	14

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1213	World Masterpieces 1	3
SSC 2413	Foundations of Amer. Exp.	3
MCS 1224	Intro. to Math Analysis 2	4
MCS 1514	Computer Science 1	4
MCS 1623	Visual Basic	3
	TOTAL	17

Sophomore Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1223	World Masterpieces 2	3
MCS 2514	Computer Science 2	4
MCS 2523	Discrete Math	3
SSC 2423	Development of Amer. Exp.	3
	Natural Sciences 1	3
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 2103	Technical and Prof. Comm.	3
LDR 2001	Leadership Models and Practices	1
MCS 2534	Data Structures	4
MCS 3673	Network Administration	3
	Natural Sciences 2	3
	Natural Sciences Lab	1
	TOTAL	15

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 2113	Statistics 1	3
MSC 3543	Data Base Systems	3
MCS 3663	Architecture and Assembly	3
MCS xxx3	Computer Science Elective	3
SSC/PSY xxx3	Elective	3
COM 3000	Writing Proficiency Exam	0
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 2123	Statistics 2	3
INT 3103	Info. Technology Mgmt.	3
MCS 4663	Operating Systems	3
LDR 3000	Leadership Seminar Series	0
	Open Electives	6
	TOTAL	15

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 4613	Computer Networks	3
MCS 4833	Senior Project	3
SSC/PSY xxx3	Junior/Senior Elective	3
LDR 4000	Leadership Capstone	0
	Open Electives	6
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT xxx3	Junior/Senior Elective	3
INT 4203	Systems Analysis	3
MCS xxx3	Computer Science Elective	3
	Open Electives	6
	TOTAL	15

Scientific Software Development Concentration

TOTAL SEMESTER CREDIT HOURS: 123

The Scientific Software Development concentration for the Bachelor of Science in Computer Science is the best selection for the greatest flexibility. It prepares the student for graduate work in computer science as well as professional software development in any application.

Freshman Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
MCS 1142	Intro. to C	2
MCS 1414	Calculus 1	4
SSC 2413	Foundations of Amer. Exp.	3
	TOTAL	13

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1213	World Masterpieces 1	3
MCS 1424	Calculus 2	4
MCS 1514	Computer Science 1	4
SSC 2423	Development of Amer. Exp.	3
SSC/PSY xxx3	Elective	3
	TOTAL	17

Sophomore Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1223	World Masterpieces 2	3
LDR 2001	Leadership Models and Practices	1
MCS 2414	Calculus 3	4
MCS 2514	Computer Science 2	4
MCS 2523	Discrete Math	3
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 2103	Technical and Prof. Comm.	3
MCS 2534	Data Structures	4
MCS 3633	Functional Programming	3
MCS xxx3	Computer Science Elective	3
LDR 3000	Leadership Seminar Series	0
	Open Elective	3
	TOTAL	16

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 3543	Data Base Systems	3
MCS 3663	Architecture and Assembly	3

MCS 2423 **or**	Differential Equations **or**	
MCS 3403	Probability and Statistics	3
MCS 3863	Linear Algebra	3
PHY 2413	University Physics 1	3
PHY 2421	University Physics 1 Lab	1
MCS xxx3	Computer Science Elective	3
COM 3000	Writing Proficiency Exam	0
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 4663	Operating Systems	3
MCS xxx3	Computer Science Elective	3
PHY 2423	University Physics 2	3
PHY 2431	University Physics 2 Lab	1
	Open Electives	6
	TOTAL	16

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 4613	Computer Networks	3
MCS 4833	Senior Project	3
SSC/PSY xxx3	Junior/Senior Elective	3
LDR 4000	Leadership Capstone	0
	Open Electives	6
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLTxxx3	Junior/Senior Elective	3
MCS4643	Comparative Prog. Languages	3
MCS4653	Theory/Computation	3
	Open Electives	6
	TOTAL	15

For more information or to speak with an advisor, contact the Department of Mathematics and Computer Science at 248.204.3560, email mcschair@ltu.edu, or visit Room S120 in the Science Building.

DUAL MAJOR IN COMPUTER SCIENCE

Students can earn a dual major in computer science and another discipline by completing the degree requirements of both programs.

CERTIFICATE IN COMPUTER SCIENCE

The Certificate in Computer Science requires a grade point average of 2.0 or better in the following courses:

Course Number	*Subject*	*Cr. Hrs.*
MCS 1514	Computer Science 1	4
MCS 2514	Computer Science 2	4
MCS 2534	Data Structures	4
MCS 2523	Discrete Math	3
MCS 3543	Intro. to Database Systems	3
MCS 3663	Architecture and Assembly	3
MCS 4623	Intro. to Software Engineering	3
MCS 4653	Theory of Computation	3
MCS 4663	Operating Systems	3
	TOTAL	30

All but MCS 1514 and MCS 2514 must be taken at Lawrence Tech.

For more information or to speak with an advisor, contact the Mathematics and Computer Science Department at 248.204.3560, email mcschair@ltu.edu, or visit Room S120 in the Science Building.

BACHELOR OF SCIENCE IN HUMANITIES
TOTAL SEMESTER CREDIT HOURS: 121

Freshman Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
MCS 1003	Intro. to Computer Applications	3
MCS 1203	Logic	3
PSY 1213	Intro Psychology	3
	Natural Sciences 1	3
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1213	World Masterpieces 1	3
SSC 2413	Foundations of Amer. Exp.	3
MCS 1254	Geometry in Art	4
	Natural Sciences 2	3
	Natural Sciences Lab	1
	TOTAL	14

Sophomore Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 2103	Technical and Prof. Comm.	3
LLT 1223	World Masterpieces 2	3
SSC 2423	Development of Amer. Exp.	3
LDR 2001	Leadership Models and Practices	1
	Humanities Elective	3
	Open Elective	3
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 2113	Speech	3
SSC 2303	Principles of Economics	3
COM 3000	Writing Proficiency Exam	0
	Humanities Electives	6
	Open Elective	3
	TOTAL	15

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LDR 3000	Leadership Seminar Series	0
LLT/CRW xxx3	Literature or Creative Writing Elec.	3
	Thesis Concentration Elective	3
SSC xxx3	Social Science Elective	3
	Open Electives	6
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT/CRW xxx3	Literature or Creative Writing Elec.	3
	Thesis Concentration Elective	3
SSCxxx3	Social Science Elective	3
	Open Electives	6
	TOTAL	15

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LDR 4000	Leadership Capstone	0
COM/MCO xxx3	Comm. or Media Comm. Elective	3
	Thesis Concentration Electives	6
	Open Electives	6
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM/MCO xxx3	Comm. or Media Comm. Elective	3
	Senior Thesis or Project	3
	Open Electives	9
	TOTAL	15

Note: Social Sciences, Communication, and open electives must be taken at the 3000 or 4000 level.

For more information, contact the Department of Humanities, Social Sciences, and Communication at 248.204.3520, email humchair@ltu.edu, or visit Room S225 in the Science Building.

BACHELOR OF SCIENCE IN MATHEMATICS
TOTAL SEMESTER CREDIT HOURS: 123

Freshman Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
CHM 1213	University Chemistry 1	3
CHM 1221	University Chemistry 1 Lab	1
MCS 1514	Computer Science 1	4
MCS 1414	Calculus 1	4
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
CHM 1223	University Chemistry 2	3
SSC/PSY xxx3	SSC or PSY Elective	3
MCS 1424	Calculus 2	4
LLT 1213	World Masterpieces 1	3
SSC 2413	Foundations of Amer. Exp.	3
MCS 1xx1	Seminar	1
	TOTAL	17

Sophomore Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
SSC 2423	Development of Amer. Exp.	3
LDR 2001	Leadership Models and Practices	1
MCS 2414	Calculus 3	4
MCS 2523	Discrete Math	3
PHY 2413	University Physics 1	3
PHY 2421	University Physics 1 Lab	1
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 2103	Technical and Prof. Comm.	3
LLT 1223	World Masterpieces 2	3
MCS 2423	Differential Equations	3
PHY 2423	University Physics 2	3
PHY 2431	University Physics 2 Lab	1
MCS 2xx1	Seminar	1
	TOTAL	14

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 3723	Advanced Calculus	3
MCS 3543	Data Base Systems	3
MCS 3863	Linear Algebra	3
MCS 3403	Probability and Statistics	3
MCS 3xx1	Seminar	1
COM 3000	Writing Proficiency Exam	0
LDR 3000	Leadership Seminar Series	0
	Open Elective	3
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
SSC/PSY xxx3	Junior/Senior Elective	3
MCS 3523	Math Modeling	3
MCS 3743	Complex Analysis	3
	Open Electives	6
	TOTAL	15

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 3733	Partial Differential Equations	3
MCS 4813	Numerical Analysis 1	3
MCS xxx3	Junior/Senior Math Elective	3
LDR 4000	Leadership Capstone	0
	Open Electives	6
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT xxx3	Junior/Senior Elective	3
MCS 4863	Modern Algebra	3
MCS 4833	Senior Project	3
	Open Electives	6
	TOTAL	15

DUAL MAJOR IN MATHEMATICS
Students can earn a dual major in mathematics and another discipline by completing the degree requirements of both programs.

For more information or to speak with an advisor, contact the Department of Mathematics and Computer Science at 248.204.3560, email mcschair@ltu.edu, or visit Room S120 in the Science Building.

BACHELOR OF SCIENCE IN MATHEMATICS AND COMPUTER SCIENCE
TOTAL SEMESTER CREDIT HOURS: 122

Freshman Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
CHM 1213	University Chemistry 1	3
CHM 1221	University Chemistry 1 Lab	1
MCS 1514	Computer Science 1	4
MCS 1414	Calculus 1	4
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1213	World Masterpieces 1	3
SSC 2413	Foundations of Amer. Exp.	3
MCS 1424	Calculus 2	4
MCS 2514	Computer Science 2	4
MCS 1xx1	Seminar	1
	TOTAL	15

Sophomore Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1223	World Masterpieces 2	3
SSC 2423	Development of Amer. Exp.	3
MCS 2414	Calculus 3	4
MCS 2523	Discrete Math	3
PHY 2413	University Physics 1	3
PHY 2421	University Physics 1 Lab	1
	TOTAL	17

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LDR 2001	Leadership Models and Practices	1
MCS 2xx1	Seminar	1
MCS 2423	Differential Equations	3
MCS 2534	Data Structures	4

COM 2103	Technical and Prof. Comm.	3
PHY 2423	University Physics 2	3
PHY 2431	University Physics 2 Lab	1
	TOTAL	16

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 3663	Comp Arch and Assembly Prog.	3
MCS 3723	Advanced Calculus	3
MCS 3543	Data Base Systems	3
MCS 3863	Linear Algebra	3
MCS 3403	Probability and Statistics	3
MCS 3xx1	Seminar	1
COM 3000	Writing Proficiency Exam	0
LDR 3000	Leadership Seminar Series	0
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 3523	Math Modeling	3
MCS 3743	Complex Analysis	3
MCS 4663	Operating Systems	3
LLT xxx3	Junior/Senior Elective	3
SSC/PSY xxx3	Elective	3
	TOTAL	15

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 4833	Senior Project	3
MCS 3733	Partial Differential Equations	3
MCS 4813	Numerical Analysis 1	3
MCS 4613	Computer Networks	3
LDR 4000	Leadership Capstone	0
	Open Elective	3
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 4653	Theory of Computation	3
MCS 4863	Modern Algebra	3
SSC/PSY xxx3	Junior/Senior Elective	3
	Open Elective	3
	TOTAL	12

For more information or to speak with an advisor, contact the Department of Mathematics and Computer Science at 248.204.3560, email mcschair@ltu.edu, or visit Room S120 in the Science Building.

BACHELOR OF SCIENCE IN MEDIA COMMUNICATION
With a concentration in Film, Television and Video Production
TOTAL SEMESTER CREDIT HOURS: 121

Freshman Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
MCO 2003	Intro to Video Production	3
PSY 1213	Introductory Psychology	3
MCS 1003	Intro. to Computer Applications	3
MCS 1203	Logic	3
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 1254	Geometry in Art	4
MCO 1003	Media, Comm., and Society	3
COM 2103	Technical and Professional Comm.	3
LLT 1213	World Masterpieces 1	3
MCO 3513	Audio for TV & Video Production	3
	TOTAL	16

Sophomore Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCO 2563	Intro to Broadcast Studio	3
MCO 2543	Writing for Electronic/Print Media	3
MCO 3303	Video Editing	3
LLT 1223	World Masterpieces 2	3
LDR 2001	Leadership Models and Practices	1
	Natural Sciences 1	3
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCO 3203	Camera for Broadcast	3
SSC 2413	Foundations of Amer. Exp.	3
COM 2113	Speech	3
	Natural Sciences 2	3
	Natural Sciences Lab	1
	Open Elective	3
	TOTAL	16

Junior Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCO 3633	Social Media	3
SSC 2423	Development of Amer. Exp.	3

COM/MCO xxx3	Jr./Sr. COM or MCO Elective	3
COM 2443	Intro to Rhetoric	3
LDR3000	Leadership Seminar Series	0
COM 3000	Writing Proficiency Exam	0
	General Elective	3
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCO 3613	Broadcast Studio Techniques	3
MCO 3913	Media Comm. Internship	3
MCO 3713	Adv. Writing for Media	3
SSC 3723 **or**	Ethics **or**	
COM xxx3	Communication Law	3
LLT xxx3	Jr./Sr. Lang./Lit. Elective	3
	TOTAL	15

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MKT 3013	Principles of Marketing	3
LDR 4000	Leadership Capstone	0
SSC/PSY xxx3	Jr./Sr. SSC or PSY Elective	3
MCO xxx3(2)	Jr./Sr. Media Comm. Electives (2)	6
	General Elective	3
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCO 4933	Senior Prod. Practicum	3
MCO xxx3	Jr./Sr. Media Comm. Elective	3
	General Electives	6
	TOTAL	12

CERTIFICATE IN TELEVISION AND VIDEO PRODUCTION

Course Number	*Subject*	*Cr. Hrs.*
MCO 2003	Intro. to Video Production	3
MCO 2543	Writing for Electronic/Print Media	3
MCO 3203	Camera for Broadcast	3
MCO 3303	Video Editing	3
MCO xxx3	Media Communication Elective	3
	TOTAL	15

For more information or to speak with an advisor, contact the Department of Humanities, Social Sciences, and Communication at 248.204.3520, email humchair@ltu.edu, or visit Room S225 in the Science Building.

BACHELOR OF SCIENCE IN MOLECULAR AND CELL BIOLOGY
TOTAL SEMESTER CREDIT HOURS: 123

Freshman Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
BIO 1213	Biology 1	3
BIO 1221	Biology 1 Lab	1
COM 1001	University Seminar	1
COM 1103	English Composition	3
CHM 1213	University Chemistry 1	3
CHM 1221	University Chemistry 1 Lab	1
MCS 1414	Calculus 1	4
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
BIO 1223	Biology 2	3
BIO 1231	Biology 2 Lab	1
CHM 1223	University Chemistry 2	3
CHM 1232	University Chemistry 2 Lab	2
LLT 1213	World Masterpieces 1	3
MCS 1424	Calculus 2	4
	TOTAL	16

Sophomore Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
CHM 2313	Organic Chemistry 1	3
LLT 1223	World Masterpieces 2	3
MCS 2113	Statistics 1	3
PHY 2213	College Physics 1	3
PHY 2221	College Physics 1 Lab	1
SSC 2413	Foundations of Amer. Exp.	3
LDR 2001	Leadership Models and Practices	1
	TOTAL	17

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
BIO 2203	Anatomy and Physiology	3
BIO 2201	Anatomy and Physiology Lab	1
CHM 2323	Organic Chemistry 2	3
CHM 2332	Organic Chemistry Lab	2
PHY 2223	College Physics 2	3
PHY 2231	College Physics 2 Lab	1
SSC 2413	Development of Amer. Exp.	3
	TOTAL	16

Junior Year (Example)

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
BIO 3813*	Neurobiology*	3
CHM 3403	Biochemistry	3
CHM 3411	Biochemistry Lab	1
COM 2103	Technical and Prof. Comm.	3
LDR 3000	Leadership Seminar Series	0
	Open Electives	6
COM 3000	Writing Proficiency Exam	0
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
BIO 2323*	Molecular Genetics*	3
SSC/PSY xxx3	SSC or PSY Elective	3
BIO xxx3	Special Topics	3
PSC 3001	Intro to Projects in Science	1
	Open Elective	3
	TOTAL	13

Senior Year (Example)

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
BIO 4103*	Evolution*	3
BIO xxx3	Biology Technical Elective	3
BIO 4912	Senior Project 1	2
LLT xxx3	Jr./Sr. LLT Elective	3
LDR 4000	Leadership Capstone	0
	Open Elective	3
	TOTAL	14

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
BIO 4813	Cell Biology	3
BIO4811	Cell Biology Lab	1
BIO 4922	Senior Project 2	2
CHM/BIO xxx3	CHM or BIO Technical Elective	3
SSC/PSY xxx3	Jr./Sr. SSC or PHY Elective	3
	Open Elective	3
	TOTAL	15

*These courses are offered every two years. An individual plan of work will be developed in consultation with the student's advisor.

For more information or to speak with an advisor, contact the Department of Natural Sciences at 248.204.3600, email nschair@ltu.edu, or visit Room S322 in the Science Building.

BACHELOR OF SCIENCE IN PHYSICS
TOTAL SEMESTER CREDIT HOURS: 125

Freshman Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
CHM 1213	University Chemistry 1	3
CHM 1221	University Chemistry 1 Lab	1
MCS 1414	Calculus 1	4
SSC 2413	Foundations of Amer. Exp.	3
PSC 1161	Physical Science Seminar	1
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
CHM 1223	University Chemistry 2	3
CHM 1232	University Chemistry 2 Lab	2
PHY1213	Astronomy	3
PHY 1221	Astronomy Lab	1
MCS 1424	Calculus 2	4
SSC 2423	Development of Amer. Exp.	3
	TOTAL	16

Sophomore Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
PHY 2413	University Physics 1	3
PHY 2421	University Physics 1 Lab	1
MCS 2414	Calculus 3	4
COM 2103	Tech and Prof Comm.	3
MCS 1142	Introduction to C	2
LLT 1213	World Masterpieces 1	3
LDR 2001	Leadership Models and Practices	1
	TOTAL	17

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
PHY 2423	University Physics 2	3
PHY 2421	University Physics 2 Lab	1
MCS 2423	Differential Equations	3
MCS 3863	Linear Algebra	3
LLT 1223	World Masterpieces 2	3
SSC/PSY xxx3	SSC or PSY Elective	3
	TOTAL	16

Junior Year (Example)
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*

PHY 3414*	Analytical Mechanics*	4
PHY 3653	Contemporary Physics	3
PHY 3661	Contemporary Physics Lab	1
MCS 3403	Probability and Statistics	3
MCS 3413 **or**	Advanced Engineering Math **or**	
MCS 3723	Advanced Calculus	3
COM 3000	Writing Proficiency Exam	0
LDR 3000	Leadership Seminar Series	0
	TOTAL	14

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
PHY 3574 (EEE 3414)	Electricity and Magnetism	4
PHY 4724*	Quantum Mechanics*	4
PHY 3613 (EEE 2123)	Circuits and Electronics	3
PHY 3611 (EEE 2111)	Circuits Lab	1
PSC 3001	Intro to Projects in Science	1
LLT xxx3	Jr./Sr. LLT Elective	3
	TOTAL	16

Senior Year (Example)

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
PHY 4763*	Thermal Physics*	3
PHY 4912	Physics Senior Project 1	2
SSC/PSY xxx3	Jr./Sr. SSC or PSY Elective	3
LDR 4000	Leadership Capstone	0
	Open Electives	7
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
PHY 4843*	Condensed Matter Physics*	3
PHY 4743*	Optics, Lasers, and Microscopy*	3
PHY 4781*	Optics, Lasers, and Microscopy Lab*	1
PHY 4922	Physics Senior Project 2	2
	Open Electives	6
	TOTAL	15

*These courses are offered every two years. An individual plan of work will be developed in consultation with the student's advisor.

For more information or to speak with an advisor, contact the Department of Natural Sciences at 248.204.3600, email nschair@ltu.edu, or visit Room S322 in the Science Building.

BACHELOR OF SCIENCE IN PHYSICS AND COMPUTER SCIENCE
TOTAL SEMESTER CREDIT HOURS: 127

Freshman Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
CHM 1213	University Chemistry 1	3
CHM 1221	University Chemistry 1 Lab	1
MCS 1414	Calculus 1	4
MCS 1514	Computer Science 1	4
PSC 1161	Physical Science Seminar	1
	TOTAL	17

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
CHM 1223	University Chemistry 2	3
CHM 1232	University Chemistry 2 Lab	2
PHY 1213	Astronomy	3
PHY 1221	Astronomy Lab	1
MCS 1424	Calculus 2	4
MCS 2514	Computer Science 2	4
	TOTAL	17

Sophomore Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
PHY 2413	University Physics 1	3
PHY 2421	University Physics 1 Lab	1
MCS 2414	Calculus 3	4
MCS 2523	Discrete Math	3
SSC 2413	Foundations of Amer. Exp.	3
LDR 2001	Leadership Models and Practices	1
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
PHY 2423	University Physics 2	3
PHY 2421	University Physics 2 Lab	1
MCS 2423	Differential Equations	3
MCS 2534	Data Structures	4
LLT 1213	World Masterpieces 1	3
SSC 2423	Development of Amer. Exp.	3
	TOTAL	17

Junior Year (Example)
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
PHY 3653	Contemporary Physics	3

PHY 3661	Contemporary Physics Lab	1
MCS 3723	Advanced Calculus	3
MCS 3863	Linear Algebra	3
LLT 1223	World Masterpieces 2	3
COM 2103	Tech and Prof Comm.	3
LDR 3000	Leadership Seminar Series	0
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
PHY 3574 (EEE 3414)	Electricity and Magnetism	4
PHY 4724*	Quantum Mechanics*	4
PSC 3001	Intro to Projects in Science	1
MCS 3403	Probability and Statistics	3
SSC/PSY xxx3	SSC or PSY Elective	3
COM 3000	Writing Proficiency Exam	0
	TOTAL	15

Senior Year (Example)

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
PHY 3414*	Analytical Mechanics*	4
PHY 4912	Physics Senior Project 1	2
MCS 4813	Numerical Analysis 1	3
MCS xxx3	Jr./Sr. MCS Elective	3
SSC/PSY xxx3	Jr./Sr. SSC or PSY Elective	3
LDR 4000	Leadership Capstone	0
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
PHY 4843*	Condensed Matter Physics*	3
PHY 4743*	Optics, Lasers, and Microscopy*	3
PHY 4781*	Optics, Lasers, and Microscopy Lab*	1
PHY 4922	Physics Senior Project 2	2
MCS 3523	Math Modeling	3
LLT xxx3	Jr./Sr. LLT Elective	3
	TOTAL	15

*These courses are offered every two years. An individual plan of work will be developed in consultation with the student's advisor

For more information or to speak with an advisor, contact the Natural Sciences Department at 248.204.3600, email nschair@ltu.edu, or visit Room S322 in the Science Building.

BACHELOR OF SCIENCE IN PSYCHOLOGY

Clinical Psychology Concentration
TOTAL SEMESTER CREDIT HOURS: 122

Freshman Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
MCS 1003	Intro. to Computer Applications	3
MCS 1203*	Logic*	3
BIO 1213	Biology 1	3
BIO 1221	Biology 1 Lab	1
PSY 1001	The World of the Mind	1
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
BIO 1223	Biology 2	3
BIO 1231	Biology 2 Lab	1
MCS 2xx3	Biostatistics	3
MCS 2xx1*	Calculus Lab*	1
COM 2103	Technical and Prof. Comm.	3
PSY 1213	Introductory Psychology	3
	TOTAL	14

*MCS 1224 Intro Math Analysis 2 may be taken in place of MCS 1203 Logic and MCS 2xx1 Calculus Lab.

Sophomore Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
SSC 2413	Foundations of Amer. Exp.	3
COM 2113	Speech	3
LLT 1213	World Masterpieces 1	3
PSY 3613	Developmental Psychology	3
PSY xxx3	Psychology Elective	3
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1223	World Masterpieces 2	3
SSC 2423	Development of Amer. Exp.	3
PSY 3623	Social Psychology	3
LDR 2001	Leadership Models and Practices	1
	Open Electives	6
	TOTAL	16

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
PSY 3113	Research Methods	3
PSY 3413	Sensation and Perception	3
PSY 3421	Sensation and Perception Lab	1
PSY 3633	Abnormal Psychology	3
COM 3000	Writing Proficiency Exam	0
LDR 3000	Leadership Seminar Series	0
	Open Electives	6
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
PSY 3213	Cognitive Psychology	3
PSY 3221	Cognitive Psychology Lab	1
PSY 4633	Clinical Psychology	3
PSY 3313 **or**	Industrial Psychology **or**	
PSY 3323	Organizational Psychology	3
PSY xxxx2	Psychology Elective	2
	Open Elective	3
	TOTAL	15

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
PSY 4313	Drugs and Behavior	3
PSY 4213	Behavioral Neuroscience	3
PSY 4221	Behavioral Neuroscience Lab	1
SSC 3313 **or**	History and Philosophy of Science **or**	
SSC 3713	Philosophy of the Mind	3
LDR 4000	Leadership Capstone	0
	Open Electives	6
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT/SSC xxx3	Jr./Sr. SSC or LLT Elective	3
PSY xxx3	Psychology Electives (3)	9
	Open Elective	3
	TOTAL	15

Industrial/Organizational Psychology Concentration

TOTAL SEMESTER CREDIT HOURS: 122

Freshman Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1

COM 1103	English Composition	3
MCS 1003	Intro. to Computer Applications	3
MCS 1203*	Logic*	3
BIO 1213	Biology 1	3
BIO 1221	Biology 1 Lab	1
PSY 1001	The World of the Mind	1
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
BIO 1223	Biology 2	3
BIO 1231	Biology 2 Lab	1
MCS 2xx3	Biostatistics	3
MCS 2xx1*	Calculus Lab*	1
COM 2103	Technical and Prof. Comm.	3
PSY 1213	Introductory Psychology	3
	TOTAL	14

*MCS 1224 Intro Math Analysis 2 may be taken in place of MCS 1203 Logic and MCS 2xx1 Calculus Lab

Sophomore Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 2113	Speech	3
LLT 1213	World Masterpieces 1	3
SSC 2413	Foundations of Amer. Exp.	3
PSY 3313	Research Methods	3
PSY 3613	Developmental Psychology	3
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LDR 2001	Leadership Models and Practices	1
LLT 1223	World Masterpieces 2	3
SSC 2423	Development of Amer. Exp.	3
MGT 2203	Management and Supervision	3
PSY 3323	Organizational Psychology	3
	Open Elective	3
	TOTAL	16

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LDR 3000	Leadership Seminar Series	0
COM 3000	Writing Proficiency Exam	0
PSY 3413	Sensation and Perception	3
PSY 3421	Sensation and Perception Lab	1
PSY xxx3	Psychology Elective	3
HRM 3023	Personnel/HR Mgmt	3
	Open Electives	6
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
PSY 3213	Cognitive Psychology	3
PSY 3221	Cognitive Psychology Lab	1
PSY 3313	Industrial Psychology	3
PSY xxx3	Psychology Elective	3
PSY xxx2	Psychology Elective	2
	Open Elective	3
	TOTAL	15

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LDR 4000	Leadership Capstone	0
HRM 4013	Employee-Mgt Relations	3
PSY 4213	Behavioral Neuroscience	3
PSY 4221	Behavioral Neuroscience Lab	1
SSC 3313 **or**	History and Philosophy of Science **or**	
SSC 3713	Philosophy of the Mind	3
	Open Electives	6
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT/SSC xxx3	Jr./Sr. LLT or SSC Elective	3
PSY xxx3	Psychology Electives (2)	6
HRM 4033	HR Problems and Policies	3
	Open Elective	3
	TOTAL	15

Pre-Med/Biobehavioral Psychology Concentration

TOTAL SEMESTER CREDIT HOURS: 122

Freshman Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1

COM 1103	English Composition	3
MCS 1003	Intro. to Computer Applications	3
MCS 1414	Calculus 1	4
BIO 1213	Biology 1	3
BIO 1221	Biology 1 Lab	1
PSY 1001	The World of the Mind	1
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
BIO 1223	Biology 2	3
BIO 1231	Biology 2 Lab	1
MCS 1424	Calculus 2	4
COM 2103	Technical and Prof. Comm.	3
PSY 1213	Introductory Psychology	3
	TOTAL	14

Sophomore Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS xxx3	Biostatistics	3
SSC 2413	Foundations of Amer. Exp.	3
LLT 1213	World Masterpieces 1	3
COM 2113	Speech	3
CHM 1213	University Chemistry 1	3
CHM 1221	University Chemistry 1 Lab	1
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 2123	Statistics 2	3
SSC 2423	Development of Amer. Exp.	3
LLT 1223	World Masterpieces 2	3
CHM 1223	University Chemistry 2	3
CHM 1232	University Chemistry 2 Lab	2
LDR 2001	Leadership Models and Practices	1
	TOTAL	15

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
PHY 2213	College Physics 1	3
PHY 2221	College Physics 1 Lab	1
PSY 3413	Sensation and Perception	3
PSY 3421	Sensation and Perception Lab	1
PSY 3113	Research Methods	3
BIO 2313	Microbiology	3
BIO 2321	Microbiology Lab	1
COM 3000	Writing Proficiency Exam	0
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LDR 3000	Leadership Seminar Series	0
PHY 2223	College Physics 2	3
PHY 2231	College Physics 2 Lab	1
PSY 3213	Cognitive Psychology	3
PSY 3221	Cognitive Psychology Lab	1
PSY 3313 **or**	Industrial Psychology **or**	
PSY 3323	Organizational Psychology	3
PSY 4313	Drugs and Behavior	3
	TOTAL	14

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LDR 4000	Leadership Capstone	0
CHM 2313	Organic Chemistry	3
PSY 4213	Behavioral Neuroscience	3
PSY 4221	Behavioral Neuroscience Lab	1
PSY 3613	Developmental Psychology	3
BIO 2323	Genetics	3
SSC 3313 **or**	History and Philosophy of Science **or**	
SSC3713	Philosophy of the Mind	3
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
CHM 2323	Organic Chemistry 2	3
CHM 2332	Organic Chemistry 2 Lab	2
CHM 3403	Biochemistry	3
LLT/SSC xxx3	Junior/Senior Elective	3
PSY xxx2	Psychology Elective	2
PSY xxx3	Psychology Elective	3
	TOTAL	16

CERTIFICATE IN INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY

Two of the following three courses:

Course Number	*Subject*	*Cr. Hrs.*
HRM 3023	Personnel/HR Mgmt	3
HRM 4013	Employee/Management Relations	3
HRM 4033	HR Problems and Policies	3

and the following:

Course Number	*Subject*	*Cr. Hrs.*
PSY 3213	Cognitive Psychology	3
PSY 3221	Cognitive Psychology Lab	1
PSY 3313	Industrial Psychology	3
PSY 3323	Organizational Psychology	3
	TOTAL	16

For more information or to speak with an advisor, contact the Humanities, Social Sciences, and Communication Department at 248.204.3520, email humchair@ltu.edu, or visit Room S225 in the Science Building.

UNDERGRADUATE MANAGEMENT PROGRAMS

BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION
TOTAL SEMESTER CREDIT HOURS: 122

Freshman Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
MCS 1214	Intro. Math Analysis 1	4
MGT 1213	Introduction to Business	3
	Natural Science 1	3
	TOTAL	14

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1213	World Masterpieces 1	3
MCS 1224	Intro. Math Analysis 2	4
MGT 2203	Management and Supervision	3
SSC 2413	Foundations of American Exp.	3
	Natural Science 2*	3
	Natural Science Lab*	1
	TOTAL	17

*can also take certain 4-credit science courses that have a laboratory component to satisfy Natural Science 2 and Natural Science Lab requirements

Sophomore Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ACC 2013	Accounting Principles 1	3
SSC 2303	Principles of Economics	3
SSC 2423	Development of American Exp.	3
LLT 1223	World Masterpieces 2	3
LDR 2001	Leadership Models and Practices	1
	Open Elective	3
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ACC 2023	Accounting Principles 2	3
MCS 2113	Statistics 1	3
SSC 2403	Principles of Economics 2	3
COM 2103	Technical and Professional Comm.	3
MGT 2113	Intro. to Business Law	3
	TOTAL	15

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 2113	Speech	3
ACC 3013	Managerial Accounting	3
HRM 3013	Organizational Behavior	3
LDR 3000	Leadership Seminar Series	0
	Concentration Course	3
MGT xxx3	Project Management	3
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
FIN 3013	Financial Management	3
MGT 3053	Management Internship 1	3
INT 3023	Information Technology Inaugural	3
COM 3000	Writing Proficiency Exam	0
	Concentration Courses	3
	Open Elective	3
	TOTAL	15

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MKT 3013	Marketing	3
LLT/SSC/PSY xxx3	Jr./Sr. Elective	3
LDR 4000	Leadership Capstone	0
	Concentration Courses (2)	6
COM xxx3	Jr./Sr. COM Elective	3
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MGT 4213	Strategic Management	3
OPM 3113	Operations Management	3
	Concentration Course	3
	Open Electives (2)	6
	TOTAL	15

For more information, contact Karen Evans, director of undergraduate management programs, at 248.204.3508 or email ump@ltu.edu.

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY
TOTAL SEMESTER CREDIT HOURS: 120

Freshman Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
MCS 1214	Intro. Math Analysis 1	4
	Natural Sciences 1	3
MCS1003	Intro Computer Applications	3
	TOTAL	14

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1213	World Masterpieces 1	3
MCS 1224	Intro. Math Analysis 2	4
	Natural Sciences 2*	3
	Natural Sciences Lab*	1
SSC 2413	Foundations of American Exp.	3
MCS 1142	Introduction to C	2
	TOTAL	16

*can also take certain 4-credit science courses that have a laboratory component to satisfy Natural Science 2 and Natural Science Lab requirements

Sophomore Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1223	World Masterpieces 2	3
MCS 1514	Computer Science 1	4
INT 3023	Information Technology Inaugural	3
LDR 2001	Leadership Models and Practices	1
COM 2103	Technical and Professional Comm.	3
	Open Elective	3
	TOTAL	17

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 2514	Computer Science 2	4
SSC 2423	Development of American Exp.	3
MCS 2113	Statistics 1	3
INT 3103	IT Management	3
	Focused Elective	3
	TOTAL	16

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LDR 3000	Leadership Seminar Series	0
INT 3203	Technical Infrastructure	3
INT 3803	Database Design & Implementation	3
INT 4013	Telecommunications & Networks	3
	Open Electives (2)	6
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
INT 3503	Project Management in IT	3
INT 3603	eBusiness Strategies	3
COM 3000	Writing Proficiency Exam	0
	Focused Electives (3)	9
	TOTAL	15

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LDR 4000	Leadership Capstone	0
INT 4023	Exploration of IT Security	3
INT 4203	Systems Analysis/Design	3
LLT/SSC/PSY xxx3	Jr./Sr. Elective	3
	Focused Electives (2)	6
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
INT 4303	IT Business Strategies	3

Open Electives (2)	6	
Focused Elective	3	
ICCP Exam	0	
	TOTAL	12

Professional Certification Option (nine credit hours)
Students in the BSIT program can complete an industry certification of their choice. The following list represents the most desirable certifications in the field:

1. Novell Certified Netware Engineer
2. Microsoft Certified Systems Engineer
3. Microsoft Certified Solution Developer
4. Microsoft Certified Database Administrator
5. Microsoft Certified Systems Administrator
6. Microsoft Certified Application Developer
7. CompTIA A+, Network+, IT Project+, and Linux+ (Pick three)
8. CompTIA Master CIW Enterprise Developer
9. CompTIA Master CIW Certification
10. Cisco Certified Network Professional
11. Cisco Certified Professional
12. Oracle Certified Professional
13. Security Certified Program Network Professional

Additional certification tracks will be evaluated at the students' request.

For more information, contact Karen Evans, director of Undergraduate Management Programs, at 248.204.3508 or email ump@ltu.edu.

CERTIFICATE IN ENTREPRENEURIAL STRATEGY

Course Number	*Subject*	*Cr. Hrs.*
MGT 3013	Starting New Ventures/Managing Entrepreneurial Operations	3
MGT 3033	Sales and Marketing for Entrepreneurs	3
FIN 3203	Finance for Entrepreneurs	3
COM 3463	Collaborative Communication for Leaders	3
	TOTAL	12

For more information, contact Karen Evans, director of undergraduate management programs, at 248.204.3508 or email ump@ltu.edu.

FOUNDATION STUDIES AND SPECIAL PROGRAMS

Pre-Medical and Pre-Dental Sequences

The following courses are recommended for medical school admission. A student should contact a particular medical school for specific details about its admission policies.

Biology	***Cr. Hrs.***	***Courses***
One year of general Biology and laboratory	8	BIO 1213, BIO 1221, BIO 1223, BIO 1231
One upper-level course from the following (recommended):		
Molecular Genetics	3	BIO 2323
Anatomy and Physiology and laboratory	4	BIO 2203, BIO 2201
Cell Biology and laboratory	4	BIO 4813, BIO 4821

Chemistry	***Cr. Hrs.***	***Courses***
One year of general Chemistry and laboratory	9	CHM 1213, CHM 1221, CHM 1223, CHM 1232 or CHM 1231
One year of Organic Chemistry and laboratory	8	CHM 2313, CHM 2323, CHM 2332
One Biochemistry course (recommended)	3	CHM 3403

Other Mathematics and Science	***Cr. Hrs.***	***Courses***
One year of Physics and laboratory	8	University or College Physics
One year of Math with Calculus	8	MCS 1414 and MCS 1424 or MCS 1214 and MCS 1224
One or two courses of Statistics	3–6	MCS 2023 or MCS 3403 or MCS 2113 and MCS 2123

These courses can most easily be incorporated into a BS in Chemistry, Psychology, Chemical Biology, Molecular and Cell Biology, Physics, or Biomedical Engineering, but they can also be satisfied in other majors with the appropriate choices of electives and/or additional courses.

Pre-Law

An advantage of the University's Core Curriculum is that it develops the skills of critical and logical thinking that are central to admission to, and success in, law school. In addition, students planning to attend law school should place the greatest emphasis on skill in both oral and written communication. Both the BS in Humanities and the BA in English and Communication Arts provide a thorough education in communication and critical thinking, skills essential to the study of law. The humanities degree, especially, provides excellent preparation by offering knowledge of the context and development of the U.S. system of law and government. Additional courses in four categories may be particularly valuable to pre-law students:

Business Management

Course Number	*Subject*	*Cr. Hrs.*
ACC 2013	Accounting Principles 1	3
ACC 2023	Accounting Principles 2	3
FIN 3013	Introduction to Financial Management	3
MGT 2203	Management and Supervision	3

Communication

Course Number	*Subject*	*Cr. Hrs.*
COM 2113	Speech	3
COM 2443	Introduction to Rhetoric and Logic	3
COM 3463	Collaborative Communication	3
COM 3553	Interpersonal and Nonverbal Communication	3

History, Philosophy, and Political Science

Course Number	*Subject*	*Cr. Hrs.*
SSC 3153	American History to 1877	3
SSC 3163	American History since 1877	3
SSC 3173	American Political Tradition	3
SSC 3723	Ethics	3
SSC 4133	Problems in International Politics	3

Law

Course Number	*Subject*	*Cr. Hrs.*
MGT 2113	Introduction to Business Law	3
SSC 4143	Constitutional Law: Individual Rights	3

Contact Person: Karen Evans, pre-law advisor, 248.204.3508, kevans@ltu.edu

Note: Completion of the Lawrence Tech requirements in the pre-professional programs does not assure the student of admission to medical, dental, law, or graduate school. However, completion of the requirements and of other courses leading to a bachelor's degree does qualify a student for consideration by most professional and graduate schools.

NATURAL SCIENCES REQUIREMENT

Some majors at Lawrence Tech specify Natural Sciences 1, Natural Sciences 2, and Natural Sciences Lab as required courses. To satisfy the natural sciences lecture course requirement for these majors, *any two* of the courses listed below may be taken. All prerequisites and co-requisites must be satisfied. Well-prepared students may substitute higher-level science courses for those listed below. Students who have specified Undeclared as their major should consult with an advisor to determine which courses best fit their academic and career plans.

Course Number	*Subject*	*Prerequisite or Co-requisite*
BIO 1153	Intro. to Biological Principles	None
BIO 1213**	Biology 1**	BIO 1153 or placement
BIO 1223**	Biology 2**	BIO 1153 or placement
BIO 2313	Microbiology	BIO 1213
CHM 1154	Intro. to Chemical Principles	MCS 0054* or higher
CHM 1213	University Chemistry 1	MCS 0083 or higher
CHM 1223	University Chemistry 2	CHM 1213
CHM 2313	Organic Chemistry 1	CHM 1213 + CHM 1221
FSC 1214***	Forensic Science	None
GLG 1103	Geology	None
GLG 1113	Environmental Geology	None
PHY 1154***	Intro. to Physical Principles***	MCS 0074, MCS 0093, MCS 1214, MCS 1254 or higher
PHY 1213	Introductory Astronomy	MCS 0054* or higher
PHY 2213	College Physics 1	MCS 0074, MCS 0093, MCS 1214, MCS 1254 or higher
PHY 2223	College Physics 2	PHY 2213
PHY 2413	University Physics 1	MCS 1424*
PHY 2423	University Physics 2	PHY 2413 and MCS 2414*

*Co-requisite courses
**BIO 1213 and BIO 1223 are independent. Neither is prerequisite to the other.
***FSC 1214 and PHY 1154 have integrated laboratory components that satisfy the requirement for a laboratory course as well as that for a natural sciences lecture course.

To satisfy the natural science laboratory requirement, *any one* of the courses listed below may be taken. All prerequisites and co-requisites must be satisfied.

Course Number	*Subject*	*Co-requisite Lecture*
BIO 1221	Biology 1 Laboratory	BIO 1213 or BIO 1153
BIO 1231	Biology 2 Laboratory	BIO 1223
CHM 1221	University Chemistry 1 Laboratory	CHM 1213
FSC 1214***	Forensic Science	None
PHY 1154***	Introduction to Physical Principles	None
PHY 1221	Astronomy Laboratory	PHY 1213
PHY 2221	College Physics 1 Laboratory	PHY 2213
PHY 2231	College Physics 2 Laboratory	PHY 2223
PHY 2421	University Physics 1 Laboratory	PHY 2413
PHY 2431	University Physics 2 Laboratory	PHY 2423

***FSC 1214 and PHY 1154 have integrated laboratory components that satisfy the requirement for a laboratory course as well as that for a natural sciences lecture course.

CALCULUS SEQUENCE PLACEMENT

The results of a student's placement assessment in mathematics will determine which course the student will take. The following chart is only a guideline for judging where students might expect to be placed.

High School background	Expected first semester	Expected second semester
2 units Algebra 1 unit Geometry 0.5 unit Trig.	MCS 1414 Calculus 1	MCS 1424 Calculus 2
2 units Algebra 1 unit Geometry	MCS 0093 Trig.	MCS 1414 Calculus 1
1.5 units Algebra 1 unit Geometry	MCS 0074 Precalculus	MCS 1414 Calculus 1
1 unit Algebra 1 unit Geometry	MCS 0051 Alg Concepts Plus MCS1113 Tech Math	MCS 0074 Precalculus
1 unit Algebra	MCS 0051 Alg Concepts plus MCS1113 Tech Math	MCS 0083 Coll. Alg.

ENGLISH AS A SECOND LANGUAGE (ESL)

The purpose of the ESL program is to help students acquire the English language skills necessary to do well at Lawrence Tech. The program normally consists of a semester of 18 hours per week of intensive training in conversation, reading, writing, and grammar. A portion of those hours (six or less) may be taken in the actual academic program for which the student has been conditionally accepted, with appropriate ESL supervision. Permission to pursue this option must be given by the pertinent program in consultation with the ESL program. If at the end of the 18 hours students have not yet achieved the appropriate level of English, they may pursue additional ESL training at the University (a six-hour-per-week additional semester is the standard).

MINOR IN BIOLOGY
Not available to students majoring in molecular and cell biology or in chemical biology.

Required courses (Eight credit hours)

Course Number	*Subject*	*Cr. Hrs.*
BIO 1213	Biology 1	3
BIO 1221	Biology 1 Lab	1
BIO 1223	Biology 2	3
BIO 1231	Biology 2 Lab	1

Electives (minimum of 12 credit hours)

Selected from biology courses numbered 2000 or higher		12
	TOTAL	20

For more information, contact nschair@ltu.edu

MINOR IN BUSINESS

Course Number	*Subject*	*Cr. Hrs.*
MGT 1212	Introduction to Business Issues and Practices	2
SSC 2303	Principles of Economics	3

Five upper-division courses in management or human resources (Must include one course in Human Resource Management – leadership and one course in Entrepreneurship.)		15
	TOTAL	20

For more information, contact Karen Evans, director of undergraduate management programs, at 248.204.3508 or email ump@ltu.edu.

MINOR IN CHEMISTRY

Not available to students majoring in chemistry, environmental chemistry, or chemical biology, students who graduate under the chemical physics concentration in physics, or students who have been awarded the Associate of Science in Chemical Technology because of extensive curriculum overlap.

Required Courses (Eight to nine credit hours)

Course Number	*Subject*	*Cr. Hrs.*
CHM 1213	University Chemistry 1	3
CHM 1221	University Chemistry 1 Lab	1
CHM 1223	University Chemistry 2	3
CHM 1231	Chemistry 2 Lab	
or		
CHM 1232	University Chemistry 2 Lab	1-2
Chemistry Electives (minimum of 11 credit hours) Selected from chemistry courses numbered 2000 or higher, except CHM 3144.		11
	TOTAL	19/20

For more information, contact nschair@ltu.edu

MINOR IN COMPUTER SCIENCE

Students must take 24 credit hours of computer science courses.

For more information, contact mcschair@ltu.edu

MINOR IN ECONOMICS

Course Number	*Subject*	*Cr. Hrs.*
MCS 1214	Introduction to Mathematical Analysis 1	4
MCS 1224	Introduction to Mathematical Analysis 2	4
SSC 2303	Principles of Economics	3
SSC 2403	Principles of Economics 2	3
Three upper-division courses in economics		9
	TOTAL	23

Note: SSC 3523 Money and Banking is an economics course.

For more information, contact humchair@ltu.edu

MINOR IN ENGLISH

Five upper-division courses in literature (not including prerequisites)		15

Prerequisites:

Course Number	*Subject*	*Cr. Hrs.*
LLT 1213	World Masterpieces 1	3
LLT 1223	World Masterpieces 2	3
	TOTAL	21 (including prereqs)

For more information, contact humchair@ltu.edu

MINOR IN GENERAL SCIENCES

Not available to students majoring in any program in the Department of Natural Sciences or in biomedical engineering because of extensive overlap with the curriculum of the primary degree.

Course Number	*Subject*	*Cr. Hrs.*
BIO 1213	Biology 1	3
BIO 1221	Biology 1 Lab	1
BIO 1223	Biology 2	3
BIO 1231	Biology 2 Lab	1
CHM 1213	University Chemistry 1	3
CHM 1221	University Chemistry 1 Lab	1
CHM 1223	University Chemistry 2 **or**	3
CHM 1231 **or**	Chemistry 2 Lab **or**	
CHM 1232	University Chemistry 2 Lab	1-2

One of the following physics sequences is required:

Course Number	*Subject*	*Cr. Hrs.*
PHY 2413	University Physics 1	3
PHY 2421	University Physics 1 Lab	1
PHY 2423	University Physics 2	3
PHY 2431	University Physics 2 Lab	1
or		
PHY 2213	College Physics 1	3
PHY 2221	College Physics 1 Lab	1
PHY 2223	College Physics 2	3
PHY 2231	College Physics 2 Lab	1
	TOTAL	24-25

All prerequisites and co-requisites must be satisfied for these required courses. Those who wish to receive a certificate for this minor must apply to the Department of Natural Sciences, in Room S322.

For more information, contact nschair@ltu.edu

MINOR IN HISTORY

Five upper-division courses in history (not including prerequisites)		15

Prerequisites:

Course Number	*Subject*	*Cr. Hrs.*
SSC 2413	Foundations of the American Experience	3
SSC 2423	Development of the American Experience	3
	TOTAL	21 (including prereqs)

For more information, contact humchair@ltu.edu

MINOR IN MATHEMATICS

An average grade point of 2.0 or higher must be maintained.

Course Number	*Subject*	*Cr. Hrs.*
MCS 1414	Calculus 1	4
MCS 1424	Calculus 2	4
MCS 2414	Calculus 3	4
MCS 2423	Differential Equations	3
MCS 2523	Discrete Mathematics	3
MCS 3403	Probability and Statistics	3
MCS 3863	Linear Algebra	3
Six more credit hours of junior- or senior-level mathematics courses		6
	TOTAL	30

For more information, contact mcschair@ltu.edu

MINOR IN MEDIA COMMUNICATION

Course Number	*Subject*	*Cr. Hrs.*
MCO 2003	Introduction to Video Production	3
MCO 2543	Writing for Electronic Print and Media	3
MCO 3203	Camera for Broadcast	3
MCO 2643	News Discovery and Radio Reporting	3
MCO 3303	Video Editing	3
MCO 3843 **or**	Broadcast News Writing and Reporting **or**	
MCO 3713	Advanced Writing for Media	3
	TOTAL	18

For more information, contact humchair@ltu.edu

MINOR IN PHILOSOPHY

Five upper-division courses in philosophy (not including prerequisites)	15

Note: SSC 3723 Ethics and SSC 3733 Aesthetics are philosophy courses. MCS 1203 Logic may also be taken in place of one of these classes.

Prerequisites:

Course Number	*Subject*	*Cr. Hrs.*
SSC 2413	Foundations of the American Experience	3
SSC 2423	Development of the American Experience	3
	TOTAL	21 (including prereqs)

For more information, contact humchair@ltu.edu

MINOR IN PHYSICS

Course Number	*Subject*	*Cr. Hrs.*
PHY 2413	University Physics 1	3
PHY 2421	University Physics 1 Lab	1
PHY 2423	University Physics 2	3
PHY 2431	University Physics 2 Lab	1
PHY 3653	Contemporary Physics	3
PHY 3661	Contemporary Physics Lab	1

Electives (eight more credit hours) chosen from the following:

Course Number	*Subject*	*Cr. Hrs.*
PHY 1213	Astronomy	3
PHY 1231	Astronomy Lab	1
PHY 3414	Analytical Mechanics	4
PHY 4724	Quantum Mechanics	4
PHY 4743	Optics, Lasers, and Microscopy	3
PHY 4781	Optics, Lasers, and Microscopy Lab	1
PHY 4763	Thermal Physics	3
PHY 4843	Condensed Matter Physics	3
PHY 4991/2/3	Directed Study in Physics	1/2/3
	TOTAL	20

For more information, contact nschair@ltu.edu

MINOR IN PSYCHOLOGY

Course Number	*Subject*	*Cr. Hrs.*
PSY 1213	Introduction to Psychology	3
MCS 2113	Statistics 1	3
MCS 2123 **or**	Statistics 2 **or**	
PSY 3113	Research Methods for the Behavioral Scientist	3
Four upper-division courses in psychology		12
	TOTAL	21

For more information, contact humchair@ltu.edu

MINOR IN SPANISH

Course Number	*Subject*	*Cr. Hrs.*
SPN 2913	Spanish 1	3
SPN 2923	Spanish 2	3
SPN 3833	Spanish 3	3
SPN 3843	Spanish 4	3
SPN 4xxx		3
	TOTAL	15

For more information, contact humchair@ltu.edu

MINOR IN TECHNICAL AND PROFESSIONAL COMMUNICATION

Course Number	*Subject*	*Cr. Hrs.*
COM 2103	Technical and Professional Communication	3
COM 2113	Speech	3
COM 3553 **or**	Interpersonal and Nonverbal Communication **or**	
COM 3563	Collaborative Communication for Leaders	3
Three additional Technical and Professional Communication electives at the 2000 level or higher		9
	TOTAL	18

For more information, contact humchair@ltu.edu

DUAL MAJORS

Dual majors are available in various combinations, including:
Chemistry with Engineering or Physics
Physics with Engineering or Chemistry
Computer Science with Engineering or Chemistry
Mathematics with Engineering
Business Administration with Information Technology

For further information about dual majors or minors, please see the individual major program descriptions or contact the advisor listed for the major program.

College of Engineering

Dean
Nabil Grace
E98, 248.204.2500

Associate Dean
Lewis Frasch
E98, 248.204.2500

Dean of Graduate Programs
Elin Jensen
E219, 248.204.2500

ABOUT THE COLLEGE OF ENGINEERING
Engineering is a profession in which principles of science, mathematics, and economics are applied, using the engineering method to cause changes which benefit society. Engineers endeavor to understand problems, design plans to solve problems, carry out these plans, and follow up to check the results obtained. Engineers must be both analytical and creative and must exercise leadership to accomplish goals. Because their actions can influence many lives, engineers must have a strong sense of ethics and an understanding of the society and environment in which they live.

Lawrence Technological University's College of Engineering places high priority on preparing students to enter the profession in industry, government, or private practice or to pursue advanced degrees. The curricula provide a strong background in the fundamentals of engineering as well as more specialized topics while emphasizing the core of knowledge and experience common to all the engineering disciplines. Program areas have been selected to provide students with the greatest flexibility and mobility in their career choices and to avoid overspecialization.

Mission
We want our engineers to grow as leaders through innovative and agile programs embracing theory and practice. Our goal is to prepare our students to be outstanding professionals characterized by integrity, social responsibility, and a global perspective. We will position the College of Engineering as a haven for student learning and the application of knowledge.

Vision
The College of Engineering will be positioned to be a leader in engineering education with regional recognition and national prominence.

Lawrence Tech's engineering, engineering technology and management programs include both theoretical and practical dimensions consistent with the University's motto, "theory and practice." The faculty consists of engineers and managers distinguished by both strong academic and professional credentials as well as significant industrial

experience. Many engineering faculty are concurrently working within the industry, which ensures that the program reflects a strong real-world orientation. Lawrence Tech's undergraduate programs in civil, electrical, and mechanical engineering are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (EAC/ABET), 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone 410.347.7700.

DEGREE PROGRAMS

The college provides undergraduate degree programs in biomedical engineering, civil engineering, computer engineering, construction management, electrical engineering, engineering technology, industrial operations engineering, mechanical engineering and a combined bachelor's and master's degree in architectural engineering.

Bachelor of Science in Biomedical Engineering

Lawrence Technological University's biomedical engineering program combines intensive course work in engineering with a strong background in biology, chemistry, physiology, and other subjects pertinent to the medical field. Its goal is not only to provide students with the skills needed for industry positions or graduate work in biomedical engineering, but also to prepare them for positions in traditional areas of engineering as well. The program also provides excellent preparation for those who wish to go on to medical school or for working professionals who, for a variety of reasons, require expertise in biomedical engineering.

The Bachelor of Science in Biomedical Engineering (BME) degree requires a total of 132 credit hours, which includes 88 credit hours of core courses. Students can choose from one of three concentrations: bioelectrical, biomechanical, or biochemical. Each concentration requires 44 credit hours, including biomedical electives.

Educational Objectives

In consultation with the BME Industrial Advisory Board and other important program constituencies, the faculty established educational objectives for the biomedical engineering program. Specifically, graduates of the BME program shall

1. have attained the problem-solving skills and ethical judgment required of competent citizens in our society;
2. be able to function as practicing engineers within the biomedical industry;
3. have the ability to learn and take on growing responsibility in the practice of engineering; and
4. be prepared to undertake graduate study or attend medical school.

Program Outcomes

To enable graduates to achieve the accomplishments described by the aforementioned educational objectives, the program cultivates specific skills, knowledge, and behaviors. In particular, upon graduation, students must exhibit the following program outcomes:

1. an ability to apply knowledge of mathematics, science, and engineering;

2. an ability to design and conduct experiments, as well as to analyze and interpret data;
3. an ability to design a system, component, or process to meet desired needs within realistic constraints, such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability;
4. an ability to function on multidisciplinary teams;
5. an ability to identify, formulate, and solve engineering problems;
6. an understanding of professional ethical responsibility;
7. an ability to communicate effectively;
8. the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context;
9. a recognition of the need for, and an ability to, engage in lifelong learning;
10. a knowledge of contemporary issues;
11. an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice;
12. an understanding of biology and physiology, and the capability to apply advanced mathematics (including differential equations and statistics), science, and engineering to solve the problems at the interface of engineering and biology; and
13. the ability to make measurements on and interpret data from living systems, addressing the problems associated with the interaction between living and non-living materials and systems.

Bachelor of Science in Civil Engineering

The Department of Civil Engineering is committed to providing its students with the highest quality education, as demonstrated by its mission statement:

> The Mission of the Department of Civil Engineering is to offer a program focusing on a broad, high-quality and contemporary educational experience in civil engineering, in parallel with Lawrence Technological University's guiding principle of "Leadership Through Theory and Practice."

Civil engineering has a long and distinguished history among the engineering disciplines. Although the term "civil engineer" may not have been used in ancient times, it was certainly civil engineers who designed and constructed the pyramids, the Roman aqueducts and the Great Wall of China. Today, civil engineers are involved in the design, construction and maintenance of the infrastructure that surrounds us as well as the clean-up and preservation of our natural and manmade environment. As our nation's infrastructure continues to age and deteriorate, and our environment becomes more vulnerable, civil engineers will be expected to create innovative methods to repair and replace the infrastructure and to preserve our environment for future generations. To accomplish this, civil engineers must combine a strong technical background in math and science with excellent communication skills to educate and interact with decision makers, the construction industry, and the general public.

Not only is civil engineering steeped in history and tradition, it is also one of the broadest and most diverse engineering disciplines. Civil engineering encompasses construction engineering and management, environmental engineering, geotechnical engineering, hydraulics and hydrological engineering, structural engineering, transportation engineering and surveying/land measurement.

Employment opportunities for civil engineers exist at all levels of government and with a variety of consulting engineering firms, architectural and planning organizations, and in private practice. The demand for civil engineers will continue to be strong for the foreseeable future, as many new engineering tasks and responsibilities are assigned to a civil engineer.

The Department of Civil Engineering at Lawrence Technological University provides students with the necessary skills to immediately contribute to the improvement of the nation's infrastructure and environment and the overall quality of life. At the undergraduate level, students can earn a traditional bachelor's degree in civil engineering, with an option to earn a Certificate in Entrepreneurial Engineering or a dual degree in architecture and civil engineering. At the graduate level, the Department offers three master's degree programs: Master of Civil Engineering, Master of Science in Civil Engineering, and Master of Construction Engineering Management.

Striving to provide a state-of-the-art curriculum, the objectives of the department are to offer a program that:

- provides a strong foundation in mathematics, natural sciences, humanities and social sciences as a basis for developing into a well-rounded engineer;
- provides an essential understanding of the fundamental principles of engineering;
- develops the ability to identify and analyze problems with realistic constraints, devise and critique engineering alternatives, and formulate solutions both individually, as well as in a team environment;
- allows for the application of contemporary skills for the solution of civil engineering problems, as well as the application and integration of the project management process;
- develops effective communicators in engineering and business environments and encourages positive contributions to all levels of public policy decision-making;
- stresses professionalism, leadership and commitment to professional development through lifelong learning and licensure; and
- encourages community and professional service, and the need to act ethically in all matters.

Industry leaders have high expectations for graduating civil engineering students. The American Society of Civil Engineers created the *Civil Engineering Body of Knowledge, Second Edition*, which describes its vision for the skills and abilities the next generation of civil engineers must possess, by the year 2025, in order to be competent practitioners. The department adopted the *Body of Knowledge* outlined below as the basis for its program outcomes.

Outcome Number and Title	To graduate with a BS Degree in Civil Engineering from Lawrence Technological University, and enter the practice of civil engineering, an individual must demonstrate competence in each of 24 Program Outcomes.
Foundational Outcomes	
1 Mathematics	***Solve*** problems in mathematics through differential equations and ***apply*** this knowledge to the solution of engineering problems.
2 Natural Sciences	***Solve*** problems in calculus-based physics, chemistry and geology, and ***apply*** this knowledge to the solution of engineering problems.
3 Humanities	***Demonstrate*** the importance of the humanities in the professional practice of engineering.
4 Social Sciences	***Demonstrate*** the incorporation of social sciences knowledge into the professional practice of engineering.
Technical Outcomes	
5 Materials Science	***Use*** knowledge of materials science to ***solve*** problems appropriate to civil engineering.
6 Mechanics	***Analyze*** and solve problems in solid and fluid mechanics.
7 Experiments	***Specify*** and ***design*** an experiment to meet a specified need; conduct the experiment and analyze, interpret and ***explain*** the resulting data.
8 Problem Recognition and Solving	***Develop*** problem statements and solve both well-defined and open-ended civil engineering problems by ***selecting*** and applying appropriate techniques and tools.
9 Design	***Design*** a system or process to meet desired needs within such realistic constraints as economic, environmental, social, political, ethical, health and safety, constructability and sustainability.
10 Sustainability	***Apply*** the principles of sustainability to the design of traditional and emergent engineering systems and ***explain*** how civil engineers should strive to comply with the principles of sustainable development in the performance of their professional duties.
11 Contemporary Issues and Historical Perspectives	***Explain*** the impact of historical and contemporary issues on the identification and formulation of solutions to engineering problems, and ***explain*** the impact of engineering solutions on the economy, environment, political landscape and society.
12 Risk and Uncertainty	***Apply*** the principles of probability and statistics and solve problems containing uncertainty.
13 Project Management	***Analyze*** a proposed project and ***formulate*** documents for incorporation into the project management plan.
14 Breadth in Civil Engineering Areas	***Analyze*** and solve well-defined engineering problems in at least four technical areas appropriate to civil engineering.

15 Technical Specialization	***Apply*** specialized tools or technologies to solve problems in traditional or emerging specialized technical areas of civil engineering.
Professional Outcomes	
16 Communication	***Plan, compose*** and ***integrate*** the verbal, written, virtual, and graphical communication of a project to technical and non-technical audiences.
17 Public Policy	***Discuss*** and ***explain*** key concepts and processes involved in public policy.
18 Business and Public Administration	***Explain*** key concepts and processes used in business and public administration.
19 Globalization	***Explain*** global issues related to professional practice, infrastructure, environment, and service populations as such issues arise across cultures and countries.
20 Leadership	***Explain*** leadership principles and attitudes and ***apply*** those principles and attitudes when making decisions and directing the efforts of a small group.
21 Teamwork	***Function*** effectively as a member of an intra-disciplinary team and ***evaluate*** the performance of the team and individual team members.
22 Attitudes	***Explain*** attitudes supportive of the professional practice of civil engineering.
23 Lifelong Learning	***Demonstrate*** the ability for self-directed learning and ***identify*** additional knowledge, skills and attitudes appropriate for continued professional practice.
24 Professional and Ethical Responsibility	***Explain*** the many aspects of professionalism and what it means to be a member of the civil engineering profession; ***analyze*** a situation involving multiple conflicting professional and ethical interests to determine an appropriate course of action.

Bachelor of Science in Computer Engineering
Bachelor of Science in Electrical Engineering

Two degrees are offered in the Department of Electrical and Computer Engineering, a Bachelor of Science in Electrical Engineering, and a Bachelor of Science in Computer Engineering. The decision as to which degree to pursue should be based on a careful consideration of the student's goals and objectives. Faculty are eager to discuss this and other issues with students. All students should have an advisor-approved Plan of Work, and see their academic advisor at least once per year. A list of advisors can be obtained from the Electrical and Computer Engineering office, Room E217.

The electrical and computer engineering program integrates the design experience throughout its curriculum. This process starts with the freshman-level courses, Introduction to Engineering and Engineering Computer Applications Lab. The design experience continues through the sophomore, junior, and senior years, using open-ended design exercises to emphasize basic design principles. This process culminates in a two-semester senior design project in which design skills, analysis techniques, and oral and written communication skills all come together in a unified design experience.

Bachelor of Science in Computer Engineering

The world is in the midst of a technological revolution that is being fueled by continuous improvements in the speed and capabilities of computers. Computer engineers are concerned with the design, development, and implementation of new and challenging computer technology in a myriad of consumer, industrial, commercial, and military applications. For example, every major automotive subsystem (engine, traction, brakes, suspension, climate control, instrument cluster, etc.), on a modern automobile is computer controlled. Working in these areas requires expertise in all aspects of computer hardware and software, and requires the engineer to be able to make hardware/software tradeoffs in developing an optimum system design.

The Bachelor of Science in Computer Engineering program at Lawrence Tech is specifically designed with these goals in mind – to give graduating computer engineers the skills necessary to be proficient in both hardware design and computer programming and to be able to integrate these two areas into a single computer-oriented design.

Students receive a strong background in the principles of electrical engineering from the Electrical and Computer Engineering Department and in those of computer science from the Mathematics and Computer Science Department. Several courses specifically deal with the challenge of incorporating both hardware and programming designs into a single integrated product design. The program includes a core of electrical engineering and computer science courses, plus one math/science elective, two electrical engineering electives, and two computer science electives. A list of acceptable elective courses can be obtained from the Electrical and Computer Engineering Department office, Room E217.

The Lawrence Tech Computer Engineering program is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (EAC/ABET), 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: 410.347.7700. An ABET-accredited program must define and consistently work toward a full set of objectives and outcomes.

According to ABET, “program educational objectives are broad statements that describe the career and professional accomplishments that the program is preparing graduates to achieve.” The Lawrence Tech Computer Engineering program’s educational objectives, formulated by the faculty in consultation with the ECE Industrial Advisory Board and other important program constituencies, are listed below.

Educational Objectives

To graduate computer engineering students who

1. possess the problem-solving and critical judgment skills required of competent citizens in an increasingly technological society;
2. are able to undertake entry-level engineering projects in local industry;
3. are capable of growing in competence and responsibility;
4. are prepared to undertake graduate study.

According to ABET, “program outcomes are narrower statements that describe what students are expected to know and be able to do by the time of graduation. These relate to the skills, knowledge, and behaviors that students acquire in their matriculation through the program.” The outcomes formulated for the Lawrence Tech Computer Engineering program (revised Fall 2007) are as follows.

Educational Outcomes
All computer engineering graduates must have

(a) an ability to apply knowledge of mathematics, science, and engineering;
(b) an ability to design and conduct experiments, as well as to analyze and interpret data;
(c) an ability to design a computer system, component, or process to meet desired needs within realistic constraints, such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability;
(d) an ability to function on multidisciplinary teams;
(e) an ability to identify, formulate, and solve computer engineering problems;
(f) an understanding of professional and ethical responsibility;
(g) an ability to communicate effectively;
(h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context;
(i) a recognition of the need for, and an ability to, engage in lifelong learning;
(j) a knowledge of contemporary issues;
(k) an ability to use the techniques, skills, and modern engineering tools necessary for computer engineering practice;
(l) an ability to plan, design, simulate, fabricate, construct, and test circuit hardware; and
(m) an ability to plan, design, test, and debug systems consisting of both software and hardware.

Bachelor of Science in Electrical Engineering
Electrical engineers apply electrical, electronic, and magnetic theory to obtain solutions for problems related to the development, design, and operation of electronic and electrical hardware and software, control systems, electrical machines and communications systems. Besides development, design, operations, and research, electrical engineers may be involved in manufacture, installation, and sale of electrical and electronic equipment and are employed by a wide variety of organizations which produce, use, or service this equipment.

The Bachelor of Science in Electrical Engineering offers four areas of concentration: Biomedical Engineering, Electronics Engineering, Electrical Energy Systems, and Computer Engineering. Biomedical Engineering is intended for those students who are interested in health-care technology and the design of innovative medical products. Electronics Engineering is intended for students who want to obtain a specific background in electronic circuit design. Electrical Energy Systems is intended for students who wish to emphasize automation, alternative energy, intelligent motion, and power distribution. Computer Engineering is intended for those students who wish to

emphasize computer and digital system design. Each concentration requires an identical core curriculum, three specific concentration courses, two approved technical design electives, and three lab courses associated with the concentration and/or technical elective courses.

The Lawrence Tech Electrical Engineering program is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (EAC/ABET), 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: 410.347.7700. An ABET-accredited program must define and consistently work toward a full set of objectives and outcomes.

According to ABET, "program educational objectives are broad statements that describe the career and professional accomplishments that the program is preparing graduates to achieve." The Lawrence Tech Electrical Engineering program's educational objectives, formulated by the faculty in consultation with the ECE Industrial Advisory Board and other important program constituencies, are listed below.

Educational Objectives
To graduate electrical engineering students who

1. possess the problem-solving and critical judgment skills required of competent citizens in an increasingly technological society;
2. are able to undertake entry-level engineering projects in local industry;
3. are capable of growing in competence and responsibility;
4. are prepared to undertake graduate study.

According to ABET, "program outcomes are narrower statements that describe what students are expected to know and be able to do by the time of graduation. These relate to the skills, knowledge, and behaviors that students acquire in their matriculation through the program." The educational outcomes formulated for the Lawrence Tech Electrical Engineering program (revised Fall 2007) are as follows.

Educational Outcomes
All electrical engineering graduates must have

(a) an ability to apply knowledge of mathematics, science, and engineering;
(b) an ability to design and conduct experiments, as well as to analyze and interpret data;
(c) an ability to design an electrical system, component, or process to meet desired needs within realistic constraints, such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability;
(d) an ability to function on multidisciplinary teams;
(e) an ability to identify, formulate, and solve electrical engineering problems;
(f) an understanding of professional and ethical responsibility;
(g) an ability to communicate effectively;
(h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context;
(i) a recognition of the need for, and an ability to, engage in lifelong learning;

(j) a knowledge of contemporary issues;
(k) an ability to use the techniques, skills, and modern engineering tools necessary for electrical engineering practice; and
(l) an ability to plan, design, simulate, fabricate, construct, and test circuit hardware.

Bachelor of Science in Industrial Operations Engineering
The mission of the Bachelor of Science in Industrial Operations Engineering program is to prepare individuals for careers in industrial and operations engineering, to provide industry and the profession with well-educated graduates and to generate solutions to industrial problems through applied research.

The department's vision is to be the institution of choice for industrial engineering education because of an accessible and effective program focused on industry needs and the development of strong professional relationships among students, faculty, and alumni.

The objectives of the program in industrial operations engineering are to:

- produce graduates capable of applying fundamental science, math, and engineering principles, in conjunction with modern technology, in an interdisciplinary engineering work environment;
- produce graduates who are competent to pursue advanced degrees in engineering;
- produce graduates capable of working in global technical locations as well as in the automotive-related industries of Southeast Michigan;
- produce graduates capable of working in teams, utilizing ethical judgment with strong communication and leadership skills; and
- produce graduates capable of understanding contemporary global engineering issues and recognizing the importance of lifelong learning.

Industrial engineers apply their knowledge of the machine, human, and financial interaction to solve problems related to the global engineering infrastructure. Industrial engineering knowledge can be applied to diverse areas such as manufacturing, insurance, health care, banking and finance, and computer networks.

Bachelor of Science in Mechanical Engineering
The mission of the Department of Mechanical Engineering is to prepare students to be leaders in mechanical engineering careers, capable of producing innovative solutions.

The vision of the Department of Mechanical Engineering is to be the institution of choice for mechanical engineering education, encompassing technical leadership, innovation, and service.

The mechanical engineering program at Lawrence Tech is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (EAC/ABET), 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone:

410.347.7700. An ABET-accredited program must define and consistently work toward a full set of objectives and outcomes.

The educational objectives of the mechanical engineering program are as follows:
1. To educate mechanical engineers who are capable of solving multidisciplinary technical problems in a global work environment.
2. To produce professionals who apply ethical judgment and use effective communication skills to implement engineering solutions.
3. To produce individuals who contribute to contemporary engineering solutions with community involvement and aspire to lifelong learning.

Mechanical engineers apply their knowledge of the physical world to solve problems related to the development of consumer products. Their interests cover such diverse topics as automotive engineering, acoustics, machine design, heating and air conditioning, manufacturing engineering, fluids and hydraulics, stress analysis, computer-aided design/engineering, energy and power production, among many others.

Mechanical engineering is a very versatile degree; graduates may work in such areas as design, analysis, testing, manufacturing, technical sales, and engineering management. Mechanical engineers are employed by a full spectrum of organizations including manufacturers, aerospace, biomedical, government, consulting firms, and research and development organizations.

All mechanical engineering students study the same core curriculum, which includes courses in three broad technical areas: manufacturing, mechanical systems, and thermal science. Manufacturing courses cover how products are made. Mechanical systems courses cover the study of mechanisms and structures. Thermal science courses cover heat transfer, fluid mechanics, and energy conversion. Since many new consumer products are electro-mechanical in nature, the core curriculum also includes an introductory course in mechatronics engineering.

As seniors, mechanical engineering students are required to take four technical electives. These technical elective courses can be chosen from the following areas: manufacturing, solid mechanics, thermal-fluids, automotive, and alternative energy. Students may concentrate in a particular area by taking at least three of their four electives courses from one of the above areas. A list of acceptable elective courses in each area is available from the Mechanical Engineering office or at the department website. Undergraduate students can also pursue minors in aeronautical engineering and energy engineering.

The mechanical engineering program integrates the design experience throughout its curriculum. Student design experience starts with the freshman level Introduction to Engineering and Engineering Computer Applications Lab, and it continues to the capstone senior projects courses, Projects 1 and Projects 2. In lower-level courses, primarily open-ended design exercises are utilized to teach various aspects of design. Senior projects provide an extensive, structured design experience with a strong emphasis on teamwork, and oral and written communications.

The outcomes for the mechanical engineering program at Lawrence Technological University are:

(a) an ability to apply knowledge of mathematics, science, and engineering;
(b) an ability to design and conduct experiments, as well as to analyze and interpret data;
(c) an ability to design a system, component, or process to meet desired needs within realistic constraints, such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability;
(d) an ability to function on multidisciplinary teams;
(e) an ability to identify, formulate, and solve engineering problems;
(f) an understanding of professional and ethical responsibility;
(g) an ability to communicate effectively;
(h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context;
(i) a recognition of the need for, and an ability to engage in lifelong learning;
(j) a knowledge of contemporary issues; and
(k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Lawrence Tech also offers graduate programs through the Department of Mechanical Engineering: Master of Science in Automotive Engineering, Master of Science in Industrial Engineering, Master of Engineering in Manufacturing Systems, Master of Science in Mechanical Engineering, Master of Engineering Management, Master of Science in Mechatronic Systems Engineering, Doctor of Engineering in Manufacturing Systems and Doctor of Engineering in Mechanical Engineering. These programs are described in the *Graduate Catalog*.

Bachelor of Science in Robotics Engineering

The mission of the Bachelor of Science in Robotics Engineering program is to prepare individuals to design and maintain robots, develop new applications for robots and provide industry with well-educated graduates capable of generating solutions to industrial robotics problems.

The department's vision is to be the institution of choice for robotics engineering education because of an accessible and effective program focused on industry needs and the development of strong professional relationships among students, faculty, and alumni.

The outcomes for the robotics engineering program at Lawrence Technological University are:

(a) an ability to apply knowledge of mathematics, science, and engineering;
(b) an ability to design and conduct experiments, as well as to analyze and interpret data;

(c) an ability to design a robotic system, component, or process to meet desired needs within realistic constraints, such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability;
(d) an ability to function on multidisciplinary teams;
(e) an ability to identify, formulate, and solve engineering problems;
(f) an understanding of professional and ethical responsibility;
(g) an ability to communicate effectively;
(h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context;
(i) a recognition of the need for, and an ability to engage in life-long learning;
(j) a knowledge of contemporary issues; and
(k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Students in the robotics engineering program will be exposed to various types of robots, such as industrial robots which are typically designed to perform a routine task with little or no human interaction. Service robots (or personal robots) are another type of robot which are designed to work and perform activities for its user and are therefore designed to have significant human interaction. Robotics engineers can apply their engineering skills and knowledge of robots to a variety of applications in numerous industries including agriculture, aeronautical, aerospace, automotive, chemical, defense, energy, food and beverage, pharmaceutical, and medical.

Master of Science in Architectural Engineering
(Combined Bachelor's and Master's Programs)
Lawrence Technological University's architectural engineering program is an intensive, robust degree that offers course work in math and science, architectural design, and a commitment to educate students with the excellent communication, leadership, and entrepreneurial skills they need to become highly sought contributors to the built environment.

The Master of Science in Architectural Engineering requires a total of 164 credit hours, which includes undergraduate courses, graduate courses, and 88 credit hours of core courses. Students can choose one of several concentrations for their advanced course work: mechanical systems, electrical systems, structural systems, and construction.

For additional information on the Master of Science in Architectural Engineering program's educational objectives, outcomes, and curriculum details, refer to the Lawrence Tech's *Graduate Catalog.*

Architectural Engineering Advisor/Director
All students should have an advisor/director-approved Plan of Work. Contact Filza Walters, director of architectural engineering, at 248.204.2620 or fwalters@ltu.edu, to set up an appointment. Students wishing to specialize in an area of emphasis can obtain a list of eligible elective courses from the director of architectural engineering.

FE EXAM
Candidates for degrees in civil, electrical, or mechanical engineering are strongly encouraged to complete the Fundamentals of Engineering (FE) Examination administered by the National Council of Engineering Examiners.

ENGINEERING TECHNOLOGY
The Department of Engineering Technology in the College of Engineering offers the opportunity to prepare for rewarding and responsible careers in support and management of technical and engineering activities in business and industry.

Students may earn an associate degree with a major in construction, communications, manufacturing, or mechanical engineering technology. These programs enable graduates to participate as part of the engineering/technical team as technologists and technicians.

Working under the supervision of engineers, scientists, or technologists, technicians are employed in a wide variety of industry, business and government organizations involved in manufacturing, development, design and testing, computer applications, electronics, construction, regulation, quality control, maintenance, and sales, to name a few examples.

While the associate degree is sufficient for many students who seek full-time employment as technicians, or for those who plan to seek an additional degree, alternatives are available at Lawrence Tech. Students may choose to first earn an associate degree, and then earn a bachelor of science degree in engineering technology, or some other major. Students interested in any alternative should consult the department chairs of each program involved to determine an appropriate course plan.

Associate of Science in Communications Engineering Technology
From electronics to entertainment, a degree in communications engineering technology can provide a strong foundation for a wide variety of careers. Focused on topics such as electrical control systems, electronics, circuits, microprocessors, networking, and computer diagnostics, Lawrence Tech's Associate of Science in Communications Engineering Technology is designed to prepare students for entry-level positions such as electrical and electronic engineering technician, technical consultant, telecommunications network technician, or sales/services representative. Other opportunities exist in research and development, product evaluation and testing, or in broadcasting, especially industrial television. In addition, credits from the AS in Communications Engineering Technology may be applied to the Bachelor of Science in Engineering Technology or the Bachelor of Science in Audio Engineering.

Associate of Science in Construction Engineering Technology
The Associate of Science in Construction Engineering Technology can lead to a myriad of rewarding career paths. Construction firms, supply manufacturers, departments of transportation, and even the oil industry need qualified professionals to assist with the design, development, and management of construction processes. A cross-disciplinary program, the AS in Construction Engineering Technology provides a strong technical foundation combined with business management skills. Students are exposed to

construction practices, planning, estimating, surveying, computer applications, and project management. The AS in Construction Engineering Technology can prepare students for a variety of positions, including contractor, estimator, supervisor, project manager, or sales representative. Credits from the program transfer to the Bachelor of Science in Construction Management or the Bachelor of Science in Engineering Technology.

Associate of Science in Manufacturing Engineering Technology
Designed to prepare students for technician-level positions in the manufacturing industry, the Associate of Science in Manufacturing Engineering Technology focuses on various manufacturing processes, the use and testing of materials, production methods, quality control, and the fundamentals of project management. Graduates may find employment in production, design, research and development, project management, quality control, or technical sales. Credits from the AS in Manufacturing Engineering Technology can be applied toward the Bachelor of Science in Engineering Technology.

Associate of Science in Mechanical Engineering Technology
Mechanical engineering technicians play a crucial role in business and industry by assisting engineers with a wide variety of tasks. Technicians may be involved in the design, development, testing, or manufacturing of products, equipment, or machinery. Some perform experiments, collect and analyze data, or work with engineers to troubleshoot production problems. Others may branch into technical sales. The Associate of Science in Mechanical Engineering Technology was designed to provide students with an understanding of advanced technologies relating to mechanical engineering, including thermo and fluid mechanics, statics, dynamics, and computer graphics. Credits from the AS in Mechanical Engineering Technology can be applied to the Bachelor of Science in Engineering Technology.

Bachelor of Science in Audio Engineering Technology
The Bachelor of Science in Audio Engineering Technology prepares students for careers in the application of audio technology. Graduates are expected to be competent in audio technology and related disciplines and demonstrate expertise in one or more of the following: analog audio systems, digital audio systems, audio production, and audio application. Graduates find employment in broadcast networks, multimedia firms, and in the arts and entertainment industry using modern technology in the recording, processing, and creation of sound.

The Bachelor of Science in Audio Engineering Technology stresses the fundamentals of electronics, music theory, and sound technology using modern filter techniques, digital compression, and sound spectrum analysis. Overall, the program covers three disciplines: electronics, acoustics, and the musical principles of sound, including tuning and pitch. Students may elect additional courses in radio, television, and management for additional expertise.

The curriculum encompasses the fundamentals of digital audio technologies, enabling the students to conduct experiments on digital audio workstations. Students are exposed to

musical instrument digital interface applications; sound mixing techniques using different recording media hardware; advanced recording using digital and analog routing and storage technologies; and the adaptation of classical vacuum tube design and applications. Also included are the latest in audio transmission hardware, fiber, and wireless technologies; microprocessor-based techniques in Class C amplifier design; and the synthesis of audio sound technology using digital signal processors and digital filters in a laboratory environment.

Bachelor of Science in Construction Management
Construction managers play a crucial role in the overall building process. Whether they work for companies or as independent consultants, construction managers plan, direct, and coordinate a wide variety of projects, including the building of all types of residential, commercial, and industrial structures; roads; bridges; wastewater treatment plants; schools; and hospitals. They are responsible for overseeing the entire project, which includes scheduling and coordinating all design and construction processes, as well as the selection, hiring, and supervision of specialty trade contractors.

Designed for working professionals with experience in the construction industry and those interested in entering the field, the Bachelor of Science in Construction Management program at Lawrence Technological University was developed with input from the Associated General Contractors, Greater Detroit Chapter. This practical program is set up for full-and part-time students and consists of a well-rounded core of management classes along with a strong concentration in construction science and construction engineering. The program exceeds the requirements set by the American Council for Construction Education. Small class sizes and the ability to choose from a collection of focused electives make this program highly responsive to students' individual needs.

Bachelor of Science in Engineering Technology
The mission of the Department of Engineering Technology is to offer a broad, high quality, contemporary, baccalaureate education in the engineering technology discipline, with the guiding university principle of "theory and practice." The objective is to provide students with a strong understanding of the fundamental principles and practical application of engineering technology. Students will be prepared to:

- identify the problem, formulate and analyze engineering alternatives, and solve the problem individually as well as in a team environment;
- possess management and leadership roles in the technology industry;
- effectively communicate in a professional engineering environment; and
- understand the aspects of professionalism, including the need for professional development through lifelong learning.

Educational Outcomes
The educational outcomes of the Department of Engineering Technology at Lawrence Technological University are to produce graduates with the ability to:

- apply the knowledge, techniques, skills, and modern tools of their disciplines;
- apply current knowledge and adapt to emerging applications of mathematics, science, engineering, and technology;
- conduct, analyze, and interpret experiments and apply experimental results to improve processes;
- apply creativity in the design of systems, components, or processes appropriate to each project's objectives;
- function effectively on teams, making decisions, reaching consensus, and resolving conflicts;
- identify, analyze and solve technical problems;
- communicate effectively;
- understand the need for, and an ability to, engage in lifelong learning;
- understand professional, ethical, and social responsibilities and contribute to their communities and to society;
- respect diversity and a knowledge of contemporary professional, societal, and global issues;
- commit to quality, timeliness, and continuous improvement; and
- be aware of the foundations and development of American society.

Engineering technologists often work with engineers and scientists, especially in research and product development, building or setting up equipment, preparing and conducting experiments, analyzing results, or making prototype versions of newly designed equipment. Others work in quality control – inspecting products and processes, performing tests, and collecting data. In manufacturing, they may assist in product design, development, or production. In many cases, it is the technologist who takes ideas and turns them into reality.

The Bachelor of Science in Engineering Technology program is designed both for individuals who already hold an associate degree in engineering technology from other institutions and for those who are concurrently completing their associate degree at Lawrence Technological University. Students can attend full-time or part-time and choose from four areas of specialization: communications engineering technology, construction engineering technology, manufacturing engineering technology, and mechanical engineering technology. All technical courses are taught on weekday evenings, with other courses available during the day.

GREENFIELD COALITION

The Greenfield Coalition for New Manufacturing Education has developed an innovative college-level manufacturing engineering curriculum, integrating experiential learning in the degree program. The curriculum offers an associate degree in manufacturing engineering and technology and the ability to transfer to the Bachelor of Science in Engineering Technology program. The Coalition consists of the Society of Manufacturing Engineers and Focus: HOPE as well as five major universities:

Lawrence Technological University
Lehigh University
University of Detroit Mercy

University of Michigan
Wayne State University
and six corporate partners:
Chrysler
Cincinnati Machine Corp
Detroit Diesel
EDS
Ford Motor Company
General Motors Corporation

Associate of Science in Manufacturing Engineering/Technology
The Associate of Science in Manufacturing Engineering/Technology degree is awarded by Lawrence Tech. The program is unique in its design and all academic work is done at the Center for Advanced Technologies at Focus: HOPE. The Center contains a state-of-the-art manufacturing facility and is recognized as an extension campus of Lawrence Tech.

The degree candidates are accepted into the program after completion of 52 weeks at the Machinist Training Institute, where they receive training in precision machining and metalworking along with other academic skills to better prepare them for college-level education. At the Center, the candidate works 40 hours per week at various manufacturing job rotations while taking electronically delivered college-level courses with the assistance of faculty coaches and on-site tutors. The integrated engineering experience provides an education for advanced manufacturing engineer-technologists at world-competitive levels.

Further information on admission to this special program is available through the Greenfield Coalition Program Director, Sabah Abro, 248.204.2069, or visit the Engineering Technology office in Room E179.

LEAR ENTREPRENEURIAL ENGINEERING PROGRAM
The Lear Entrepreneurial Engineering Program at Lawrence Technological University offers students from various disciplines the opportunity to work in a business-model setting to solve real-world engineering problems. Students enrolled in this program can earn a Certificate in Entrepreneurial Engineering while pursuing an engineering degree with no additional semester credit hour requirement. Within the College of Engineering, the Certificate in Entrepreneurial Engineering is offered in the Departments of Mechanical Engineering and Civil Engineering.

The entrepreneurial program addresses entrepreneurial management in start-up ventures and new business development in existing companies. The program provides a vehicle for sharpening skills in business process and teamwork as well as industry-specific technical skills. Gaining these skills is desirable for students intending to start their own companies, work in small businesses, or initiate jobs in larger companies.

The certificate program consists of courses, conferences, internships and student-run enterprises, which are designed to provide entrepreneurship education in which inquiry, creativity, and innovation are the norm, and theory and practice go hand-in-hand.

COOPERATIVE EDUCATION

A co-op program is offered for qualified students in various majors who are in good academic standing. A minimum cumulative GPA of 2.25 is required. Transfer students must have completed at least one semester at Lawrence Tech prior to the first work assignment.

Co-op students alternate between periods of study in school and periods of employment in industry. Both types of learning experiences are planned and supervised to contribute to the students' education and employability.

The work assignment provided by the employer is approved by the co-op director in association with an engineering faculty member. Co-op companies are expected to provide workplace experience related to the student's major.

Co-op students are paid by their employers. Interested students can obtain complete information, including limitations and requirements, by contacting the office of Career Services.

Co-op placement depends on the availability of appropriate jobs in industry. The employer makes the final selection of candidates. Consequently, Lawrence Tech cannot guarantee that applicants, otherwise qualified, will be placed in a co-op position.

BACHELOR OF SCIENCE IN BIOMEDICAL ENGINEERING

TOTAL SEMESTER CREDIT HOURS: 132

Students seeking the Bachelor of Science in Biomedical Engineering degree must complete all courses in the core curriculum. The curriculum must include fifteen (15) approved technical electives credits of which six (6) credits must be BME electives.

Freshman Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
BIO 1213	Biology 1	3
BIO 1221	Biology 1 Lab	1
MCS 1414	Calculus 1	4
EGE 1102	Engr. Computer App. Lab	2
BME 1002	Intro. to Biomedical Engr.	2
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
SSC 2413	Foundations of Amer. Exp.	3
LLT 1213	World Masterpieces 1	3
MCS 1424	Calculus 2	4
CHM 1213	University Chemistry 1	3
CHM 1221	University Chemistry 1 Lab	1
BME 1101	Biomedical Engr. Seminar	1
BME 1201	Computer Graphics Lab	1
	TOTAL	16

Sophomore Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
SSC 2423	Development of Amer. Exp.	3
LDR 2001	Leadership Models and Practices	1
MCS 2414	Calculus 3	4
PHY 2413	University Physics 1	3
PHY 2421	University Physics 1 Lab	1
BME 2103	Biochem for Engineers	3
and		
BME 2101	Biochem for Engineers Lab	1
or		
CHM 1223	Univ. Chemistry 2	
and		
CHM 1231	Univ. Chemistry 2 Lab	
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1223	World Masterpieces 2	3
MCS 2423	Differential Equations	3
PHY 2423	University Physics 2	3
PHY 2431	University Physics 2 Lab	1
BME 2203	Anatomy & Physiology	3
BME 2201	Anatomy & Physiology Lab	1
EGE 2013	Statics	
or		
EME 4603	*Intro to Mechanical Systems*	3
	TOTAL	17

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 2103	Technical and Prof. Comm.	3
COM 3000	Writing Proficiency Exam	0
MCS 3403	Probability and Statistics	3

EEE 2123	Circuits and Electronics	3
or		
EEE 2114	Circuits 1	
and		
EEE 2111	Circuits 1 Lab	(+2)*
BME 3303	Introduction to Biomechanics	3
BME 3301	Biomechanics Lab	1
BME 3213	Biomaterials	3
	TOTAL	16 (18)

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
SSC 2303	Principles of Economics	3
LDR 3000	Leadership Seminar Series	0
EGE 3012	Engineering Cost Analysis	2
BME 3002	Biomedical Best Practices	2
BME 3103	Bioinstrumentation	3
BME 3101	Bioinstrumentation Lab	1
BME 3703	Biotransport	3
XXX xxxx	Technical Elective	3
	TOTAL	17

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT/SSC/ PSY	Jr./Sr. Humanities Elective	3
LDR 4000	Leadership Seminar Series	0
BME 4xx3	BME Elective	3
BME 4013	BME Projects 1	3**
BME 4103	Foundations of Medical Img.	3
BME 4803	Tissue Engineering	3
BME 4801	Tissue Engineering Lab	1
XXX xxxx	Technical Elective	3 (1)*
	TOTAL	19 (17)

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
BME 4xx3	BME Elective	3
BME 4022	BME Projects 2	2***
BME 4313	Tissue Mechanics	3
BME 4203	Intro. to MEMS	3
BME 4201	Intro to MEMS Lab	1
XXX xxxx	Technical Elective	3
	TOTAL	15

* **Note**: If students elect to complete EEE2114 and EEE2111 then only a one (1) credit technical elective is required in the senior year first semester.

**** Note:** Senior standing required and minimum of nine (9) credits from BME 3103, BME 3213, BME 3303, BME 3703, BME 4XX3.

***** Note:** Must be enrolled/have completed all BME 3000 level courses.
A list of eligible technical elective courses is available from the Biomedical Engineering Program. Dual majors will be permitted a number of substitutions as approved by the program director consistent with accreditation requirements.

Biomedical Engineering Advisors
All students should have an advisor-approved Plan of Work. Students should contact the Biomedical Engineering Program, Room E217, for their assigned faculty advisor**.**

BACHELOR OF SCIENCE IN CIVIL ENGINEERING
TOTAL SEMESTER CREDIT HOURS: 132

Freshman Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
ECE 1101	CE Computer Graphics Lab	1
ECE 1102	CE Computer Applications Lab	2
MCS 1414	Calculus 1	4
CHM 1213	University Chemistry 1	3
CHM 1221	University Chemistry 1 Lab	1
ECE 1012	Civil Engineering Perspectives	2
	TOTAL	17

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1213	World Masterpieces 1	3
SSC 2413	Foundations of Amer. Exp.	3
MCS 1424	Calculus 2	4
GLG 1103	Geology	3
ECE 1413	Civil Engineering Materials	3
	TOTAL	16

Sophomore Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 2103	Technical and Prof. Comm.	3
LLT 1223	World Masterpieces 2	3
ECE 1013	Surveying and Land Measurement	3
MCS 2414	Calculus 3	4
PHY 2413	University Physics 1	3
PHY 2421	University Physics 1 Lab	1
	TOTAL	17

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
EGE 2013	Statics	3
ECE 2103	CAD Infrastructure Planning	3

MCS 2423	Differential Equations	3
PHY 2423	University Physics 2	3
PHY 2431	University Physics 2 Lab	1
SSC 2423	Development of Amer. Exp.	3
LDR 2001	Leadership Models and Practices	1
	TOTAL	17

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
SSC 2303	Basic Economics	3
MCS 3403	Probability and Statistics	3
ECE 3523	Hydromechanics	3
EGE 3012	Engineering Cost Analysis	2
ECE 3013	Mechanics of Materials	3
LDR 3000	Leadership Seminar Series	0
	Engr. Science Elective*	3
	TOTAL	17

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ECE 3213	Construction Engineering	3
ECE 3324	Environmental Engineering 1	4
ECE 3424	Soil Mechanics	4
ECE 3723	Theory of Structures	3
ECE 3823	Transportation Engineering	3
COM 3000	Writing Prof. Exam	0
	TOTAL	17

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ECE 4021	CE Design Project 1	1
ECE 4051	Ethics and Professional Issues	1
ECE 4544	Hydraulic Engineering	4
ECE 4743	Concrete Design	3
LDR 4000	Leadership Capstone	0
	Civil Engineering Electives**	6
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ECE 4033	CE Design Project 2	3
ECE 4761	Structural Design/Testing Lab	1
LLT/SSC	Jr./Sr. Elective	3
ECE42X3	CE Management Practices	3
	Civil Engineering Electives**	6
	TOTAL	16

CERTIFICATE IN ENTREPRENEURIAL ENGINEERING

TOTAL SEMESTER CREDIT HOURS: 133

Students wishing to fulfill the requirements for the Certificate in Entrepreneurial Engineering should pursue the curriculum outlined above for their freshman year, then proceed as follows:

Sophomore Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 2103	Technical and Prof. Comm.	3
LLT 1223	World Masterpieces 2	3
ECE 1013	Surveying and Land Measurement	3
MCS 2414	Calculus 3	4
PHY 2413	University Physics 1	3
PHY 2421	University Physics 1 Lab	1
EGE 3012	Engineering Cost Analysis	2
	TOTAL:	19

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
EGE 2013	Statics	3
SSC 2423	Development of Amer. Exp.	3
MCS 2423	Differential Equations	3
PHY 2423	University Physics 2	3
PHY 2431	University Physics 2 Lab	1
LDR 2001	Leadership Models and Practices	1
	TOTAL	14

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
SSC 2303	Basic Economics	3
MCS 3403	Probability and Statistics	3
ECE 3523	Hydromechanics	3
ECE 3013	Mechanics of Materials	3
	Engineering Science Elective*	3
EGE 3311	Strategic Mgmt. for Engineers	1
EGE 2211	Marketing for Engineers	1
EGE 3301	Business Law for Engineers	1
	TOTAL	18

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ECE 3213	Construction Engineering	3
ECE 3324	Environ Engineering 1	4
ECE 3424	Soil Mechanics	4
ECE 3723	Theory of Structures	3
ECE 3823	Transportation Engineering	3
EGE 3361	Business Plan. Dev.	1

COM 3000	Writing Prof. Exam	0
LDR 3000	Leadership Seminar Series	0
	TOTAL	18

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ECE 4022	CE Design Project 1	2
ECE 4051	Ethics and Prof. Issues	1
ECE 4544	Hydraulic Engineering	4
ECE 4743	Concrete Design	3
	Civil Engineering Electives**	6
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
ECE 4032	CE Design Project 2	2
ECE 4761	Structural Design/Testing Lab	1
LLT/SSC	Jr./Sr. Elective	3
ECE 4243	CE Management Practices	3
LDR 4000	Leadership Capstone	0
	Civil Engineering Electives**	6
	TOTAL	15

* **Note:** Engineering Science Elective (three credits)
One course to be selected from the following:

Course Number	*Subject*	*Cr. Hrs.*
EGE 3003	Thermodynamics	3
EGE 3043	Dynamics	3
EME 4613	Introduction to Thermal Systems (non-ME)	3

** **Note:** Civil Engineering Technical Electives (12 credits)
A total of 12 technical elective credits to be chosen from the following list of courses so that the total *Design Credits**** equals or exceeds seven:

Course Number	*Subject*	*Design Credits****
ECE 4011	Design for CE Competition 1	0
ECE 4012	Design for CE Competition 2	0
ECE 4263	Cost Estimating, Bidding & Contracting	0
ECE 4343	Environmental Engineering 2	1
ECE 4563	Hydrology	1
ECE 4733	Advanced Structural Analysis	1
ECE 4363	Environmental Design	3
ECE 4443	Foundation Engineering	3
ECE 4753	Steel Design	3
ECE 4843	Highway Engineering	3

Up to six credits of civil engineering graduate-level courses may also be used to fulfill technical electives subject to approval by the department.

See your academic advisor for elective requirements and further specific information on your degree program.

Dual majors will be permitted a number of substitutions as approved by the department chair consistent with accreditation requirements.

Civil Engineering Advisors
All students should have an advisor-approved Plan of Work. Students should contact the Department of Civil Engineering, 248.204.2545, Room E023, for their assigned faculty advisor.

BACHELOR OF SCIENCE IN COMPUTER ENGINEERING
TOTAL SEMESTER CREDIT HOURS: 133

Freshman Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
SSC 2303	Principles of Economics	3
MCS 1414	Calculus 1	4
CHM 1213	University Chemistry 1	3
CHM 1221	University Chemistry 1 Lab	1
EEE 1002	Intro. to ECE	2
	TOTAL	17

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1213	World Masterpieces 1	3
COM 2103	Technical and Prof. Comm.	3
MCS 1424	Calculus 2	4
MCS 1514	Computer Science 1	4
EGE 1102	Engr. Computer Applications Lab	2
	TOTAL	16

Sophomore Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1223	World Masterpieces 2	3
MCS 2414	Calculus 3	4
SSC 2413	Foundations of Amer. Exp.	3
PHY 2413	University Physics 1	3
PHY 2421	University Physics 1 Lab	1
MCS 2514	Computer Science 2	4
LDR 2001	Leadership Models and Practices	1
	TOTAL	19

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 2423	Differential Equations	3
MCS 2523	Discrete Math	4
PHY 2423	University Physics 2	3
PHY 2431	University Physics 2 Lab	1
EEE 2114	Circuits	4
EEE 2111	Circuits Lab	1
EGE 3012	Engineering Cost Analysis	2
	TOTAL	18

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 2534	Data Structures	4
MCS 3403	Probability and Statistics	3
SSC 2423	Development of Amer. Exp.	3
EEE 3124	Signals and Systems	4
EEE 2214	Digital Electronics and Lab	4
COM 3000	Writing Proficiency Exam	0
LDR 3000	Leadership Seminar	0
	TOTAL	18

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
EEE 4623	Software Engineering	3
EEE 3233	Microprocessors	3
EEE 3231	Microprocessors Lab	1
EEE 3314	Electronics	4
EEE 3311	Electronics Lab	1
EEE 3223	Adv. Digital Electronics	3
EEE 3221	Adv. Digital Electronics Lab	1
EGE 2231	Project Management	1
	TOTAL	17

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
EEE 4243	Embedded Systems	3
EEE 4514	Control Systems and Lab	4
EGE 3361	Business Plans	1
EEE 3011	Intro. to ECE Projects	1
EEE 4831	Computer Engr. Projects 1	1
EEE 4253	Computer Architecture 1	3
LDR 4000	Leadership Capstone	0
	TOTAL	13

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS xxx3**	Comp. Science Technical Elective**	3
EEE 4xx3*	EE Technical Elective*	3
EEE 4xx1	EE Lab	1
EEE 4842	Computer Engr. Projects 2	2
EEE 4273	Real Time Systems	3
LLT/SSC/PSY 3/4xx3	Jr./Sr. Elective	3
	TOTAL	15

* A list of electrical engineering technical electives is available from the Department of Electrical and Computer Engineering, Room E217.

** A list of approved computer science and computer engineering technical electives is available from the Department of Electrical and Computer Engineering, Room E217.

Dual majors will be permitted a number of substitutions as approved by the department chair consistent with accreditation requirements.

Electrical and Computer Engineering Advisors

All students should have an advisor-approved Plan of Work. Students should contact the Department of Electrical and Computer Engineering, Room E217, for their assigned faculty advisor.

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING
TOTAL SEMESTER CREDIT HOURS: 132

Freshman Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
MCS 1142	Intro. to C	2
MCS 1414	Calculus 1	4
CHM 1213	University Chemistry 1	3
CHM 1221	University Chemistry 1 Lab	1
EEE 1002	Intro. to ECE	2
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1213	World Masterpieces 1	3
COM 2103	Technical and Prof. Comm.	3
MCS 1424	Calculus 2	4
SSC 2303	Principles of Economics	3
EGE 1102	Engr. Computer Applications Lab	2
	TOTAL	15

Sophomore Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
SSC 2413	Foundations of Amer. Exp.	3
LLT 1223	World Masterpieces 2	3
MCS 2414	Calculus 3	4
PHY 2413	University Physics 1	3
PHY 2421	University Physics 1 Lab	1
EEE 2214	Digital Electronics and Lab	4
LDR 2001	Leadership Models and Practices	1
	TOTAL	19

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 2423	Differential Equations	3
PHY 2423	University Physics 2	3
PHY 2431	University Physics 2 Lab	1
SSC 2423	Development of Amer. Exp.	3
EME 4603	Intro. to Mechanical Systems	3
EEE 2114	Circuits	4
EEE 2111	Circuits Lab	1
	TOTAL	18

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 3403	Probability and Statistics	3
MCS 3413	Adv. Engineering Math	3
EEE 3233	Microprocessors	3
EEE 3231	Microprocessors Lab	1
EME 4613	Intro. to Thermal Systems	3
EEE 3124	Signals and Systems	4
EEE 3121	Signals and Systems Lab	1
COM 3000	Writing Proficiency Exam	0
	TOTAL	18

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
EGE 3012	Engr. Cost Analysis	2
EEE 3314	Electronics	4
EEE 3311	Electronics Lab	1
EEE 3414	Electromagnetic Fields	4
EEE xxx3	EE Concentration #1	3
EGE 2231	Project Management	1
LDR 3000	Leadership Seminar	0
	TOTAL	15

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
EEE 3422	Adv. Computer Applications Lab	2
EEE 4514	Control Systems and Lab	4
EEE xxx1	EE Lab	1
EEE 3011	Intro. to ECE Projects	1
EEE 4811	EE Projects 1	1
EEE 4xx3	EE Concentration #2	3
EEE 4xx3	EE Tech Elective	3
EGE 3361	Business Plans	1
LDR 4000	Leadership Capstone	0
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
EEE 4423	Communication Systems	3
EEE 4xx3	EE Concentration #3	3
EEE 4xx3	EE Technical Elective	3
EEE 4822	EE Projects 2	2
EEE 4xx1	EE Lab	1
LLT/SSC/ PSY3/ 4xx3	Jr./Sr. Humanities Elective	3
	TOTAL	15

Labs are required with a number of concentration and Technical Elective courses; these can be used to satisfy the general EE lab requirements. A list of Technical Elective courses is available from the Electrical and Computer Engineering Department, Room E217.

Requirements for the two concentrations are:

Electrical Energy Systems

Course Number	*Subject*	*Cr. Hrs.*
EEE 3513	Intro. to Electrical Systems	3
EEE 4153	Electrical Machines	3
EEE 4xx3*	Energy Technical Elective*	3

Electronics Engineering

Course Number	*Subject*	*Cr. Hrs.*
EEE 3223	Adv. Digital Electronics	3
EEE 4323	Adv. Electronics	3
EEE 4713	Optoelectronics	3

*A list of eligible courses is available from the Department of Electrical and Computer Engineering.

Dual majors will be permitted a number of substitutions as approved by the department chair consistent with accreditation requirements.

Electrical and Computer Engineering Advisors
All students should have an advisor-approved Plan of Work. Students should contact the Department of Electrical and Computer Engineering, Room E217, for their assigned faculty advisor.

BACHELOR OF SCIENCE IN INDUSTRIAL OPERATIONS ENGINEERING
TOTAL SEMESTER CREDIT HOURS: 132

Freshman Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
MCS 1414	Calculus 1	4
CHM 1213	University Chemistry 1	3
CHM 1221	University Chemistry 1 Lab	1
EGE 1012	Intro. to Engineering	2
SSC 2303	Principles of Economics	3
	TOTAL	17

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1213	World Masterpieces 1	3
SSC 2413	Foundations of Amer. Exp.	3
MCS 1424	Calculus 2	4
EGE 1023	Engineering Materials	3
EGE 1102	Eng. Comp. Appl. Lab	2
	TOTAL	15

Sophomore Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 2103	Technical and Prof. Comm.	3
LLT 1223	World Masterpieces 2	3
MCS 2414	Calculus 3	4
PHY 2413	University Physics 1	3
PHY 2421	University Physics 1 Lab	1
IOE 2012	Engineering Graphics	2
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
SSC 2423	Development of Amer. Exp.	3
MCS 2423	Differential Equations	3
PHY 2423	University Physics 2	3
PHY 2431	University Physics 2 Lab	1
EGE 2013	Statics	3
IOE 3023	Industrial Mfg. Processes	3
EME 2011	Engineering Materials Lab	1
LDR 2001	Leadership Models and Practices	1
	TOTAL	18

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 3403	Probability and Statistics	3
EEE 2123	Circuits and Electronics	3
EGE 3003	Thermodynamics	3
EME 3013	Mechanics of Materials	3
EME 3043	Dynamics	3
IOE 3033	Engineering Numerical Methods	3
COM 3000	Writing Proficiency Exam	0
	TOTAL	18

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
IOE 3011	Intro. to Indus. Engineering Projects	1
IOE 3354	Intro. to Operations Research	4
IOE 3753	Simulation in System Design	3
EME 3123	Fluid Mechanics	3

IOE 3653	Stochastic Modeling	3
IOE 3453	Statistical Meth. for Process Impr.	3
LDR 3000	Leadership Seminar	0
	TOTAL	17

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
IOE 4212	Engineering Projects1	2
IOE 4454	Industrial Operations Research	4
IOE 4653	Industrial and Engineering Finance	3
IOE 4xx3*	Technical Elective*	3
IOE 4xx3*	Technical Elective*	3
IOE 4xx3*	Technical Elective*	3
LDR 4000	Leadership Capstone	0
	TOTAL	18

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
IOE 4222	Engineering Projects 2	2
IOE 4552	Occupational Ergonomics	2
IOE 4xx3*	Technical Elective*	3
IOE 4xx3*	Technical Elective*	3
LLT/SSC/PSY 3/4xx3	Jr./Sr. Hum Elective	3
	TOTAL	13

* A list of approved electives is available in the Department of Mechanical Engineering.

Students should consult their academic advisor for program and elective requirements and further specific information on their degree program.

Industrial Operations Engineering Advisor
Vernon Fernandez, fernandez@ltu.edu, 248.204.2571, E28D

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING
TOTAL SEMESTER CREDIT HOURS: 132

Freshman Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
MCS 1414	Calculus 1	4
CHM 1213	University Chemistry 1	3
CHM 1221	University Chemistry 1 Lab	1
EGE 1012	Intro. to Engineering	2
SSC 2303	Principles of Economics	3
	TOTAL	17

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1213	World Masterpieces 1	3
SSC 2413	Foundations of Amer. Exp.	3
MCS 1424	Calculus 2	4
EGE 1023	Engineering Materials	3
EGE 1102	Eng. Comp. Appl. Lab	2
EME 2012	ME Graphics	2
	TOTAL	17

Sophomore Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 2103	Technical and Prof. Comm.	3
LLT 1223	World Masterpieces 2	3
MCS 2414	Calculus 3	4
PHY 2413	University Physics 1	3
PHY 2421	University Physics 1 Lab	1
EME 3023	Manufacturing Processes	3
	TOTAL	17

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
SSC 2423	Development of Amer. Exp.	3
MCS 2423	Differential Equations	3
PHY 2423	University Physics 2	3
PHY 2431	University Physics 2 Lab	1
EGE 2013	Statics	3
MCS 3863	Linear Algebra	3
LDR 2001	Leadership Models and Practices	1
EME 2011	Materials Lab	1
	TOTAL	18

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 3403	Probability and Statistics	3
EGE 3003	Thermodynamics	3
EME 3013	Mechanics of Materials	3
EME 3043	Dynamics	3
EGE 2211	Marketing for Engineers	1
EGE 3301	Business Law for Engineers	1
EGE 3311	Strategic Mgt for Engineers	1
EME 3033	Engr. Numerical Methods	3
COM 3000	Writing Proficiency Exam	0
	TOTAL	18

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
EME 3011	Intro. to Engineering Projects	1
EEE 2123	Circuits and Electronics	3
EME 3123	Fluid Mechanics	3
EME 3133	Kinematics and Dynamics of Mach.	3
EME 4003	Design of Machine Elements	3
LDR 3000	Leadership Seminar	0
	TOTAL	13

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
EME 4212	Engineering Projects 1	2
EME 4402	Mechanics Lab	2
EME 4013	Heat Transfer	3
EME 3214	Intro. to Mechatronics	4
EGE 3012	Engineering Cost Analysis	2
EME 4/5xx3*	Technical Elective*	3
LDR 4000	Leadership Capstone	0
	TOTAL	16

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
EME 4222	Engineering Projects 2	2
EME 4412	Thermal Science Lab	2
EME 4/5xx3*	Technical Elective*	3
EME 4/5xx3*	Technical Elective*	3
EME 4/5xx3*	Technical Elective*	3
LLT/SSC/PSY 3/4xx3	Jr./Sr. Humanities Elective	3
	TOTAL	16

CERTIFICATE IN ENTREPRENEURIAL ENGINEERING

Students wishing to fulfill the requirements for the Certificate in Entrepreneurial Engineering should pursue the curriculum outlined above for their freshman and sophomore years, then proceed as follows:

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 3403	Probability and Statistics	3
EGE 3003	Thermodynamics	3
EME 3013	Mechanics of Materials	3
EME 3043	Dynamics	3
EGE 3012	Engineering Cost Analysis	2
EGE 3301	Business Law for Engineers	1
EGE 3311	Strategic Mgt for Engineers	1

EGE 2211	Marketing for Engineers	1
COM 3000	Writing Proficiency Exam	0
	TOTAL	17

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
EME 3011	Intro. to Engineering Projects	1
EEE 2123	Circuits and Electronics	3
EME 3123	Fluid Mechanics	3
EME 3133	Kinematics and Dynamics of Mach.	3
EME 4003	Design of Machine Elements	3
EME 3033	Engineering Num Methods	3
EGE 3361	Business Plan Development	1
LDR 3000	Leadership Seminar	0
	TOTAL	17

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
EME 4212	Engineering Projects 1	2
EME 4402	Mechanics Lab	2
EME 4013	Heat Transfer	3
EME 3214	Intro. to Mechatronics	4
EGE 4/5xx1*	Entrepreneurial Elective*	1
EME 4/5xx3*	Technical Elective*	3
LDR 4000	Leadership Capstone	0
	TOTAL	15

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
EME 4222	Engineering Projects 2	2
EME 4412	Thermal Science Lab	2
EME 4/5xx3*	Technical Elective*	3
EME 4/5xx3*	Technical Elective*	3
EGE 4/5xx1*	Entrepreneurial Elective*	1
LLT/SSC/PSY 3/4xx3	Jr./Sr. Humanities Elective	3
	TOTAL	14

* A list of approved elective courses is available in the Department of Mechanical Engineering or at the department website. All students can select 4xx3 courses from this list for their electives. Only those students maintaining a minimum 3.0 GPA may select 5xx3 courses from the list for their electives.

Students should consult their academic advisor for elective requirements and further specific information on their degree program.

Mechanical Engineering Advisor
All students should have an advisor-approved Plan of Work. Students should contact the Department of Mechanical Engineering, Room E29, ext. 2550, for their assigned faculty advisor.

BACHELOR OF SCIENCE IN ROBOTICS ENGINEERING
TOTAL SEMESTER CREDIT HOURS: 136

Freshman Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
MCS 1414	Calculus 1	4
MCS 1514	Computer Science 1	4
EGE 1012	Intro. to Engineering	2
SSC 2413	Foundations of Amer. Exp.	3
	TOTAL	17

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
LLT 1213	World Masterpieces 1	3
MCS 1424	Calculus 2	4
MCS 2514	Computer Science 2	4
MCS 2523	Discrete Mathematics	3
COM 2103	Technical and Prof. Comm.	3
	TOTAL	17

Sophomore Year
FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 2534	Data Structures	4
MCS 2414	Calculus 3	4
PHY 2413	University Physics 1	3
PHY 2421	University Physics 1 Lab	1
EME 2012	ME Graphics	2
SSC 2423	Development of Amer. Exp.	3
LDR 2001	Leadership Models and Practices	1
	TOTAL	18

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
MCS 2423	Differential Equations	3
PHY 2423	University Physics 2	3
PHY 2431	University Physics 2 Lab	1
EME 4603	Intro. to Mechanical Systems	3
MCS 3863	Linear Algebra	3
ERE 2024	Unified Robotics I	4
	TOTAL	17

Junior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
EEE 2214	Digital Electronics & Lab	4
EEE 2123	Circuits and Electronics	3
EME 3133	Kinematics and Dynamics of Mach.	3
ERE 3114	System Modeling & Control	4
ERE 3014	Unified Robotics II	4
COM 3000	Writing Proficiency Exam	0
	TOTAL	18

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
EME 3011	Intro. to Engineering Projects	1
EEE 3233	Microprocessors	3
EME 4613	Intro. to Thermal Systems	3
MCS 3403	Probability and Statistics	3
ERE 3024	Unified Robotics III	4
LDR 3000	Leadership Seminar	0
LLT 1223	World Masterpieces 2	3
	TOTAL	17

Senior Year

FIRST SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
EME 4252	Senior Project Fundamentals	2
EEE 4243	Embedded Systems	3
ERE 4113	Discrete Control	3
EGE 3013	Cost Analysis	2
ERE 4014	Unified Robotics IV	4
SSC 2303	Principles of Economics	3
LDR 4000	Leadership Capstone	0
	TOTAL	17

SECOND SEMESTER

Course Number	*Subject*	*Cr. Hrs.*
EME 4253	Senior Capstone Project	3
EME 4/5xx3*	Technical Elective*	3
EME 4/5xx3*	Technical Elective*	3
EME 4/5xx3*	Technical Elective*	3
LLT/SSC/PSY 3/4xx3	Jr./Sr. Humanities Elective	3
	TOTAL	15

*All students can select 4xx3 courses from EME, EEE, MCS, or ERE for their electives. Only those students maintaining a minimum 3.0 GPA may select 5xx3 courses from EME, EEE, MCS, or ERE for their electives.

Robotics Engineering Advisor

Giscard Kfoury, gkfoury@ltu.edu, 248.204.2579, E28B

MASTER OF SCIENCE IN ARCHITECTURAL ENGINEERING (COMBINED BACHELOR'S AND MASTER'S PROGRAMS)
TOTAL SEMESTER CREDIT HOURS: 164
Students seeking the Master of Science in Architectural Engineering should refer to the *Graduate Catalog* for a complete listing of courses and curriculum.

All students should have an advisor-approved Plan of Work. They should consult their academic advisors for program and elective requirements and further specific information. A flow chart is available for a graphic visualization of the program.

Architectural Engineering Advisor
Filza H. Walters, fwalters@ltu.edu, 248.204.2610, E25

ENGINEERING TECHNOLOGY

ASSOCIATE OF SCIENCE IN COMMUNICATIONS ENGINEERING TECHNOLOGY
TOTAL SEMESTER CREDIT HOURS: 65

First Semester

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
MCS 1113	Technical Math 1	3
MCS 1023	Technical Computer Applications	3
SSC 2303	Principles of Economics	3
	TOTAL	10

Second Semester

Course Number	*Subject*	*Cr. Hrs.*
COM 1103	English Composition	3
MCS 1123	Technical Math 2	3
PHY 1063	Technical Physics 1	3
PHY 1100	Technical Physics Lab 1	0
	TOTAL	9

Third Semester

Course Number	*Subject*	*Cr. Hrs.*
MCS 2313	Technical Calculus	3
PHY 1083	Technical Physics 2	3
PHY 1011	Technical Physics Lab 2	1
TEE 1023	Circuits 1	3
	TOTAL	10

Fourth Semester

Course Number	*Subject*	*Cr. Hrs.*
MCS 2323 **or**	Applied Differential Equations **or**	
MCS 2023	Statistical Methods	3
TEE 2013	Circuits 2	3
TEE 2033	Electronics 1	3
	TOTAL	9

Fifth Semester

Course Number	*Subject*	*Cr. Hrs.*
COM 2103	Technical and Prof. Comm.	3
TEE 2053	Electronics 2	3
TEE 2073	Electrical Drawing	3
	TOTAL	9

Sixth Semester

Course Number	*Subject*	*Cr. Hrs.*
TEE 2093	Electronics 3	3
TEE 2123	Microprocessors	3
TEE 2163	Electronic Communication	3
	TOTAL	9

Seventh Semester

Course Number	*Subject*	*Cr. Hrs.*
TEE 2183	Industrial Electronics	3
TEE 2226	TV/Radio Facility Engr. Mgt	6
	TOTAL	9

ASSOCIATE OF SCIENCE IN CONSTRUCTION ENGINEERING TECHNOLOGY

TOTAL SEMESTER CREDIT HOURS: 65

First Semester

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
MCS 1023	Technical Computer Applications	3
MCS 1113	Technical Math 1	3
SSC 2303	Principles of Economics	3
	TOTAL	10

Second Semester

Course Number	*Subject*	*Cr. Hrs.*
COM 1103	English Composition	3
MCS 1123	Technical Math 2	3
PHY 1063	Technical Physics 1	3
PHY 1100	Technical Physics Lab 1	0
	TOTAL	9

Third Semester

Course Number	*Subject*	*Cr. Hrs.*
MCS 2313	Technical Calculus	3
PHY 1083	Technical Physics 2	3
PHY 1101	Technical Physics Lab 2	1
TCE 1023	Architectural Graphics	3
	TOTAL	10

Fourth Semester

Course Number	*Subject*	*Cr. Hrs.*
COM 2103	Technical and Prof. Comm.	3
MCS 2323 **or**	Applied Differential Equations **or**	
MCS 2023	Statistical Methods	3
TME 2013	Statics	3
	TOTAL	9

Fifth Semester

Course Number	*Subject*	*Cr. Hrs.*
TCE 2013	Construction Techniques 1	3
TCE 2033	Soils	3
TCE 2073	Surveying	3
	TOTAL	9

Sixth Semester

Course Number	*Subject*	*Cr. Hrs.*
TCE 2053	Construction Techniques 2	3
TME 2033	Mechanics of Materials	3
TIE 2123	Project Management	3
	TOTAL	9

Seventh Semester

Course Number	*Subject*	*Cr. Hrs.*
TCE 2093	Structures	3
TCE 2123	Estimating	3
TCE 2143	Specifications and Regulations	3
	TOTAL	9

ASSOCIATE OF SCIENCE IN MANUFACTURING ENGINEERING TECHNOLOGY

TOTAL SEMESTER CREDIT HOURS: 65

First Semester

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
MCS 1023	Technical Computer Applications	3
MCS 1113	Technical Math 1	3
TME 1023	Technical Graphics	3
	TOTAL	10

Second Semester

Course Number	*Subject*	*Cr. Hrs.*
COM 1103	English Composition	3
MCS 1123	Technical Math 2	3
PHY 1063	Technical Physics 1	3
PHY 1100	Technical Physics Lab 1	0
	TOTAL	9

Third Semester

Course Number	*Subject*	*Cr. Hrs.*
SSC 2303	Principles of Economics	3
MCS 2313	Technical Calculus	3
PHY 1083	Technical Physics 2	3
PHY 1101	Technical Physics Lab 2	1
	TOTAL	10

Fourth Semester

Course Number	*Subject*	*Cr. Hrs.*
COM 2103	Technical and Prof. Comm.	3
MCS 2023 **or**	Statistical Methods **or**	
MCS 2323	Applied Differential Equations	3
TME 2143	Materials I	3
	TOTAL	9

Fifth Semester

Course Number	*Subject*	*Cr. Hrs.*
TIE 2013	Productivity and Work Measurement	3
TIE 2063	Manufacturing Processes 1	3
TME 2013	Statics	3
	TOTAL	9

Sixth Semester

Course Number	*Subject*	*Cr. Hrs.*
TME 2033	Mechanics of Materials	3
TIE 2093	Metrology and Quality Control	3
TIE 2163	Engineering Economics and Acct	3
	TOTAL	9

Seventh Semester

Course Number	*Subject*	*Cr. Hrs.*
TEE 2173	Automatic Control Systems	3
TIE 2153	Manufacturing Processes 2	3
TIE 2123	Project Management	3
	TOTAL	9

ASSOCIATE OF SCIENCE IN MECHANICAL ENGINEERING TECHNOLOGY
TOTAL SEMESTER CREDIT HOURS: 65

First Semester

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1

MCS 1023	Technical Computer Applications	3
MCS 1113	Technical Math 1	3
TME 1023	Technical Graphics	3
	TOTAL	10

Second Semester

Course Number	*Subject*	*Cr. Hrs.*
COM 1103	English Composition	3
MCS 1123	Technical Math 2	3
PHY 1063	Technical Physics 1	3
PHY 1100	Technical Physics Lab 1	0
	TOTAL	9

Third Semester

Course Number	*Subject*	*Cr. Hrs.*
SSC 2303	Principles of Economics	3
MSC 2313	Technical Calculus	3
PHY 1083	Technical Physics 2	3
PHY 1101	Technical Physics Lab 2	1
		10

Fourth Semester

Course Number	*Subject*	*Cr. Hrs.*
COM 2103	Technical and Prof. Comm.	3
MCS 2323 **or**	Applied Differential Equations **or**	
MCS 2023	Statistical Methods	3
TME 2013	Statics	3
	TOTAL	9

Fifth Semester

Course Number	*Subject*	*Cr. Hrs.*
TME 2033	Mechanics of Materials	3
TME 2053	Dynamics	3
TME 2073	Thermodynamics	3
	TOTAL	9

Sixth Semester

Course Number	*Subject*	*Cr. Hrs.*
TIE 2063	Manufacturing Processes 1	3
TME 2123	Fluids	3
TME 2143	Materials 1	3
	TOTAL	9

Seventh Semester

Course Number	*Subject*	*Cr. Hrs.*
TEE 2173	Automatic Control Systems	3
TME 2163	Computer Graphics	3
TME 2213	Mechanical Design	3
	TOTAL	9

Engineering Technology Advisors
Jerry Cuper (jcuper@ltu.edu**)** or Ken Cook (kcook@ltu.edu), 248.204.2060, E179.

BACHELOR OF SCIENCE IN AUDIO ENGINEERING TECHNOLOGY
TOTAL SEMESTER CREDIT HOURS: 126

Communication (seven credit hours)

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
COM 2103	Technical and Prof. Comm.	3
COM 3000	Written Proficiency Exam	0

General Electives (three credit hours)
Any Lawrence Tech class that is 1xxx or higher.

Junior/Senior Humanities Elective (three credit hours)
LLT 3xx3 or LLT 4xx3 or SSC 3xx3 or SSC 4xx3 or PSY 3xx3 or PSY 4xx3

Language and Literature (six credit hours)

Course Number	*Subject*	*Cr. Hrs.*
LLT 2213	World Masterpieces 1	3
LLT 1223	World Masterpieces 2	3

Leadership (one credit hour)

Course Number	*Subject*	*Cr. Hrs.*
LDR 2001	Leadership Models and Practice	1
LDR 3000	Leadership Seminar Series	0
LDR 4000	Leadership Capstone	0

Math and Computer Science (18 credit hours)

Course Number	*Subject*	*Cr. Hrs.*
MCS 1023	Technical Computer Applications	3
MCS 1113	Technical Math 1	3
MCS 1123	Technical Math 2	3
MCS 2313	Technical Calculus	3
MCS 2323	Applied Differential Equations	3
MCS 2023	Statistical Methods	3

Natural Sciences (11 credit hours)

Course Number	*Subject*	*Cr. Hrs.*
PHY 1063	Technical Physics 1	3
PHY 1100	Technical Physics 1 Lab	0
PHY 1083	Technical Physics 2	3
PHY 1101	Technical Physics 2 Lab	1
CHM 3144	Fundamentals of Chemistry	4

Program Core (17 credit hours)

Course Number	*Subject*	*Cr. Hrs.*
TIE 2123	Project Management	3
TIE 2163	Engineering Economics and Acct	3
TIE 4115	Senior Project	5
TME 3113	Engineering Mechanics	3
TME 2143	Materials 1	3

Social Sciences (nine credit hours)

Course Number	*Subject*	*Cr. Hrs.*
SSC 2413	Foundations of Amer. Exp.	3
SSC 2423	Development of Amer. Exp.	3
SSC 2303	Principles of Economics	3

Technical Elective (three credit hours)

Technology Core (48 credit hours)

Course Number	*Subject*	*Cr. Hrs.*
TAS 1013	Music for Audio Tech 1	3
TAS 1033	Music for Audio Tech 2	3
TAS 2033	Audio Prin. of Record (incl. lab)	3
TAS 2053	Art of Mixing	3
TAS 3013	Audio Sound Tech	3
TAS 3033	Audio Acoustics	3
TAS 3101	Audio Acoustics Lab	1
TAS 3053	Advanced Audio Productions	3
TAS 4113	Audio Senior Project	3
TAS 4133	Audio System Integration	3
TAS 4122	Sound Application Seminar	2
TEE 1023	Circuits (DC Circuits)	3
TEE 2013	Circuits (AC Circuits)	3
TEE 2033	Electronics 1	3
TEE 2053	Electronics 2	3
TEE 2093	Electronics 3	3
TEE 2123	Microprocessors	3

BACHELOR OF SCIENCE IN CONSTRUCTION MANAGEMENT
TOTAL SEMESTER CREDIT HOURS: 125

Construction Core (14 credit hours)

Course Number	*Subject*	*Cr. Hrs.*
TCE 2123	Estimating	3
TCE 4113	Construction Safety	3
TIE 2123	Project Management	3
TIE 4115	Senior Project	5

Construction and Management Electives (11 credit hours required)

Course Number	*Subject*	*Cr. Hrs.*
OPM 3113	Operations Management	3
TCE 4112	Construction Equipment	2
TCE 4122	Value Engineering	2
TCE 4123	Highway Design and Estimating	3
TIE 2013	Productivity and Work Measurement	3
TEE 3103	DC/AC Circuits	3
TME 2073	Thermodynamics	3
TME 2123	Fluids	3

Construction Science (30 credit hours)

Course Number	*Subject*	*Cr. Hrs.*
TME 2013	Statics	3
TME 2033	Mechanics of Materials	3
TCE 1023	Architectural Graphics	3
TCE 2013	Construction Techniques 1	3
TCE 2033	Soils	3
TCE 2093	Structures	3
TCE 2143	Specifications and Regulations	3
TCE 2053	Construction Techniques 2	3
TCE 2073	Surveying	3
TCE 3113	Construction Techniques 3	3

Humanities Core (19 credit hours)

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
COM 2103	Technical and Prof. Comm.	3
COM 3000	Written Proficiency Exam	0
LLT 1213	World Masterpieces 1	3
LLT 1223	World Masterpieces 2	3
SSC 2413	Foundations of Amer. Exper.	3
SSC 2423	Development of Amer. Exper.	3

Junior/Senior Humanities Elective (3 credit hours)

LLT 3xx3 or LLT 4xx3 or SSC 3xx3 or SSC 4xx3 or PSY 3xx3 or PSY 4xx3

Leadership Core (1 credit hour)

Course Number	*Subject*	*Cr. Hrs.*
LDR 2001	Leadership Models and Practices	1
LDR 3000	Leadership Seminar Series	0
LDR 4000	Leadership Capstone	0

Management Core (21 credit hours)

Course Number	*Subject*	*Cr. Hrs.*
INT 3023	Information Technology Inaugural	3
HRM 3013	Organizational Behavior	3
HRM 4013	Employee/Management Relations	3
MGT 2113	Intro. to Business Law	3
MGT 2203	Management and Supervision	3
SSC 2303	Principles of Economics	3
TIE 2163	Engineering Economics and Acct	3

Math/Science Core (26 credit hours)

Course Number	*Subject*	*Cr. Hrs.*
MCS 1023	Technical Comp Applications	3
MCS 1113	Technical Math 1	3
MCS 1123	Technical Math 2	3
MCS 2023	Statistical Methods	3
MCS 2313	Technical Calculus	3
PHY 1063	Technical Physics 1	3
PHY 1100	Technical Physics 1 Lab	0
PHY 1083	Technical Physics 2	3
PHY 1101	Technical Physics 2 Lab	1
CHM 3144	Fund Chemistry	4

BACHELOR OF SCIENCE IN ENGINEERING TECHNOLOGY

TOTAL SEMESTER CREDIT HOURS: 126 (including an associate degree)
Students must complete the following Lawrence Technical courses or their equivalent. (Equivalent classes from an associate or Ontario diploma program are evaluated and transferred into the program during the admission process.)

Communications (seven credit hours)

Course Number	*Subject*	*Cr. Hrs.*
COM 1001	University Seminar	1
COM 1103	English Composition	3
COM 2103	Technical and Prof. Comm.	3
COM 3000	Written Proficiency Exam	0

General Electives (nine credit hours)
Any Lawrence Tech class that is 1xxx or higher.

Junior/Senior Humanities Elective (three credit hours)
LLT 3xx3 or LLT 4xx3 or SSC 3xx3 or SSC 4xx3 or PSY 3xx3 or PSY 4xx3

Language and Literature (six credit hours)

Course Number	*Subject*	*Cr. Hrs.*
LLT 2213	World Masterpieces 1	3
LLT 1223	World Masterpieces 2	3

Leadership (one credit hour)

Course Number	*Subject*	*Cr. Hrs.*
LDR 2001	Leadership Models and Practice	1
LDR 3000	Leadership Seminar Series	0
LDR 4000	Leadership Capstone	0

Math and Computer Science (18 credit hours)

Course Number	*Subject*	*Cr. Hrs.*
MCS 1023	Technical Computer Applications	3
MCS 1113	Technical Math 1	3
MCS 1123	Technical Math 2	3
MCS 2313	Technical Calculus	3
MCS 2323	Applied Differential Equations	3
MCS 2023	Statistical Methods	3

Natural Sciences (11 credit hours)

Course Number	*Subject*	*Cr. Hrs.*
PHY 1063	Technical Physics 1	3
PHY 1100	Technical Physics 1 Lab	0
PHY 1083	Technical Physics 2	3
PHY 1101	Technical Physics 2 Lab	1
CHM 3144	Fundamentals of Chem. (incl. lab)	4

Social Sciences (nine credit hours)

Course Number	*Subject*	*Cr. Hrs.*
SSC 2303	Principles of Economics	3
SSC 2413	Foundations of Amer. Exp.	3
SSC 2423	Development of Amer. Exp.	3

Technology Core (29 credit hours)

Course Number	*Subject*	*Cr. Hrs.*
HRM 4013	Employee/Management Relations	3
MGT 2203	Management and Supervision	3
TEE 3103	DC/AC Circuits	3
TIE 2063	Manufacturing Processes	3
TIE 2163	Engineering Economics and Acct.	3
TIE 4115	Senior Project	5
TME 2053 **or**	Dynamics **or**	
TME 3113*	Engineering Mechanics*	3
TME 4103	Engineering Materials 2	3
OPM 3113	Operations Management	3

*For students who were not required to take Statics for their associate degree

Technology Specialty and Technical Electives (33 credit hours)

All students must have 33 credit hours in their chosen technical specialty. In cases where courses transferred from the associate degree could qualify as either a technical core or technical elective course, those credit hours will be counted as technical core courses and additional hours required within the specialty to fulfill the 33-hour requirement.

For students in the Greenfield Coalition program only:

ASSOCIATE OF SCIENCE IN MANUFACTURING ENGINEERING/TECHNOLOGY
TOTAL SEMESTER CREDIT HOURS: 70

First Semester

Course Number	*Subject*	*Cr. Hrs.*
GCF 1011	Technical Graphics	1
GCF 1012	Basic Programming	2
GCL 1013	English Composition	3
GCM 1013	Technical Math 1	3
	TOTAL	9

Second Semester

Course Number	*Subject*	*Cr. Hrs.*
GCF 1113	Design Graphics	3
GCM 1022	Technical Math 2	2
GCT 1213	Basics of Psychology	3
GCT 1211	Foundations of Measurements	1
	TOTAL	9

Third Semester

Course Number	*Subject*	*Cr. Hrs.*
GCE 2462	Engineering Economics	2
GCC 1012	Basic Chemistry	2
GCF 2013	C++	3
GCT 1221	Instrumentation	1
	TOTAL	8

Fourth Semester

Course Number	*Subject*	*Cr. Hrs.*
GCM 2114	Calculus	4
GCS 2113	Mechanophysics	3
GCL 2013	Communications 1	3
	TOTAL	10

Fifth Semester

Course Number	*Subject*	*Cr. Hrs.*
GCC 1023	Chemistry 1	3
GCC 1021	Chemistry 1 Lab	1
GCM 2413	Statistical Methods	3
GCT 1112	Machining Processes	2
	TOTAL	9

Sixth Semester

Course Number	*Subject*	*Cr. Hrs.*
GCS 2213	Physics 1	3
GC2 311	Physics 1 Lab	1
GCE 2412	Manufacturing Planning	2
GCT 2511	Design Project	1
GCT 2012	Engineering Materials	2
	TOTAL	9

Seventh Semester

Course Number	*Subject*	*Cr. Hrs.*
GCT 2112	Manufacturing Processes	2
GCS 2313	Electroscience	3
GCT 2452	Ethics in Industry	2
	TOTAL	7

Eighth Semester

Course Number	*Subject*	*Cr. Hrs.*
GCT 2182	Tool Design	2
GCT 2461	Control Systems	1
GCT 2212	Electrical Machines	2
GCT 2314	Manufacturing Systems 1	4
	TOTAL	9

College of Management

Dean
Bahman Mirshab
M331, 248.204.3050

Associate Dean
Nadia Shuayto
M331, 248.204.3063

ABOUT THE COLLEGE OF MANAGEMENT
The mission of the College of Management is to prepare our students for the challenges and opportunities of the global economy through interdisciplinary educational programs that emphasize the multiple business, ethical, social, and technological dimensions of leadership and management.

The College of Management provides one of the most comprehensive interdisciplinary programs in global leadership and management in the country. Students learn how to address the business, social, ethical, and technological dimensions of leadership in today's complex, fast-paced, global economy.

The College of Management prepares students for the challenges and opportunities they will encounter as tomorrow's leaders in global organizations in the private, public, and non-profit sectors.

Students gain the knowledge, leadership skills, technological expertise, and research capabilities necessary to be effective leaders through an intensive program of interdisciplinary course work, workshops, seminars, and directed research. Consistent with the University's motto of "theory and practice," students learn how to apply their knowledge and skills to the practice of global leadership and management.

The College of Management's academic programs are accredited by both the Association of Collegiate Business Schools and Programs (ACBSP) and the International Assembly of Collegiate Business Education (IACBE), one of only three institutions in the state of Michigan to be accredited by both organizations. Lawrence Tech is a member of the Association to Advance Collegiate Schools of Business (AACSB), and the College of Management has applied to be eligible for the AACSB accreditation process. Since 1998, the College has consistently received top scores in a nationwide student satisfaction survey.

DEGREE PROGRAMS
Lawrence Tech's College of Management offers these programs:

Bachelor's Programs
Bachelor of Science in Business Administration
Bachelor of Science in Information Technology

Master's Programs
Master of Business Administration
Master of Science in Information Systems

Dual Degree Programs
Master of Business Administration/Master of Science in Information Systems
Master of Business Administration/Master of Engineering Management
Master of Business Administration/Master of Architecture

Doctoral Programs
Doctor of Business Administration
Doctor of Management in Information Technology

Graduate Certificate Programs
Graduate Certificate in Health Information Technology Management
Graduate Certificate in Information Assurance Management
Graduate Certificate in Interdisciplinary Sustainability
Graduate Certificate in Nonprofit Management and Leadership
Graduate Certificate in Project Management

Bachelor of Science in Business Administration
Bachelor of Science in Information Technology
The Bachelor of Science in Business Administration and Bachelor of Science in Information Technology programs are jointly administered by the College of Arts and Sciences and the College of Management. The first two years (approximately 60 credit hours) are advised and administered through the College of Arts and Sciences. Students successfully completing 60 credit hours are then advised and administered through their final 60 (approximately) credit hours through the College of Management. Diplomas for the Bachelor of Science in Business Administration and Bachelor of Science in Information Technology degree programs are awarded from the College of Management.

Please see the College of Arts and Sciences section of this *Catalog* for complete descriptions of the curricula for the Bachelor of Science in Business Administration and the Bachelor of Science in Information Technology programs.

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Assistant Director, Admissions	Kristi Webster
Interim Director, Financial Aid and Veteran Affairs	Delores King
Director, Leadership Programs	Jim Jolly

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Interim Vice President of Finance and Administration	**Linda Height**
Controller	Grant Wenzinger
Director, Human Resources	Deshawn Johnson
Director, Campus Facilities	Carey G. Valentine
Director, Campus Safety	Harry Butler
Supervisor, Campus Safety	Charleton Hunt
University Architect	Joseph C. Veryser
Manager, University Bookstore	Carl Campanella

Administration of the Colleges

Architecture and Design

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Assistant Dean and Director of Graduate Studies	Ralph Kirk Nelson
Chair, Architecture	Scott Shall
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Arts and Sciences

Dean of Arts and Sciences	**Hsiao-Ping Moore**
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Dean of Management	**Bahman Mirshab**
Associate Dean and Director of MBA Program	Nadia Shuayto
Chair, Doctor of Business Administration	Jacqueline Stavros
Chair, Doctor of Management in Information Technology	A. Lerine Steenkamp
Director, Center for Nonprofit Management	Jerry Lindman
Director, Center for Global Leadership and Understanding	Thomas Marx

Student Affairs

Dean of Students	Kevin Finn
Director, Campus Dining	Nancy Thomas
Director, Career Services	Margaret (Peg) Pierce
Assistant Director	Jennifer Cunningham
Career Services Advisor	Amanda Bretti
University Psychologist, Clinical Counseling Services	Jeff Betman
Clinical Counselor, Clinical Counseling Services	Lusine Hambardzumyan
Director of International Programs	Cyndi McMichael
International Counselor	Laura Affer
International Counselor	Kalie Wale
Coordinator, Disability Services	TBA
Program Coordinator, KCP Grant	Eula Muckleroy
Director, Recreation, Athletics, and Wellness	Scott Trudeau
Assistant Director	Don Gillette
Student Engagement	
Student Engagement Coordinator	Eula Muckleroy
Student Engagement Coordinator	Elizabeth Artz
Director of Residence Life, University Housing	Kim Osantowski
Residence Hall Coordinator, Housing-South	VaNessa Thompson
Graduate Assistant, Housing-North	Joy Sportel

Faculty Committees

Academic Achievement and Assessment
The Committee on Academic Achievement and Assessment coordinates policy and procedures related to both college and University assessment programs. The committee's principal responsibility is to promote improvements in learning through implementation of the University's North Central Association's plan for academic assessment. The committee is advisory to the Council of Academic Deans, and its members and chairperson are appointed by the provost.

Academic Program Review
The Academic Program Review Committee is an advisory committee composed of academic representatives of each college as well as service representatives from the University Library, IT Service Delivery, eLearning Services, and other units. Chaired by the vice president for finance and administration, this committee advises faculty members on documenting the impact of proposed new programs on academic and administrative services.

Academic Standing
The Academic Standing Committee consists of the dean of students, the director of admissions, and representatives from the four colleges. Members are appointed by the provost upon recommendation of the deans and the group is chaired by the dean of students. The committee acts on petitions of students who have been suspended from the University for academic reasons.

Additional Credit Review
The Additional Credit Review Committee is chaired by the registrar and has a faculty representative from each of the four colleges. It reviews all applications from students for additional transfer credit and for guest credit.

Council of Academic Deans
The Council of Academic Deans consists of the four college deans, the dean of students, and the dean of graduate programs. The council provides the principal advice to the provost on academic and administrative affairs.

Faculty Councils
Organized to meet its own structural requirements, each college has a Faculty Council that advises the dean on academic and other matters. The councils are independent of administrative channels and may consider any issues they believe appropriate, but are particularly involved with faculty personnel and curricular concerns within their colleges. Membership of the Faculty Councils consists of full-time college faculty. Advice of Faculty Councils is not binding on academic deans, but is considered significant to administrative decision-making.

Faculty Senate
The Faculty Senate is the entity officially constituted to represent and promote University-wide faculty aims for the purpose of furthering academic excellence and contributing to the long-term success of the University. Membership of the Faculty Senate consists of regular full-time faculty on annual contracts.

Financial Aid and Scholarships
The Financial Aid and Scholarships Committee consists of faculty representatives from the four colleges, one of whom serves as chairperson, and of representatives from various University service departments. The director of financial aid and veterans affairs is an ex-officio member. Members are appointed by the provost. The committee advises the provost on policy and distribution of all University scholarships and works closely with the Office of Financial Aid.

Graduate Council
The Graduate Council consists of faculty with program experience or interests at the graduate level, and of observers from academic-service functions. All members are appointed by the provost upon the recommendation of the college deans. This group reviews and recommends graduate policies and programs. The dean of graduate programs is an ex-officio member.

Library
The Library Committee acts as an advisory board for the director of the library on service and policy issues. It consists of six faculty members, one each from architecture, engineering, humanities, management, natural sciences, and technology, one of whom serves as chairperson. Members are appointed by the deans. The director of the library is an ex-officio member.

Research Support Services
The Research Support Services Committee is made up of the associate provost, a representative of the vice president for finance and administration, a representative of the Office of Economic Development and Government Relations, and five full-time faculty members, one appointed by the dean of each college and one by the Faculty Senate. This committee functions to identify and recommend improvements in infrastructure and support for Lawrence Tech faculty initiating and conducting research.

Standing Committee on Tenure Removal
A panel of the Standing Committee on Tenure Removal, selected in accordance with Section 2 of the Faculty Handbook, shall hear all cases brought under section 2.10.7 for removal of tenure from a tenured faculty member.