



**LAKE SUPERIOR**  
STATE UNIVERSITY



*College of Engineering, Technology  
and Economic Development*

**SCHOOL OF  
ENGINEERING  
& TECHNOLOGY**

**2009 - 2010  
STUDENT HANDBOOK**

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# **SCHOOL OF ENGINEERING & TECHNOLOGY**

## **Mission Statement**

The Department of Engineering and Technology provides a learning experience that produces highly capable engineers and technologists. The primary endeavor is to offer a rigorous, high quality undergraduate education that is relevant to the future careers and lives of its students. The Department also actively contributes to regional economic growth by providing engineering solutions through partnerships with business and industry. The Department recognizes that faculty, staff, and students are essential in the realization of this mission and it seeks to provide a working environment that supports and values these individuals.

The Department utilizes a personal approach to education that is supportive of students. It incorporates and develops skills in communication, design, mathematics, science, and technology relevant to the students' degrees. The programs develop and integrate students' professional and technical skills so that they can confidently enter, succeed, and continue the life-long learning process in their chosen careers.

## **Goals**

- A. Deliver a high quality undergraduate education that is current and provides skills to be successful in professional careers or graduate school.
- B. Provide programs that focus on the applications of fundamental technical principles of engineering, technology, mathematics, science, and computing to benefit society.
- C. Provide courses, including capstone experiences, which incorporate and develop skills in communication, design, ethics, teamwork, and technology relevant to the students' degrees.
- D. Provide an education and opportunities for students with diverse abilities to enhance their personal and professional growth.
- E. Engage in assessment and continuous improvement activities through ongoing external and internal reviews.
- F. Enable faculty, staff, and students to apply engineering solutions that support regional economic growth and develop intellectual property through professional development of these individuals.
- G. Maintain the Department's viability, productivity, and effectiveness through increased enrollment, retention, and regional economic growth.

# DEPARTMENT OF ENGINEERING & TECHNOLOGY

## Degree Programs

### COMPUTER ENGINEERING

The Computer Engineering bachelor's degree program is Engineering Accreditation Committee (EAC) of ABET accredited; 111 Market Place, Suite 1050, Baltimore, Maryland; phone (410) 347-7700.

It blends aspects of computer science courses in computer organization, databases, operating systems and networks with traditional electrical engineering courses in digital circuits, microcontrollers, computer programming and digital signal processing. The combination gives students a broad-based education that ties software to hardware and theory to application to prepare them for the high-demand computer market with the potential for good career growth.

There are two emphasis options available: *robotics and automation* or *control systems*.

### ELECTRICAL ENGINEERING

The Electrical Engineering bachelor's degree is also accredited by EAC of ABET. The program combines topics from science, math and engineering in order to study and develop solutions to electrical and computer problems. A strong laboratory emphasis provides plenty of opportunities to work on real electrical systems. Study includes assembly language, circuit design, microcontroller hardware and software, digital electronics, and networks.

There are three emphasis options available: *digital systems*, *robotics and automation* or *electrical/mechanical*.

### ENGINEERING MANAGEMENT

This degree is tailored for those students who have received a technical associate's degree and would like to advance to a bachelor's degree and position themselves in the workforce for management potential.

Registration may be made through the directors at the regional centers (see the Faculty/Staff listing for contact names, phone numbers and e-mail addresses) as well as through the main campus in Sault Ste. Marie.

Courses are delivered through a variety of distance education media and traditional classroom settings. Many of the business courses are available at the Regional Center at Bay College in Escanaba. Traditional classes at the regional site are held during the evenings and weekends to provide flexibility for working and non-traditional students.

Those taking technical courses offered at a regional center will be required to attend a one-week lab session on the main campus following that center's finals and commencement activities.

## **INDUSTRIAL TECHNOLOGY**

This program combines an academic and hands-on approach. Coursework includes a foundation in the basic sciences, communication, mathematical concepts through algebra and trigonometry, general education, software, technology and automation. There are multiple technical and free electives that allow transfer students the ability to fit into the course flow. The program focuses on developing hands-on skills that are applied toward the solution of practical, industrial-type technical problems.

The senior year experience can be either a cooperative education project (EGNR450 & 451) or participating in the construction-and-build semester (EGNR496) of an industrial project.

This program has 18 elective credits. Choosing 13 credits from among selected EGNR and EGRS courses will complete the Robotics Technology minor.

## **MANUFACTURING ENGINEERING TECHNOLOGY**

The Manufacturing Engineering Technology bachelor's degree is accredited by the Technology Accreditation Committee (TAC) of ABET. A non-accredited associate's degree is also available in Manufacturing Engineering Technology.

This program provides a strong fundamentals background integrating knowledge from a variety of areas of study including science, math, computers, mechanical engineering technology, electrical engineering technology, management and economics. It will teach students the skills to develop tools and processes, and use machinery and equipment to make quality products at a reasonable cost. The profession also involves working with and coordination of people from several other fields. It places an emphasis in the application of computer systems to modern manufacturing. Topics that are covered include robotics, computer-aided design (CAD), programmable logic controllers (PLCs), and computer-aided manufacturing (CAM).

This degree has two options. Taking EGRS430 in place of the technical electives will complete a Robotics Technology minor. Selecting 4 credits from a specified list in addition to the free and technical electives will fulfill the general option.

## **MECHANICAL ENGINEERING**

The Mechanical Engineering bachelor's degree is accredited by the Engineering Accreditation Committee (EAC) of ABET. The program is broad-based and combines topics from science, math and engineering in order to study and develop solutions to mechanical engineering problems. A strong laboratory emphasis provides ample opportunity to work on mechanical systems. Studies include topics in engineering mechanics, materials, mechanical design, thermal fluid systems, and controls.

There are three emphasis options available for mechanical engineering: *robotics and automation*, *vehicle systems* or *general mechanical*.

# **PROGRAM EDUCATIONAL OBJECTIVES**

## **Computer, Electrical, and Mechanical Engineering Program Educational Objectives**

- I. Experienced Graduates of the Computer, Electrical and Mechanical Engineering programs will have successfully applied engineering skills and tools to solve problems in their profession.
- II. Experienced Graduates of the Computer, Electrical, and Mechanical Engineering programs will have successfully demonstrated professional application of design principles subject to technical, practical, and societal constraints.
- III. Experienced Graduates of the Computer, Electrical, and Mechanical Engineering programs will have set professional goals, experienced professional growth, and engaged in ongoing professional development and learning activities. Through life-long learning, they will have the ability to adapt in a constantly changing world and will be capable self-learners.

# **Electrical and Manufacturing Engineering Technology Program Educational Objectives**

- I. Experienced graduates of the Electrical Engineering Technology and Manufacturing Engineering Technology programs will have successfully demonstrated professional application of technical skills and engineering judgment to solve problems in their profession subject to technical, practical and societal constraints.
  
- II. Experienced graduates of the Electrical Engineering Technology and Manufacturing Engineering Technology programs will have set professional goals, experienced professional growth, and are engaged in ongoing professional development and learning activities. They will appreciate the need for life-long learning in a constantly changing world and be capable self-learners.

# PROGRAM OUTCOME OBJECTIVES

## Computer Engineering Program Outcome Objectives

### 1. **Employability**

Students of the Engineering and Engineering Technology programs at graduation will receive an engineering or engineering technology education that is respected by relevant engineering and manufacturing organizations, companies, and societies. Graduates will have the ability to seek employment in a variety of engineering or engineering technology positions or enter a related graduate school.

### 2. **Learning Environment**

Students of the Engineering and Engineering Technology programs at graduation will have experienced a learning environment administered by quality faculty, utilizing both internal and external review processes to ensure students are being educated using accepted educational methods. The assessment process will assure continuous improvement for the program, the facilities, and the meeting of students' needs.

### 3. **Societal Awareness**

Students of the Engineering and Engineering Technology programs at graduation will have knowledge of contemporary issues and cultures and will recognize the impact of technological decisions within both global and societal contexts.

### 4. **Fundamental Technical Skills**

Each graduate of the Computer Engineering program will possess fundamental technical skills in mathematics, science, software, and engineering, as well as the ability to apply these skills and use modern engineering tools to solve engineering problems through the analysis, design, and implementation of digital systems and through the development of computer algorithms. The fundamental technical skills will include those in the areas of complex variables, linear algebra, discrete mathematics, calculus, differential equations, statistics, chemistry, physics, C/C++ programming, data structures and algorithms, computer networks, discrete structures, numerical methods, electronic devices, signals and systems, analog circuits, digital circuits and systems, digital signal processing, microprocessors, assembly language programming, and control systems.

### 5. **Specialized Technical Skills**

Each graduate of the Computer Engineering program will either possess specialized technical skills in robotics and automation, as well as the ability to apply these skills to solve practical engineering problems, or will possess additional skills in mathematics, engineering, or computer science. This will have been accomplished by completing

the Robotics and Automation option or by selecting approved optional courses in mathematics, engineering, and computer science.

6. **Engineering Professionalism**

Students of the Engineering programs, at graduation, will be able to utilize appropriate basic sciences, mathematics, and engineering sciences to design systems, components, or processes that meet desired outcomes and design constraints. They will have the ability to interact in all aspects of the design process from product inception to completion. They will have the ability to act professionally and ethically as individuals or as members of multi-disciplinary teams. They will be able to clearly communicate their ideas in both written and oral forms as typically expected within the engineering discipline. They will have the ability to generate various forms of documentation necessary for product design and production.

## **Electrical Engineering Program Outcome Objectives**

1. **Employability**

Students of the Engineering and Engineering Technology programs at graduation will receive an engineering or engineering technology education that is respected by relevant engineering and manufacturing organizations, companies, and societies. Graduates will have the ability to seek employment in a variety of engineering or engineering technology positions or enter a related graduate school.

2. **Learning Environment**

Students of the Engineering and Engineering Technology programs at graduation will have experienced a learning environment administered by quality faculty, utilizing both internal and external review processes to ensure students are being educated using accepted educational methods. The assessment process will assure continuous improvement for the program, the facilities, and the meeting of students' needs.

3. **Societal Awareness**

Students of the Engineering and Engineering Technology programs at graduation will have knowledge of contemporary issues and cultures and will recognize the impact of technological decisions within both global and societal contexts.

4. **Fundamental Technical Skills**

Students of the Electrical Engineering program, at graduation, will have fundamental skills in technical areas including basic and advanced mathematics, science, software, and engineering. The graduate will use these skills and modern engineering tools to identify, analyze, and solve engineering problems.

5. **Specialized Technical Skills**

Students of the Electrical Engineering program, at graduation, will have focused their area of study in one of three areas by completing one of the approved electrical engineering options. Graduates can apply knowledge from these options to evaluate and solve practical problems.

6. **Engineering Professionalism**

Students of the Engineering programs, at graduation, will be able to utilize appropriate basic sciences, mathematics, and engineering sciences to design systems, components, or processes that meet desired outcomes and design constraints. They will have the ability to interact in all aspects of the design process from product inception to completion. They will have the ability to act professionally and ethically as individuals or as members of multi-disciplinary teams. They will be able to clearly communicate their ideas in both written and oral forms as typically expected within the engineering discipline. They will have the ability to generate various forms of documentation necessary for product design and production.

## **Mechanical Engineering Program Outcome Objectives**

1. **Employability**

Students of the Engineering and Engineering Technology programs at graduation will receive an engineering or engineering technology education that is respected by relevant engineering and manufacturing organizations, companies, and societies. Graduates will have the ability to seek employment in a variety of engineering or engineering technology positions or enter a related graduate school.

2. **Learning Environment**

Students of the Engineering and Engineering Technology programs at graduation will have experienced a learning environment administered by quality faculty, utilizing both internal and external review processes to ensure students are being educated using accepted educational methods. The assessment process will assure continuous improvement for the program, the facilities, and the meeting of students' needs.

3. **Societal Awareness**

Students of the Engineering and Engineering Technology programs at graduation will have knowledge of contemporary issues and cultures and will recognize the impact of technological decisions within both global and societal contexts.

4. **Fundamental Technical Skills**

Students of the Mechanical Engineering program at graduation will have foundational

skills in technical areas including basic and advanced mathematics, science, software, and engineering, as well as applied skills involving industrially-relevant problems, laboratory experiences, computer-based experiences, and applied research. The graduate will use these skills and modern engineering tools to conduct experiments and to identify, analyze, and solve engineering problems. Such skills are to be obtained in areas including, but not limited to: linear algebra, calculus, differential equations, complex variables, statistics, computer programming, numerical methods, chemistry, physics, manufacturing processes, drafting and solid modeling, dimensioning and tolerancing, statics, strength of materials, dynamics, thermodynamics, fluid mechanics, heat transfer, material science, machine design, electronics, analog circuit analysis, automatic controls.

5. **Specialized Technical Skills**

Each graduate of the Mechanical Engineering program will have the opportunity to develop breadth or depth in their fundamental skills in the Robotics and Automation, the Vehicle Systems, or General options, as well as the ability to apply these skills to solve practical engineering problems. This will have been accomplished by completing one of the approved Mechanical Engineering program options in addition to completing the core Mechanical Engineering program courses.

6. **Engineering Professionalism**

Students of the Engineering programs, at graduation, will be able to utilize appropriate basic sciences, mathematics, and engineering sciences to design systems, components, or processes that meet desired outcomes and design constraints. They will have the ability to interact in all aspects of the design process from product inception to completion. They will have the ability to act professionally and ethically as individuals or as members of multi-disciplinary teams. They will be able to clearly communicate their ideas in both written and oral forms as typically expected within the engineering discipline. They will have the ability to generate various forms of documentation necessary for product design and production.

## **Electrical Engineering Technology Program Outcome Objectives**

1. **Employability**

Students of the Engineering and Engineering Technology programs at graduation will receive an engineering or engineering technology education that is respected by relevant engineering and manufacturing organizations, companies, and societies. Graduates will have the ability to seek employment in a variety of engineering or engineering technology positions or enter a related graduate school.

## 2. **Learning Environment**

Students of the Engineering and Engineering Technology programs at graduation will have experienced a learning environment administered by quality faculty, utilizing both internal and external review processes to ensure students are being educated using accepted educational methods. The assessment process will assure continuous improvement for the program, the facilities, and the meeting of students' needs.

## 3. **Societal Awareness**

Students of the Engineering and Engineering Technology programs at graduation will have knowledge of contemporary issues and cultures and will recognize the impact of technological decisions within both global and societal contexts.

## 4. **Fundamental Technical Skills**

Each graduate of the Electrical Engineering Technology program will possess foundational technical skills in mathematics, science, software, and engineering technology, as well as the ability to apply these skills and use modern engineering technology tools through the analysis and implementation of electrical and electronic systems. The fundamental technical skills will include those in the areas of algebra, trigonometry, differential and integral calculus, statistics, physics, chemistry, computer applications, electricity and electronics, fabrication of electronic circuits, microprocessor programming, embedded digital systems, PLC applications, and robotic systems.

## 5. **Specialized Technical Skills**

Each graduate of the Electrical Engineering Technology program will have the opportunity to broaden knowledge and develop in-depth specialized technical skills in robotics and automation, as well as the ability to apply these skills to solve practical engineering technology problems. This will have been accomplished by completing the Robotics and Automation minor in addition to the Electrical Engineering Technology core.

## 6. **Engineering Technology Professionalism**

Students of the Electrical Engineering Technology program at graduation will be able to systematically apply the basic sciences, mathematics and technology to design systems or processes that meet desired outcomes and satisfy design constraints. They will have the ability to act professionally and ethically both as individuals and as members of multi-disciplinary teams. They will be able to clearly communicate their ideas in both written and oral forms as typically expected within the engineering technology discipline. They will understand the need for, and will have the ability to generate various forms of documentation necessary for process/system design and production.

# Manufacturing Engineering Technology

## Program Outcome Objectives

### 1. **Employability**

Students of the Engineering and Engineering Technology programs at graduation will receive an engineering or engineering technology education that is respected by relevant engineering and manufacturing organizations, companies, and societies. Graduates will have the ability to seek employment in a variety of engineering or engineering technology positions or enter a related graduate school.

### 2. **Learning Environment**

Students of the Engineering and Engineering Technology programs at graduation will have experienced a learning environment administered by quality faculty, utilizing both internal and external review processes to ensure students are being educated using accepted educational methods. The assessment process will assure continuous improvement for the program, the facilities, and the meeting of students' needs.

### 3. **Societal Awareness**

Students of the Engineering and Engineering Technology programs at graduation will have knowledge of contemporary issues and cultures and will recognize the impact of technological decisions within both global and societal contexts.

### 4. **Fundamental Technical Skills**

Each graduate of the Manufacturing Engineering Technology program will possess foundational technical skills in mathematics, science, software, and engineering technology, as well as the ability to apply these skills and use modern engineering technology tools through the analysis and implementation of manufacturing systems. The fundamental technical skills will include those in the areas of algebra, trigonometry, differential and integral calculus, statistics, physics, chemistry, computer applications, drafting and solid modeling, statics, strength of materials, electricity and electronics, manufacturing operations, CNC applications, PLC applications, robotic systems, and quality engineering.

### 5. **Specialized Technical Skills**

Each graduate of the Manufacturing Engineering Technology program will have the opportunity to broaden knowledge in the manufacturing area and/or develop in depth specialized technical skills in robotics and automation, as well as the ability to apply these skills to solve practical engineering technology problems. This will have been accomplished by completing one of the approved Manufacturing Engineering Technology program options in addition to the Manufacturing Engineering technology core.

6. **Engineering Technology Professionalism**

Students of the Manufacturing Engineering Technology program at graduation will be able to systematically apply the basic sciences, mathematics and technology to design systems or processes that meet desired outcomes and satisfy design constraints. They will have the ability to act professionally and ethically both as individuals and as members of multi-disciplinary teams. They will be able to clearly communicate their ideas in both written and oral forms as typically expected within the engineering technology discipline. They will understand the need for, and will have the ability to generate various forms of documentation necessary for process/system design and production.

# ADMISSION REQUIREMENTS

## **Engineering Technology Programs / LSSU Standard**

**Policies for first-time college students (or those with less than 19 credits of university or college coursework) in Manufacturing Engineering Technology or Engineering Management.**

The primary factors used to determine admission are cumulative grade point average (GPA), high school course curriculum, and ACT\* or SAT results. LSSU recommends that students follow a college preparatory curriculum mirroring the Michigan Merit Curriculum. The middle 50 percent of our entering freshman class typically have high school GPAs ranging from 2.7 to 3.3 and ACT scores ranging from 18-24. Students should feel free to submit any additional materials which may aid the Admissions Office is reviewing unusual circumstances which may have impacted high school performance.

## **Engineering Programs**

**Policies for first-time college students (or those with less than 19 credits of university or college coursework) in Computer Engineering, Electrical Engineering or Mechanical Engineering.**

The academic background of the applicant must demonstrate an ability to meet the requirements of an engineering program at LSSU. For those students entering directly from high school, admission to the engineering programs is based on high school grade point average or ACT or SAT scores. Either a high school GPA of 2.75 or above, an ACT composite score of 24 or above, or SAT score of at least 1110 is required for admittance directly into computer, electrical or mechanical engineering.

Those students with a high school GPA between 2.5 and 2.75 may be admitted into computer, electrical or mechanical engineering if their GPA in all English, mathematics, and science courses is at least 2.75.

Applicants not meeting this requirement but meeting admission requirements for the University will be admitted into the general engineering program.

## **To Transfer from General Engineering to Engineering Degree of Choice**

**(for those wishing to select computer, electrical or mechanical engineering)**

Freshmen must attain a C or better in freshman composition (ENGL110), C or better in pre-calculus (MATH140), completion of all development requirements, and overall GPA of 2.0.

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\*ACT or SAT scores will not be used in the admissions process if you graduated from high school two or more years ago.

## **Policies for Transfer Students and Transfer Courses (For students applying with more than 19 credits of university or college coursework)**

A student who plans to attend another college or university and transfer to LSSU should contact the coordinator of the program that he/she plans to elect in the Department of Engineering and Technology. The program coordinator will assist the student in selecting courses that will transfer directly into an LSSU program. Current LSSU students who wish to take courses at another college or university for credit toward an LSSU degree should obtain guidance from their program coordinator.

### **Admission of Transfer Students**

Official university or college transcript(s) should be sent to the Admissions Office. The results of any advanced placement or aptitude tests taken in high school or college should also be sent to the Admissions office.

The academic background of the applicant must demonstrate an ability to meet the requirements of an engineering program at LSSU. A cumulative minimum GPA of 2.20 on all college level coursework and eligibility to return to the former college are required for admission into an engineering program. (Students with grade point averages of less than 2.20 may be admitted into the general engineering program.)

### **To Transfer from General Engineering to Engineering Degree of Choice (For those wishing to select computer, electrical or mechanical engineering)**

Transfer students may change after completion of 15 credits of LSSU engineering curriculum coursework including six (6) credits of engineering courses (CSCI, EGEE, EGNR, EGEM, EGME, or EGRS) with an overall GPA of 2.0.

### **Transfer of courses**

For repeated courses, the grade for the most recent course will be used. Generally, a chemistry course, English composition courses, a computer course with "C" as the preferred language, and some elective courses in social sciences and humanities transfer into the engineering programs. Mathematics courses in differential and integral calculus, differential equations, probability and statistics, along with calculus-based general physics also transfer into the engineering programs. Sophomore engineering courses may transfer directly into engineering programs if they have similar content and prerequisites as LSSU engineering courses. The appropriate program coordinator, or dean, determines if a course is transferable into an engineering program. Engineering program coordinators will be furnished a copy of the student's transcript.

# ACADEMIC ADVISING POLICIES

## FOR ENGINEERING & ENGINEERING TECHNOLOGY

### 1. Purpose of academic advisement

The purpose of academic advisement is to provide guidance for students to succeed in their academic pursuits. This includes:

- a. Advice on the sequence of courses that should be completed to finish their degrees in a timely manner;
- b. Providing information on academic support services available on campus such as counseling, preparing resumés and seeking job opportunities;
- c. Interpreting LSSU's policies on issues such as dropping a course, requesting an "I" grade, transfer of courses from other institutions, waiver of courses, substitution of courses; and
- d. Foster a sense of joint responsibility to lifelong learning.

### 2. Assignment of students to faculty advisors

All students admitted into engineering and engineering technology programs will be assigned a faculty advisor who teaches courses in the major. The dean's office will assign students to faculty advisors and maintain updated advisee lists. Students will be notified of their assigned faculty advisor prior to or during their first semester of residence. A change of academic advisor may be requested. The program chair will be responsible for the approval of advisor changes.

### 3. Faculty Advisor/Student conferences and action items

Student and faculty advisor will meet a minimum of once per semester.

- a. Faculty advisor and student will review the student's success toward meeting program objectives and review progress toward the degree. A degree audit sheet will be updated.
- b. Faculty advisor and student will plan the student's courses for the next semester. Faculty advisor will ascertain that the student has completed prerequisites, or is currently doing satisfactory work in the necessary prerequisite courses, before scheduling into any course.
- c. Any course waivers or substitutions must be approved by the program coordinator.
- d. Prior to the completion of 35 credits toward the engineering/engineering technology degree, the student will develop a plan of study to complete the degree requirements. Transfer students will develop a plan of study faculty advisor approval prior to completion of the first semester in residence.

### 4. Final review of degree audit and graduation

**Two semesters before the student plans to complete degree requirements and graduate**, the student will submit a degree audit and a *Declaration of Candidacy for Degree* to the associate dean's office. The degree audit should denote the courses to be taken the final two semesters. Both faculty advisor and program coordinator should approve the degree audit. The dean's office will forward the materials to the

Registrar's office. The assistant to the provost in the Academic Records office will determine the University requirements remaining for graduation. The student and the School will receive a copy of the Preliminary Verification of Degree Audit sheet regarding any remaining requirements for graduation. Any requirements not denoted on the degree audit should be immediately brought to the attention of the faculty advisor.

## 5. University Student Support Services

### Learning Center

Free academic support services and strategies for all enrolled students include:

- Tutoring: individual and group tutoring for lower division courses
- Supplemental Instruction: sessions are regularly scheduled, out-of-class review/study sessions open to all students enrolled in that course.
- Math Walk-in Center: open to all students in MATH081-MATH151. Students can receive help with questions and homework.
- Writing Center: works with students at all stages of the writing process from conception through revision.
- Student Success Seminars: assist students to improve their academic skills such as note-taking, preparing for tests, dealing with test anxiety, study strategies, time and stress management and formatting college papers.

Other services include study space, on-line course registration, tutorial software, reference and lending libraries, and computers.

The Learning Center is located in the lower level of the Library in rooms 112-114. Carolyn Rajewski is the director of the Learning Center and can be reached at extension 2294. Appointments and general information can be obtained at extension 2849.

### IPASS (Individual Plan for Academic Support and Success)

The IPASS program (Individual Plan for Academic Support and Success) is designed to help you gain control over your learning through pro-active communication and goal-setting, the development of intentional learning skills and study habits, and personal accountability.

The IPASS program is free to all students at Lake Superior State University. For more information, call ext. 2887 or visit [www.lssu.edu/ipass](http://www.lssu.edu/ipass).

### Counseling Services

Counseling Services is located in the lower level of the Library in room 119A. Call ext. 2752 for more information or to schedule an appointment. Staff members are always willing to discuss any personal, social or adjustment problems the student may have while on campus.

### Career Services

Students who are undecided or seeking to change degrees may wish to take advantage of this office for vocation and career counseling and testing. The office also sets up Career Fairs and job interviews with visiting companies. It is located in lower level of the Library, and can be reached by calling Theresa Weaver at ext. 2733 or visit [www.lssu.edu/careerservices](http://www.lssu.edu/careerservices).

## SCHEDULING / ADVISING

### *When preparing for scheduling, give yourself time...*

#### *Time to gather together the necessary paperwork:*

- Degree Audit sheet (obtain the sheet for your specific degree);
- Plan of Study form;
- A print-out of the on-line Course Registration worksheet (available at [www.Issu.edu/scheduling](http://www.Issu.edu/scheduling)); and
- Your catalog (the one in effect when you began your program of study)

Copies of forms and catalogs are available in the Department Office (CASET 202).

#### *Time to draft your Plan of Study:*

- Review the classes you've had and compare them to the requirements for your degree.
- Draft out how you see your successive years progressing.
- Double-check to make sure you have satisfied course prerequisites before moving up in course sequence.

#### *Time to meet with your advisor:*

- The advisor listing is available in the department office.
- Schedule a meeting with your advisor to take place BEFORE the scheduling deadline. Meeting at least a week in advance will allow you time to map out your course schedule and flag any potential conflicts.
- When you attend your advising session, take your Plan of Study draft and prepared course registration form. Scheduling adjustments can be made during the advising session.

Be sure your advisor has removed the flag from your name or you will not be able to register for classes. If you have any further questions regarding scheduling and registration, please contact your advisor.

# REGISTRATION

## Drop / Add Guidelines

You may change your class schedule during the first six (6) days of each semester. Courses you drop during the drop/add period will not appear on your permanent record. If a course you wish to add is full, you must get an instructor's signature to schedule the course.

***Your add or withdrawal from a course is not officially complete until the appropriate form is completed in the Center for Student Services.*** It's a good idea to retain the official receipt upon completion of any add or drop.

### LATE ADDS

If you wish to add a class after the six-day drop/add period, you must first get a Late Add Form from the Registrar's Office, and then get the instructor's signature. Return your Late Add Form to the Registrar's Office.

### DROPPING AFTER THE ADD/DELETE PERIOD

You may drop a course during the first 40 days of a full semester (the last day to drop a class is shown in the schedule book and in the calendar of the catalog). Your record will show an "N" grade and your GPA will not be affected.

***To drop a class after the eight-week drop requires extenuating circumstances, and you must obtain a Withdrawal Form from the Registrar's Office. You must:***

1. Complete the form (including listing a reason for the drop).
2. Get the instructor's signature **and** the instructor's recommendation.
3. Bring the completed form to the dean for his review and decision.
4. If the dean approves the drop, then you must bring the form back to the registrar for processing.

A "W" grade will appear on your permanent record and will not affect your GPA.



## GOOD SCHOLASTIC STANDING

### **Engineering Technology Students / LSSU Standard**

The minimum GPA for good academic standing is a 2.0. The academic standing table can be found on page 15 of the 2009-2009 LSSU Catalog. Students whose cumulative GPA falls below a 2.000 are put on probation and limited to a 15-credit load.

*Students will be dismissed for academic deficiencies under the following guidelines:*

Those students who have 18.99 credits or less and are on probation for two consecutive semesters, and those students with 19 or more credits with a cumulative GPA of 1.60 or less.

### **Engineering Students**

A student who is on probation will have a hold placed on his/her schedule for the next semester. The student must contact his/her advisor to reschedule courses for the next semester and have the hold removed. If rescheduling has not been completed by the end of the first week of the semester, the student will be de-registered. Probationary engineering students are limited to a reduced load of 12 credits per semester to facilitate an improved cumulative GPA. A program chair's approval is needed for probationary students to schedule more than 12 credits.

## GRADUATION REQUIREMENTS

### **Engineering Technology Students / LSSU Standard**

Students must have a cumulative grade point average of 2.00 for all credits carried at LSSU, and a cumulative GPA of 2.00 for all courses required in the student's major and minor in order to graduate.

### **Engineering Students**

In addition to all University requirements for graduation, students in engineering programs must earn a minimum average GPA of 2.0 in all mathematics, science, and engineering courses.



# THE STUDENT HONOR CODE

## for the School of Engineering & Technology

### Preface:

Our times have brought a tidal wave of technological advances. As students, we have found ourselves socially unprepared for some of these. We especially struggle with the effects they have on our moral values and virtues like honesty, integrity, courage, work ethic, responsibility and self-discipline. In the midst of this ambiguity is the student of the new academic world. We watch the gray area between right and wrong grow in the absence of judgement and self-guard against dishonor. It is because of this fact that we present to the Engineering student body this student honor code. That it may serve as an incontestable line of demarcation through the ambiguity and grayness of chaos... for "It is better to light a single candle than to curse the darkness."<sup>1</sup> To provide a focus and definition for that light, we establish this student honor code for Lake Superior State University with the full knowledge and support of the associate dean of the *College of Science, Technology, Engineering and Mathematics* and the program coordinators of the *Department of Engineering & Technology*. This Code shall apply to all students enrolled in engineering and engineering technology programs. We set this Code upon ourselves to perpetuate a self-governing body of students dedicated to the study of the engineering sciences in an atmosphere dominated by honesty, integrity, and justice.

To obtain this desired atmosphere, we self-impose this Honor Code. The Rules of this Code shall be in effect at all times and in all academic matters of the *Department of Engineering & Technology*. It is also in our own best interest that we commission the Student Honor Code Council to keep vigilant watch over adherence to this code and to interpret its content. The council shall investigate all reported infractions of this Code. The council also recommends the applicability of this code to infractions, reprimands violators, vindicates the innocently accused and rigorously supervises the penalties it imposes. Students retain the right to appeal the decisions of the Honor Code Council through recourse to the associate dean.

### Honor Codes:

The Engineering profession has great prestige with high ethical standards, which demands behavior in a professional, dignified manner at all times. These standards were first developed in the university setting. Lake Superior State University's *School of Engineering & Technology* is committed to instilling the necessary ethical foundations of an engineer within its graduates. In order to achieve this goal, the following Honor Code has been developed. Each and every student in the *School of Engineering & Technology* is obligated to comply with the pertinent provisions contained within this Honor Code.

<sup>1</sup> Ancient Chinese Proverb, Confucius

This Honor Code requires integrity, respect, and fairness. There are two forms: Expected Behavior and Punishable Behavior. Specifically, students enrolled in *the School of Engineering & Technology* at Lake Superior State University shall adhere to the following without exception:

**1. Expected Behavior**

- Respect the university's and others' property
- Respect others' thoughts and opinions
- Student/Professor and Student/Student Relationships

The student interaction with the professor should preserve and promote the educational process at Lake Superior State University in a professional and ethical manner. Personal relationships should not interfere with educational and peer discussions.

**2. Punishable Behavior**

Copying

- Homework
- Computer Programs (PLC, "C", robotics, etc.)
- Lab Reports
- Quizzes and Examinations (including take-home)

Stealing

- Files from Computers (programs, homework, software)
- Computer Programs (PLC, "C", robotics, etc.)
- Lab Reports
- Quizzes and Examinations (including take-home)

**Standardized Disclaimer:**

The following statement will be used on take-home assignments, homework, computer programs, lab reports, quizzes, tests or exam, or other designated material as required by the instructor.

In completing this, I have refrained from any form of academic dishonesty or deception such as cheating, stealing, plagiarism or lying. This work is solely of my own team's origin.

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Student signature

## **Registration/Syllabus Statement:**

HONOR PLEDGE: I, a student of Lake Superior State University, pledge to support the Student Honor Code of the *School of Engineering & Technology*. I will refrain from any form of academic dishonesty or deception such as cheating, stealing, plagiarism or lying on take-home assignments, homework, computer programs, lab reports, quizzes, tests or exams which are Honor Code violations. Furthermore, I understand and accept the potential consequences of punishable behavior.

## **1.0 MISSION OF THE COUNCIL**

The mission of the council is to hear and review cases including student violation of this Honor Code, determine council jurisdiction, hold tribunal hearings, determine innocence or guilt and provide justified recommended actions to the dean.

## **2.0 COUNCIL MEMBERS**

### **2.1 Membership**

The Student Honor Code Council shall consist of five to seven students who are enrolled full-time at Lake Superior State University in an engineering or engineering technology program. The composition of the council will optimally be one member from each of the six engineering societies represented on campus. They will each have the opportunity of electing one member to the council. These societies are: the American Society of Mechanical Engineers (ASME), the Institute of Electrical and Electronics Engineers (IEEE), the Society of Automotive Engineers (SAE), the Society of Manufacturing Engineers (SME), the Society of Women Engineers (SWE) and the Honor Society for Engineering & Technology. The dean may appoint one independent engineering student representative for the council. The voting process should be commensurate with that of an officer position within each society. Individual election procedures of the societies shall be honored in this process. *Council members are expected to remain on the council for at least two consecutive semesters although this is not mandatory.* A new chair will be elected each year by majority vote of all council members.

### **2.2 Elections**

Elections for positions on the council will take place each spring semester within four weeks of the last day of classes. At the end of a school year, at least three students must remain on the council, or be elected pro-tem for the following year. That interim council will provide the necessary continuity of the council into the next school year. These positions will be reviewed at the beginning of the next school year by the above-mentioned process noted in Section 2.1.

## **2.3 Vacancies**

Students who show a genuine interest in the Honor Code will be eligible to apply for any remaining positions. These students must be elected by the current council members and require a 2/3 majority for appointment. Vacant positions on the council will be made public to the engineering student body through announcements and postings.

## **3.0 COUNCIL ACTIVITIES**

### **3.1 Meetings**

Meetings will only involve council members and invited guests and will be conducted according to Robert's Rules of Order. Some of the functions of these meetings can include resignations, removals, introductions, complaint reviews or general administrative tasks. Meetings must be kept confidential. These meetings must accommodate the academic schedules of all members.

#### **3.1.1 Complaint Reviews**

Anyone can submit a complaint to the Student Honor Code Council. These complaints must be submitted to the council mailbox in the departmental mail room. Complaints will be reviewed only at meetings. These meetings must have at least five members in attendance to review a complaint. The complaints will be discussed to determine, first, whether the council has jurisdiction, and secondly, the validity of the infraction. A minimum of four council members must agree on these two conditions before a complaint is determined to be a valid council issue. All complaints must be discussed within two weeks of their submission.

Prior to holding a Tribunal, the council will objectively and discreetly investigate complaints. As a minimum, a council member shall informally interview the plaintiff and accused parties. Following the investigation, involved parties will be notified of the time and place of the Council Tribunal. If a Council Tribunal cannot be arranged within twenty-one days of the completed investigation, by fault of the alleged offender, the entire matter will be turned over to the dean.

In cases where the council determines that the infraction is not subject to its jurisdiction, the issue will be referred to the proper authority. When at all possible, a written notification of the council's action will be forwarded to said authority. Examples of referral authorities include Public Safety, the dean, or other university offices.

If the complaint is deemed invalid, only the complainant will be contacted. They will be notified as to why the complaint is invalid. Council will provide a written justification of invalidation to the dean.

### **3.2 Council Tribunal**

The chair will preside over the Council Tribunal and maintain order and impartiality of council members during hearings. At least five members of the council without a conflict of interest in the matter must be present at the tribunal. The alleged offender(s) must be present at the tribunal. The complainant(s) have the right to attend the tribunal, or remain anonymous. No other persons may be present during proceedings. All proceedings will be held behind closed doors and kept confidential.

At a council tribunal, the procedure will be as follows:

1. The chair will call the tribunal to order with only the permitted participants in the room.
2. A council member, other than the chair, will read the complaint, with any additional remarks by the council.
3. The complainant will give any additional remarks.
4. The alleged offender will then speak on his/her own behalf.
5. The council, with the exception of the chair, will then question the party(s) on related issues.
6. The chair will then have the involved party(s) leave the room before council begins deliberation.
7. The council members will then discuss the issue privately. All council members must come to a consensus regarding the innocence or guilt of the alleged offender(s). In the case of a guilty verdict, recommended punishment of the guilty party may be reached by a majority vote of the council.
8. Once the council has determined a recommendation, the party(s) will be invited back into the room.
9. The chair will then read the recommendation accompanied by a statement of justification and inform the party(s) that the issue will be handed over to the dean.
10. In a verdict of innocence, the chair will ask the accused party(s) if a public notice from the council is desired as an act of character restitution, which will also be submitted to the dean.
11. In a verdict of guilt, council will inform the accused party(s) of recommended consequences that will be submitted to the dean.
12. The chair will then adjourn the tribunal.

Either party may appeal the council's verdict before the dean.

### **3.2.1 Consequences**

The council's written recommendations will be presented to the dean for implementation.

Examples of Council Recommendations:

- LSSU or community work;
- Additional assignment(s);
- Retest or redo assignment, exam, etc.;
- Restricted access to equipment/facilities;
- Failure of test.

If a faculty member originated the complaint, that faculty member may determine an additional recommendation for punishment.

Examples of Faculty Recommendations:

- Failure in course;
- Expulsion from program.

These will take effect immediately and the offender(s) must adhere to them. The dean will handle rulings that are either appealed, or to which the offender(s) refuses to adhere.

### **3.2.2 Vindication**

When the council finds alleged offender(s) not guilty, and the alleged offender(s) desire public notification of the verdict, one or all of the following may be done:

- Formal letter of vindication signed by all council members;
- Formal vindication published in the school newspaper.

To ensure proper restitution, the council must carry out the action(s) within one week.

## **3.3 Council Responsibilities**

### **3.3.1 Council Chair**

The chair will be responsible for the following:

- Scheduling council meetings and tribunals;
- Check mailbox daily;
- Regulating all meetings and tribunal proceedings;
- Ensuring proper investigations;
- Maintaining records and minutes;
- Maintaining confidentiality of council proceedings, records and minutes;
- Appointing a temporary Chair in his/her absence;
- Contacting alleged offenders;
- Contacting complainants;

- Referrals to the dean and other agencies;
- Keeping the engineering student body informed on public council issues;
- Keeping the dean informed of all issues.

With the exception of confidentiality maintenance, the chair may delegate these responsibilities at his/her discretion.

### **3.3.2 Council Members**

All council members are expected to carry out the responsibilities given to them by the chair. They are also expected to handle themselves in a professional manner and keep all matters of the council strictly confidential.

### **3.3.3 Council Documentation**

All council documentation must be stored under lock and key in the Engineering office. Special care must be taken at all times to safeguard the confidentiality of these documents.

## **4.0 RESIGNATION, REMOVAL, AND SUSPENSION OF COUNCIL MEMBERS**

### **4.1 Resignation of Honor Code Council Members**

Any student on the Honor Code Council may resign. However, a formal letter of resignation must be submitted to the council explaining the reasons for withdrawal. This student will not be eligible for any position on the council during the rest of that academic year. If the resignation causes the council to shrink to four or fewer members, the resigning member must continue as a member until a replacement can be found. Resignations will not be accepted during Council Tribunal proceedings.

### **4.2 Removal of Council Members**

A council member exhibiting any of the following behaviors will be required to stand before the council in a meeting and explain:

- Violating the Honor Code;
- Missing two consecutive council meetings;
- Abusing the position as a council member.

A student in violation will no longer be a member of the council if other council members unanimously agree on the removal. He/She will also be removed from the council without contest if found guilty of an honor code violation by a council tribunal. If this meeting cannot be set up within 21 days by fault of the offending member, that member will no longer be a member of the council. Any member removed from the council is ineligible for any future position on the council.

### **4.3 Suspension of Council Members**

If a council member stands accused of an Honor Code violation, the member will immediately be suspended from the council's proceedings. The council will immediately move to determine the validity of the complaint before resuming any other council business. Suspensions will be terminated if the complaint is found invalid or outside the jurisdiction of the council. Valid complaints will follow the procedures outlined in section 3.1.1 *Complaint Reviews*.

Suspensions will be lifted if a council tribunal finds the member is not guilty.

The council itself may also place a member under suspension in extreme circumstances. Suspension by the council requires unanimous consent of the other council members.

### **5.0 HONOR CODE AMENDMENT PROCESS**

Any student can recommend an amendment to the Honor Code. The recommended amendment must be submitted in writing to the Honor Code mailbox in the departmental mail room. All members of the council and the dean must vote on the amendment. There must be unanimous agreement for the amendment to pass. Passed amendments will take effect the following semester.

Amendment results will be made public to the Engineering & Engineering Technology student body through announcements and postings.

*Updated 9/08*

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We would like to acknowledge the efforts of the following  
Tau Alpha Pi members who prepared the  
original draft of this honor code, Spring 1998:

*Dennis 'Kip' Dowding, Patrick King, Larry J. Solecki, and Troy Stong*

## FACULTY/STAFF LISTING

Name	Position	Ext.	Office
<b>College of Engineering, Technology &amp; Economic Development</b>			
<b>Morrie Walworth</b>	<b>Dean Smart Zone Director, Intellectual Property &amp; Economic Development</b>	<b>2206</b>	<b>CASET 202A</b>
Cheri Skinner	Administrative Assistant	2207	CASET 202
Jon Coullard	Mech. Lab Engineer	2595	CASET 120C
Jeff King	Elec./Comp. Lab Engineer	2838	CASET 305
Jeanne Shibley	Administrative Assistant	2597	CASET 202C

### **Professional Development Center**

Eric Becks	Engineering Projects Mgr (EE)	2738	CASET 125B
David Leach	Engineering Projects Mgr (ME)	2635	CASET 129

### **School of Engineering & Technology**

#### ***Department of Electrical & Computer Engineering***

<b>David Baumann</b>	<b>Chair/Prof.</b>	<b>2142</b>	<b>CASET 204A</b>
Ron DeLap	Asst. Prof.	2135	CASET 130
Andrew Jones	Asst. Prof.	2138	CASET 304A
David McDonald	Prof.	2208	CASET 306A
Paul Weber	Asst. Prof.	2031	CASET 128

#### ***Department of Mechanical Engineering & Manufacturing Engineering Technology***

<b>Robert Hildebrand</b>	<b>Chair/Asst. Prof.</b>	<b>2139</b>	<b>CASET 202B</b>
Steve Bryan	Adjunct	via Robert Hildebrand	
Jim Devaprasad	Prof.	2131	CASET 125C
Paul Duesing	Assoc. Prof.	2137	CASET 202D
Mansoor Janjua	Asst. Prof.	2660	CASET 131
Sai Nudurupati	Asst. Prof.	2132	CASET 127

### **Escanaba Regional Center**

**Kristen Kendrick, Regional Director**

Bay College  
906-786-5802, ext. 1261  
kkendrick@lssu.edu

### **Gaylord Regional Center**

**Sheila Simpson, Regional Director**

Gaylord University Center  
989-705-3791  
ssimpson@lssu.edu

### **Petoskey Regional Center**

**Joe Balinski, Regional Director**

North Central Michigan College  
231-348-6623  
jbalinski@lssu.edu

# ENGINEERING & TECHNOLOGY STUDENT ORGANIZATIONS



**ASME**  
American Society of Mechanical Engineers



**IEEE**

**IEEE**  
Institute of Electrical and Electronics Engineers



**SAE**  
Society for Automotive Engineers



**SME**  
Society of Manufacturing Engineers



**SWE**  
Society of Women Engineers

## *LSSU Engineering Honor Society* Honor Society for Engineering Technologies

Membership is obtained by invitation from the society. Invitation is based on recognition for the highest standard of scholastic achievement and accomplishment.



**School of Engineering & Technology**

**650 W. Easterday Ave.  
Sault Ste. Marie, MI 49783**

**phone: 906-635-2207  
fax: 906-635-6663  
email: [engineering@lssu.edu](mailto:engineering@lssu.edu)**

**Visit us on the web at:  
<http://engineering.lssu.edu>**