THE M.I.M.E. UNDERGRADUATE STUDENT HANDBOOK

19th Edition – Fall 2016

A handbook for students in the M. I. M. E. Department

This handbook includes degree requirements, course registration procedures, flowcharts, co-op information, course syllabi, rules and regulations, tips from upperclassmen, study skills tips, time management tips, career opportunities, and other valuable information for undergraduate students in the Mechanical, Industrial and Manufacturing Engineering Department

The University of Toledo
Toledo, Ohio 43606
August 2016

This is the seventeenth edition of the M.I.M.E. Student Handbook and is being made available to undergraduate students entering the M.I.M.E. Department in fall 2016. Students who received an earlier edition and wish to obtain a copy can find it on the web at:

http://www.utoledo.edu/engineering/mechanical-industrial-manufacturing-engineering/undergrad/

Also, visit the M.I.M.E. Department Webpage at:
http://www.utoledo.edu/engineering/mechanical-industrial-manufacturing-engineering/

Message from the Department Chairman, Undergraduate Program Director and Academic Program Coordinator

The faculty and staff of the Mechanical, Industrial and Manufacturing Engineering Department [abbreviated M.I.M.E.] welcome you into the department. The M.I.M.E. Department offers two undergraduate degree programs: the Bachelor of Science in Mechanical Engineering and the Bachelor of Science in Industrial Engineering.

The Mechanical Engineering and Industrial Engineering programs have long been recognized as two of the best programs on campus. This is primarily because of the quality of our students, our laboratory facilities, and our faculty. Many of our graduates are enjoying excellent careers in engineering and it is likely you will meet them as they come to visit our department and possibly join them when you finish your studies here. Several of our faculty have received the highest teaching award bestowed at UT: The Outstanding Teacher Award, and several faculty have been nationally recognized in their professional societies in engineering because of their contributions in research and service. In addition, several professional staff members have received university awards for their outstanding service to our students and the university.

Instead of thinking of the M.I.M.E. Department at the University of Toledo as a place to take classes and get your degree, we'd like you to think that you have joined our department and hence are an important part of our program. Therefore, let us share with you that our "mission" in the MIME Department is: *excellence in undergraduate education*.

Our objectives in the M.I.M.E. Department are:

[1] To prepare students for successful careers in their chosen fields of Mechanical, Industrial, and/or Manufacturing Engineering.

[2] To provide our students with a sound understanding of engineering fundamentals which allows them to enter engineering practice with confidence and serves as a solid foundation for life-long learning in an ever-changing discipline.

[3] To train students thoroughly in methods of analysis, including the mathematical, computational, and experimental skills appropriate for engineers to use while solving problems.

[4] To develop the skills pertinent to the design process, including the students' ability to formulate problems, to think creatively, to communicate effectively, to synthesize information, and to work collaboratively.

[5] To instill in our students an understanding of professional, social, and ethical responsibilities of engineering which includes political, economical, and environmental considerations.

[6] To establish and maintain close ties and interaction with industry including partnerships designed to be mutually beneficial to both constituencies.

[7] To educate our students on the value of continuing professional experience through co-op experience and/or becoming involved in research to better prepare them for engineering practice and graduate study.

[8] To develop in students self-learning skills and instill in them the value of life-long learning.

[9] To develop in students an appreciation of cultural diversity, an awareness of the increasing global nature of engineering practice, and to help prepare our graduates for leadership roles in a globally competitive environment.

As a member our department we expect you to make a commitment to work hard in your studies and projects so that, as a team with our faculty and staff, you can achieve all of these objectives.

Continued . . . . .

Name: _____

Telephone: _____

Email Address: _____

Now, let us say a little about this MIME Student Handbook. The first edition of the handbook was written and distributed in the fall of 1995. It was written by student members of the Mechanical and Industrial Engineering Advisory Committee and the Program Directors and has been updated each year since. This edition of the handbook is intended to provide helpful information for you to successfully move through our program. The handbook is divided into four sections:

[1] Procedures for undergraduate Mechanical and Industrial Engineering students;

[2] Information about the Mechanical and Industrial Engineering programs;

[3] Helpful information to save you time, trouble, energy and money including several sections covering: tips and ideas to improve note taking, study skills, and test taking skills, test anxiety, time management;

and

[4] Career opportunities in Mechanical and Industrial Engineering plus information about graduate school.

We recommend that you read this handbook carefully and keep it in a convenient place for future reference.

As we all know, things change over time and we are constantly looking for ways to improve the quality of the M.I.M.E. Department and our services to our students. We intend to update this handbook regularly. However, you will want to check the M. I. M. E. bulletin board, webpage and read emails from us to obtain updates and changes in requirements.

In your studies in Mechanical and Industrial Engineering, if you have any suggestions for items to be included in the next edition of the handbook please bring them to the attention of the Program Directors or Academic Coordinator. Once again, welcome to our department. We wish you success in your studies.

Sincerely yours,

Abdollah A. Afjeh, PhD., P.E.
M. I. M. E. Department Chairman

Debbra Kraftchick
Associate Director of Department Student Support

Matthew Franchetti, Ph.D., P.E.
Program Director in Mechanical
Engineering

NOTE: This handbook is intended to be a resource for undergraduate students in M.I.M.E. and significant efforts have been made to include the most accurate and up to date information. However, it is not intended to be a 'contract' with any student. If any information in this handbook is found to differ from that found in the university catalog or any other official document, that official document should be relied on for such information.

Contents

– SECTION 1 –

Procedures for Undergraduate Mechanical and Industrial Engineering Students

1.1 The Mechanical, Industrial and Manufacturing Engineering Department Office

The Mechanical, Industrial and Manufacturing Engineering (M.I.M.E.) Student Services Office is located on the fourth floor in Room 4006 in Nitschke Hall. This is the first office on your right out of the elevator. In this office are the Academic Program Coordinator; Director of Undergraduate Studies and Director of Graduate Studies. In addition to these people you will find most of the forms and most of the answers to your questions as you progress through your program of study.

1.2 The Rack and the Bulletin Board

Just outside the elevator on the fourth floor is a magazine rack with various information. You are welcome to take one of whatever you see there. [If you find that we are 'sold-out' or running low on an item, please tell us and we will put more out there.] Ten feet further down the hallway - just outside the M.I.M.E. Student Services Office - is the Undergraduate M.I.M.E. Bulletin Board. There is always a great deal of helpful information sorted as follows: Schedules for the current term, tentative schedules for future terms, registration and scheduling information including changes and additions to this and next semester's schedule, important notices to students, scholarship information, Notices about professional student societies, and other notices of importance. It is advised that you visit these sites regularly to keep up with the latest developments.

1.3 Are you a Freshman, Sophomore, Junior or Senior?

It is important to know the credit hour values from one class to the next because your registration appointments depend on this. Freshmen are students who have not yet completed 30 semester hours. Sophomores have completed between 30 and 59.9 semester hours. Juniors have completed between 60 and 89.9 hours. Seniors are students who have completed 90 or more hours. Note that 128 semester hours are needed for your undergraduate degree not counting co-op hours. Advanced registration appointments are based on "potential earned hours" which is the sum of your completed hours and the number you are presently taking.

1.4 The Importance of Checking your Email Messages

All engineering students have personal computer accounts for their computer needs while they are in school as well as during the terms while on co-op work assignment. The Program Director, Advisors, and Academic Coordinator often send email messages to groups of students [all Sophs, for example] or individual students – especially during advanced registration times. These messages contain the latest information about our program, and last minute additions and corrections to the semester schedule in order to keep you well informed. You are strongly urged to monitor your email messages regularly; such as at least a couple of times a week. Also, delete email messages that are obsolete - especially large files. This is because when you are over your quota in email space, incoming email messages will stop without prior warning.

1.5 Academic Advisor and Academic Program Coordinator

Your Academic Advisor and Academic Program Coordinator in the M.I.M.E. Department are here to help you with academic problems, registration and scheduling and to provide advice and help you may need during your academic career.

Your Academic Advisor is . . . .
Dr. Matt Franchetti. To contact me:

OFFICE:	PHONE NUMBER	EMAIL
Room NI-4006	Phone: 419-530-805	Email: mfranche@eng.utoledo.edu

Academic Program Coordinator:
Ms. Debbra Kraftchick

Room NI-4006	Phone: 419-530-8204	Email: dkraftch@eng.utoledo.edu

See next section as to who you should contact for various needs…..

1.5.1 Who Should You Contact?

In most cases your academic advisor and academic program coordinator will be able to answer your questions. If you leave a voicemail message, leave your name and telephone number at a reasonable speed. In addition to the Academic Advisor and Academic Program Coordinator you will likely interact with the following other people listed below.

Dr. Franchetti: Academic Advisor

Academic problems you are encountering.
Academic advice on which courses including technical electives to take.
Information about technical electives.
Scheduling and registration questions.
Determination of Co-Op Plan and other Co-Op questions [see note about Co-Op below].
Questions regarding your flowchart.
Approval to waive a prerequisite course. [only done on very rare instances.]
Information about graduate school and career information.
Evaluation of transfer credits.

Ms. Debbra Kraftchick: Director of Department Student Support

General questions regarding the IE and ME programs.
Letters you may need for your insurance company, co-op or embassy stating you are a student in good standing at UT.
Various other letters relating to your academic program that you may need from the M.I.M.E. Department.
Senior checkouts and related questions.

Ms. Katie Rose: Department Secretary

[Room NI-4006 - Telephone 419-530-8210 - FAX: 419-530-8206 - Email: Marcie.Ferguson@utoledo.edu]
Set up meetings with department chairman on special issues.
Scheduling of department facilities.

Ms. Nadia Harb: Academic Resource Analyst

[Room NI-4004 - Telephone 530-8037 - FAX: 530-8214 - Email: Nadia.Harb@utoledo.edu]
All payroll information and time cards.
Contact for approved departmental purchases.

Mr. John Jaegly: MIME Lab Supervisor (Technical Staff: Mr. Tim Grivanos and Mr. Brian Combs)

[Room NI-1084 - Telephone 419-530-8242 - FAX: 419-530-8206 - Email: jjaegly@eng.utoledo.edu]
Information on instructional and research laboratories.
Approved access to laboratories.
Inquiries regarding machine shop.

Dr. Vickie Kuntz: Associate Director of Engineering Career Management Center [See section 2.4]

[Room NI-1040 - Telephone 419-530-8054 - FAX: 419-530-8056 - Email: vkuntz@eng.utoledo.edu]
Dr. Kuntz is your contact person for Co-op jobs and interviews.
This is will be covered in depth in Professional Development [MIME-1010] in spring semester.

YOU MAY DO THE FOLLOWING YOURSELF:

If you know what courses you need to take based on your flowchart, you may register using the web or by going to the Records Office. You do NOT need advanced approval. See next section.
Add a course where you have the prerequisites and you are not on probation. See next section.
Drop a course if necessary. See next section.

1.5.2 How to Contact Any of These People?

If you have a question, email it or voicemail* it to the person you need to contact – any time; day or night.
If you want to set up an appointment, email or voicemail* your question / concern / problem and your available times.
If you want to drop in, feel free to do so and we will try to answer your question on the spot. However, we cannot guarantee we will be available at that time.

* In a voicemail, it is always appreciated when you say your telephone number at a reasonable speed.

1.6 Registration and Advising Procedures

The best way to insure that you get the courses you need is to advance register at your scheduled time and see that your tuition and fees bill is paid by the deadline date. This cannot be stressed enough. When classes are full and you are not in one that you need, you will likely have a difficult time adjusting your schedule around this problem. Also, registration holds are in place if you have a fine that has not been paid. If you need to see your advisor, do so before your scheduled registration time.

1.6.1 Registration Using the Web the easiest and recommended method to register

The University of Toledo registration is normally by website [through your MyUT account]. Most Mechanical and Industrial Engineering students choose to register by website as it is convenient and fast. If you know what courses you need to take, you are free to do this without even making an appointment to see your advisor. This is because the registration system knows if you have satisfied or are taking the prerequisites of the courses you wish to take next term. The registration computer assumes you will pass the courses taken this term with regard to prerequisites. However, if you have taken the prerequisite course at another university within the past few months, the Records Office may not have received notice of this. In that case, see your academic advisor for him to make the necessary authorization. The Academic Program Coordinator has many responsibilities, but for academic advice in registration and scheduling, see your academic advisor. See number 5 below for fees you can waive each semester at the time of registration.

1.6.2 Registration Appointment Times

Your registration date is based on how many credit hours earned including transfer credit plus the number of credit hours you are presently taking. This total is called PEH [Potential Earned Hours]. The order of advanced registration dates for both *fall and spring terms* is Honors [around March 23rd], then varsity athletes, then seniors [around March 25th], then UWD's, then juniors, then Sophomores, then Freshmen [around April 18th]. When your advanced registration date comes, it is recommended to schedule both fall and spring semesters. Summer classes may be scheduled at any time starting around January 9th or 10th. There is no hierarchy for summer registration. For the exact schedule, check the web.

1.6.3 Registration at the Records Office

The following procedure applies to advanced, open, continuous and late registration when you need to see your advisor:

1. Pick up a blank course request form and schedule worksheet in the M.I.M.E. Office. Check out the information on the bulletin board as well as emails sent by your advisor or academic program coordinator. Also, consult the listings on the web.

2. Compare what courses you need as noted on your co-op plan with what is offered next term. If you stay on schedule, all courses will be offered when you need them with no time conflicts. See the co-op plan provided in section 2.4.

3. Using the schedule worksheet and the co-op plan, fill out the course request form listing several options. If you have completed or are taking the pre-requisite courses, you can go to the Records Office at or after your scheduled registration time to get your courses for next semester. If you do not have a pre-requisite course, you need to see your advisor to explain why you feel you should be allowed to take the course. Only on very rare occasions are pre-requisites waived.

4. Please be prompt when you see your advisor. Bring with you several alternative courses which you believe you can take next semester. At that time the two of you will be able to figure out what to select. If a pre-requisite is waived, your advisor will make the necessary authorization so you can register on the web assuming the course section is open.

5. Fees to waive to save money. There are a few fees to waive to save you money.
   a. HEALTH INSURANCE FEE - If you are covered on your parent's health insurance, you want to waive this fee.
   b. LEGAL SERVICES FEE – Covers many student legal problems including landlord issues.
   c. _____

The fees that cannot be waived are the Engineering Technology fee and the Special Services fee.

* UWD's are Undergraduates With Degrees. These are students who have an undergraduate degree outside of engineering and are enrolled to earn an engineering degree.

1.7 Adding and Dropping a Course or Changing Sections

To ADD A COURSE on the first, second or third day of any semester using the web, no approval is needed if you have the prerequisites and there is space available in the course. If there is no space available, you will need the signature of the instructor on the line where you listed the course on the course request form and you must take that to the Records Office.

To ADD A COURSE on the first, second or third day of any semester and you do not have the pre-requisite, fill out the course request form, obtain approval from the instructor and go to the Records Office for registration if there is space available in the course. It is very rare that an instructor will allow you in a course without the pre-requisite.

To ADD A COURSE after the third day but during the first 15 calendar days [MTWRFSS] of the fall or spring semester [or first eight calendar days of the summer semester] where you have the pre-requisite, fill out the course request form and get the instructor's signature on the line where you listed the course even if the course is not closed. [Many instructors are hesitant to add a student much after the first week.] Go to the Records Office for registration.

NOTE: Be careful not to drop a course [or a section] on the web after the third day and think you can add a course [or a section] on the web at the same time. You'll be able to drop, but not add.

To DROP A COURSE any time during the first 15 calendar days of the fall or spring semester [first eight calendar days of summer semester], you do not need approval and the course will not show up on your transcript. Check the university catalog for amount of refund.

To CHANGE SECTIONS OF A COURSE, you do not need approval unless the section is closed. If you do this in person in the Records Office, you do not need to list the section you want until you get to the Records Office to see what sections are open…..but this is only in the first three days.

1.8 Withdrawal from a Course [the Grade of W]

If you want to withdraw from a course after the third week of the fall or spring semester you may do this up until 5:00 pm on Friday of the tenth [10th] week of the fall or spring semester [seventh week of the summer semester four]. You do not need anyone's signature and you do not even need to tell the instructor - although you may, out of courtesy, want to tell him/her. You will get a W on the grade card but this will not affect your grade point average. To withdraw, you must go to the Records Office in Rocket Hall and fill out the form they have there. Leave it with the appropriate person.

Important Note: Even though you may be doing poorly, there is still a lot of time remaining to pull up your grade. Do not be so quick to withdraw from a course because withdrawing will set you back and may make future course scheduling difficult. Although you want to get the best possible grades in every subject, just passing a course (except MATH 1850) is all you need in order to put it behind you.

Notes:

Limit of the Number of W's:

In the College of Engineering, there is not a limit on the number of W's you can have.

Medical Drops:

If you think you cannot continue in a semester due to medical reasons, contact the Student Medical Center for info on medical drops. Medical drops are not often authorized so sufficient proof and justification are necessary. The Director of the UT Medical Center makes the final decision.

The Appearance of W's, DR's and Grade Changes on your Transcript:

Your transcript will include all of your W's, DR's and grade changes [i.e. C+/B appears if your C+ was changed to a B].

1.9 Academic Probation, Suspension, and Dismissal Policies

At The University of Toledo there are standards of academic performance which all students must maintain. Otherwise they will be placed on probation [given a warning], or suspended [must sit-out for a term], or will be permanently dismissed from the University of Toledo.

Probation: You are put on academic probation if your cumulative gpa falls below a 2.0 or if your gpa during any semester is below 1.5 regardless of your gpa.

If you are on probation, you can only take a maximum of 12 credit hours during the following term. This will put you behind. You must pull your grade point average up during the next semester or you will be suspended.

Suspension: You are on academic suspension if all three of the following occur:

1. You were already on probation. –and–
2. Your cumulative gpa is below 2.0. –and–
3. Your semester gpa is below 2.0.

Academic suspension means you must sit out a term and any credits earned at another school during this time period cannot be transferred to UT, however you may work toward removing any incompletes at this time. To be reinstated you must write a letter to the Associate Dean of Undergraduate Engineering Studies near the end of this suspension indicating why you think you are ready to come back. Readmission is not automatic. See the university catalog for more information.

Dismissal: After reinstatement after suspension, an 'academic contract' is made which spells out what academic performance must be satisfied. The student is subject to dismissal if this performance has not been satisfied. Consult the University of Toledo catalog for more information about dismissal.

Students in jeopardy of being placed on probation or suspension are urged to talk with their Academic Advisor or the Academic Program Coordinator. Often, extra help such as free tutoring, or counseling can be very effective. Also, consult the university catalog for more information about probation, suspension and dismissal. To avoid even the worry of probation or suspension, maintain at least a 2.0 gpa.

1.10 Minimum GPA Needed to Graduate

In addition to the course requirements indicated on the flowchart, the minimum gpa needed to graduate with the BSME or BSIE degree is a 2.0 overall as well as a 2.0 in your major [MIME courses]. The first gpa requirement is self-explanatory. The gpa in your major means that all courses taken in MIME count with the exception of repeated courses. For repeated courses, only the last time the course was taken counts in this calculation. See Section 1.13.

1.11 Graduation with Honors

Students completing their BSME or BSIE degrees with grade point averages of 3.3 or more will have an honors designation on their diploma of *cum laude* which means "graduating with honors". Students graduating with grade point averages of 3.6 or higher are designated with high honors, *magna cum laude*. Students graduating with grade point averages of 3.9 or higher are designated with highest honors, *summa cum laude*. Any of these honors designations is something to be proud of for the rest of your life. Potential employers are often very impressed when they see one of these honors designations on a resume. For these honors designations, all courses taken [including those whose grades were dropped from gpa calculation] at all colleges and universities are counted. [See section 1.14]

1.12 Repetition of a Course and Minimum Grade Needed in a Course

If you fail a required course, you must retake it. For the course PHYS-2130, it is recommended that you earn at least a C– in Calculus I [MATH-1850]. For all courses you only need to obtain a passing grade of D– or better. Of course, you will want to try to earn the highest possible grade in all courses. If you received a grade below a C, you *ma*y retake the course and the grade you earn will replace the previous one in the gpa calculation if you earned a C grade or better after you have submitted a petition for grade deletion. See next section.

1.13 Petition for Grade Deletion in Arts & Sciences and Engineering

If you earned below a C grade in a course and you repeat the same course at the University of Toledo and earn a C grade or higher, you can submit a "petition for grade deletion" form to have the first grade deleted from the calculation of your gpa. The grade will still be on your transcript but it will not count in your gpa. Obtain the form in the Deans Office [NI-1037], fill it out and submit it to the receptionist if it is an engineering course, or to the Office of Arts and Sciences if it is an Arts and Sciences course. This is limited to 12 [twelve] semester hours in Arts-and-Sciences and Engineering courses combined. The petition will not be granted if you received an F grade due to academic dishonesty. Processing time is about six weeks. So, if you obtained a C–, D+, D, D–, you may or may not want to do this. See your advisor for the pros and cons. If you fail a course, you will certainly want to earn the C grade or higher the second time in order to have the first grade deleted from the gpa calculation. For determination of honors [section 1.11] all grades count in this calculation.

1.14 Transfer Credits from Another University and Advanced Placement

Transfer or Advanced Placement Credit in Humanities, Social Science and/or Multi-Cultural Courses:
If you have transfer or Advanced Placement credit in Humanities or Social Science, these will likely count toward the Humanities, Social Science and Multi-Cultural requirements. See your Academic Advisor for evaluation.

Transfer or Advanced Placement in English, Mathematics and/or Science:
These will apply toward your degree as well. See your Academic Advisor for evaluation.

Transfer Credit in Engineering Courses:
With few exceptions of Intro to CAD, materials science, and manufacturing processes, engineering credits at other schools will apply toward your degree only if they are calculus based. See your Academic Advisor for more information.

Pre-approval to Take Courses at Another University and have them Transfer to UT:

In several cases it would be beneficial to take a course or two at another university and have them apply to your BSME or BSIE degree at UT. Your advisor has a list of course equivalencies at most colleges and universities within 200 miles of Toledo. If the course is listed you do not need to fill out a form called "Pre-approval to Take a Course at Another University". However, you do need this form [available from the Academic Program Coordinator] for courses not on the course equivalency list. Some schools require the form to indicate to them that you are enrolled at UT and they then classify you as a transient student, since you're not getting a degree from them. You must earn at least a D- grade for the course to transfer. Be sure to have an official transcript sent by that school to the UT Records Office to get you the credit transfer.

1.15 Humanities/Fine Arts, Social Sciences and Multi-Cultural Requirements

The Humanities/Fine Arts, Social Science, Multicultural requirement at the University of Toledo may be satisfied by taking six, or if chosen properly, five courses. The requirement is: two courses in Humanities/Fine Arts [***in different departments***], two courses in Social Sciences [***in different departments, including 1 economics course***], one multicultural course in the Diversity of U. S. Culture, and one multicultural course in Other than U.S. [Non-Western Tradition]. This requirement may be satisfied by completing only five courses instead of six if one course is a "double-dip" course denoted by an asterisk [*] before the course. This double-dip course may serve: 1. Both as a Humanities/Fine Arts and as a multicultural course [ex: HIST 1080], or 2. Both as a Social Science and as a multicultural course [ex: SOC 2640]. If this option is chosen, engineering students must complete a minimum of 15 credit hours. Courses listed as: MUS 2220/AFST 2220 are cross listed courses where some students in the class registered under one number and some under the other number. If you get closed out of one, there may be space available under the other number. The following list of courses for this requirement are all 3 credit hours unless otherwise noted as [4]. Humanities / Fine Arts courses are in the following departments: Art, Communication, Dance, Disability Studies, Film, Foreign Languages [several], History, Humanities, Literature, Music, Philosophy, Religion, and Theater. Social Science courses are in the following departments: Anthropology, Economics, Geography, Political Science, Psychology, Social Work and Sociology.

For a full, detailed, and up-to-date list of Core Curriculum Courses, please refer to http://www.utoledo.edu/core-curriculum/.

Hum 1: _____

Hum 2: _____

SoSci -Econ: _____

SoSci: _____ ----------Double-Dip

US Div: _____

NWTrd: _____

1.17 Academic Dishonesty Policy

The University of Toledo and the College of Engineering each have a formal policy statement on Academic Dishonesty [cheating, plagiarism, etc.]. These are listed *verbatim* in the appendix of this handbook. Each student should be familiar with both policies and it is appropriate to discuss academic dishonesty issue here. If you read one section in this handbook, read this section.

Here's some advice:

- Do not cheat on a test, quiz, or exam.
- Do not plagiarize someone's homework or project - not even a small part of it.

The penalty is not worth it. You can get expelled from school and this goes on your permanent record. This has happened to other students and it is not worth taking the risk. What is cheating? Different teachers conduct classes in different ways. For example, one professor may allow students to discuss some homework problems and even work together on some problems because that is certainly one way where some very effective learning can take place. Other professors will not allow this. Thus, it is very important to find out in the first class period about such policies of that professor. It might be a good idea to ask: "Can we work on homework problems together?" Be sure to listen carefully to the answer.

On occasion a professor has alleged that a student was committing an act of academic dishonesty when the student was innocent. Perhaps the student was just staring someplace in space and the prof interpreted it as looking at someone's paper. It is not true that professors are always trying to accuse students. It is just very difficult for anyone to tell right on the spot what exactly is going on. From the professor's point of view, he/she would rather not have even a hint of academic dishonesty occurring.

Here are some situations which could be construed as academic dishonesty and should be avoided - even though they may not appear as an offense:

1. During a test, do not loan your classmate a ruler, pencil, calculator, etc. This could be construed as collaboration.

2. Do not ask someone to pick-up a dropped pencil - the instructor may think you two might be talking about the test. Just raise your hand.

3. If you need to glance around when thinking, just look up at the ceiling.

4. When working on a homework problem with a friend, it is important to know the 'line' where, on one side, the two of you are helping to master the subject and on the other, where one is doing the problem for both. Different profs have different policies and it is important to get this clarified early.

Penalties range from a zero on the test or homework, to a failing grade in the test, to a failing grade in the course, to probation, to suspension, to expulsion, and all carry a letter in the student's permanent file. The penalty is very stiff. Please take the time to read the official policy on academic dishonesty in the appendix.

1.18 When Do I Get My Grades and Where?

Generally, all course grades are available on the web on the Wednesday immediately after exam week. Occasionally a few grades are missing, but they will be loaded that day or the next. In the event you feel a mistake was made in your grade, contact the professor in the first few days of the very next term. Advice: always act respectful, and bring in your quizzes, tests, homework, etc. and just plainly ask: "I wonder how I did on the exam because I thought I was in the running for an A grade, but ended up with a C grade."

1.19 Credit-By-Exam

In certain cases you may be able to take an exam in order to earn credit for a course at UT. For example, let's say you have 10 years of experience working as a materials technician in the U.S. Navy. You may be able to take an exam in MIME-1650 (Materials Science) and get credit for this course. There is a cost of taking and having the exam graded. When you are told the grade you can decide if you want that grade or not. If you do, you then pay the tuition fee for the three credits. If not, you just walk away. If you earned a non-transferable grade in a course at another school, permission for Credit-By-Exam will not be approved. See Program Director for more information.

1.20 Frequently Asked Questions

The following are some of the questions that have been asked by several people in the last few years. Although the answers are covered elsewhere in this handbook, special mention here doesn't hurt either. They are broken down by topic.

Advising

Q: When should I see my advisor?

A: When you have a scheduling or academic question or problem.

Registration and Scheduling

Q: When do I advance register for my classes?

A: Best to do it at the earliest possible time, but you will not be able to do it before your scheduled time. See registration info on the web.

Q: I advance registered and got my classes, but my classes got dropped. Why did this happen and what should I do?

A: If you do not pay tuition by the payment deadline, your classes are dropped. Do not let this happen, unless you are certain you can get into every course you advance registered for. But the chances of that are slim.

Q: I'm closed out of the section of the course I need. What should I do?

A: First, get into any section of that course that fits in your schedule. Then see the professor to see if you can get signed into the section you want/need. Alternately, check the web from time to time to see if a seat opens up due to people changing their schedules. In addition, check again after the payment deadline, because schedules are deleted for non-payment.

Q: I tried to advance register at my appointment time but the computer wouldn't let me. Why?

A: Either you had a fine, parking ticket or other charge that was not paid. You must have all fees and fines paid or else there is a hold on your advance registration. Best to first not get any fines. If you do, get them paid before you need to register.

Q: I'm a new freshman [or….I'm a transfer student new to UT] and I see that everyone else had their chance to register for this coming spring semester last March and April. When can I register for next spring semester?

A: Entering freshman and transfer students will be able to advance register for spring semester classes in October. You will hear more about this in Orientation class. If you are not in orientation, see your advisor.

Co-Op Issues - [Details provided in Professional Development course in spring semester]

Q: Why do I have an incomplete [IN] for my co-op?

A: In order to get a grade of pass [PS] you must: [1] complete the evaluation of your co-op, [2] pay the co-op fee, and [3] have your supervisor complete his/her evaluation of you. Best to do these during the last week of the semester even though you may be working another week or two. [Details about this in Professional Development.]

Q: I haven't been checking my emails regularly and I think I missed several good job possibilities for my next co-op. Now it looks like I may not get a co-op job. Do I schedule classes for next semester?

A: This is best way to get on the bad side of your advisor and ECMC Associate Director. If you do not get a co-op job because you didn't do what was required of you in a timely fashion, you will still be on the same co-op plan but your next co-op will be two semesters later. This will likely delay your graduation in engineering. DO NOT LET THIS HAPPEN. Refer to the email sent October 9, 2001. This is printed in the MIME-1010 coursepack.

Courses

Q: I'm in Calculus I but I may not pass it. Should I advance register for Calc II or Calc I to retake it?

A: Register for Calc II. If you fail Calc I, the Math Department will find a seat for you in Calc I if you advance registered for Calc II. However, if you registered for Calc I and now you need to get into Calc II, there may not be a space for you and they will not accommodate your need to get into Calc II if a seat is not available.

Q: I'm in Chemistry [CHEM 1230] and my friend is in this as well as in Chemistry Lab. I forgot to schedule Chemistry Lab. What should I do?

A: You don't need Chemistry Lab. You only need the courses on your flowchart and Chemistry Lab is not on there. Your friend must be in a department that requires Chemistry Lab [like maybe Chemical Engineering, or the Chemistry Department]. Alternately, you are taking CAD and your friend is not because he/she is not in our department. So, follow your flowchart and stop worrying.

Q: I have three final exams back-to-back-to-back. What should I do?

A: See the prof's for each of the courses, explain the situation, and request to take the exam at a different day. Maybe one or more will give you some flexibility. If the prof's say no, you must live with it.

SECTION 2: Information About the Mechanical, Industrial and Manufacturing Engineering Department

2.1 The Mechanical, Industrial and Manufacturing Engineering Department

In the spring of 1995 the Mechanical Engineering Department and the Industrial Engineering Department formed one Department called the Mechanical, Industrial and Manufacturing Engineering Department [called the M. I. M. E. Department]. The M. I. M. E. Department offers the same two undergraduate 'programs' in the College of Engineering before this alliance: Mechanical Engineering [leading to the BSME degree] and Industrial Engineering [leading to the BSIE degree]. There are no changes or additional requirements for your undergraduate BSME or BSIE degree due to this alliance. A third program, Manufacturing Engineering, is anticipated in the future.

The other programs in the College of Engineering are: Bioengineering, Chemical and Environmental Engineering, Civil Engineering, Computer Science and Engineering, Electrical Engineering, and Engineering Technology. In early 1995 the Departments of Electrical Engineering and Computer Science and Engineering came together to be known as the Electrical Engineering and Computer Science Department [called the EECS Department]. The Engineering Technology Department has several programs including the Bachelor of Science in Mechanical Engineering Technology. This mechanical engineering program is a hands-on application based study and not nearly as heavily based on Calculus and calculus-based-Physics. For more information about the Engineering Technology degree, contact Dr. Carmen Cioc at 419-530-3017 or Mr. Richard Springman at 419-530-3276.

M. I. M. E. is the largest department in the College of Engineering with over 900 active full and part-time students in the undergraduate program. Of these students, about 212 are freshman, 195 are Sophomores, 181 are juniors and 286 are seniors. There are also about 50 graduate students in the M. I. M. E. Department. There are about 20 faculty members including Dr. Abdollah A. Afjeh [Department Chairman], Dr. Matthew Franchetti [Program Director for Undergraduate Studies] and Dr. Efstratios Nikolaidis [Director for Graduate Studies]. The Student Services Office is located in Nitschke Engineering Hall, Room 4006. See the telephone list and room numbers in Appendix 4 of this Handbook for a complete list including email addresses for faculty and staff.

The College of Engineering is one of nine colleges at The University of Toledo. The other eight are: Arts and Sciences, Business, Education, Pharmacy, Law, Health Sciences, Medical Center, and University College. Each has a Dean and the Dean of Engineering is Dr. Nagi G. Naganathan [Mechanical Engineering]. The Dean of Undergraduate Studies in Engineering is Dr. Brian Randolph [Civil Engineering]. Director of College Relations & Facilities Management is Ms. Christine Smallman. You will be receiving the "Biweekly Email Notices" from her. We recommend you take a quick glance and then delete the email IF NONE OF THOSE MESSAGES APPLY TO YOU.

Why do we have to take Chemistry, Physics, Humanities, and all that Calculus? This is a good question and one that is often asked by undergraduate students just starting the difficult program of study in engineering. Engineering as practiced by professionals developed from the application of general sciences, chemistry, physics, mathematics, as well as the more specific sciences of biology, geology and others. All of these are based on the use of rigorous analytical thinking by the practitioner. The engineering student cannot expect to become an engineer without these fundamentals as the basis for the more advanced courses. The analogy here might be that one must understand arithmetic before expecting to gain skill at trigonometry and geometry. The curricula in Mechanical Engineering and Industrial Engineering as well as those in the other engineering disciplines have been developed and modified over the years to assure that our graduates are fully prepared to be professional engineers.

You may be interested to know that all engineering schools in the country are required to be accredited every six years by ABET [the Accreditation Board for Engineering and Technology] with headquarters in the United Engineering Center in New York City. ABET, not unlike accrediting agencies in medicine, law and pharmacy, has established minimum standards as to the number of credit hours and subject matter which must be covered in mathematics, sciences, humanities, engineering sciences, and engineering design for all engineering programs in the United States. In addition to the number of credit hours, ABET periodically evaluates the quality of all programs based on students' work, the lab facilities, the quality and diversity of faculty and many other issues. The College of Engineering at The University of Toledo is proud to say that every engineering program has always received ABET accreditation. This is significant because ABET accreditation is an important measure of the educational quality our students receive. Feel free to discuss this further with your Academic Advisor or Program Director.

Our most recent ABET accreditation occurred in the fall semester of 2011. The ME programs did very well.

2.2 The M. I. M. E. Study Lounge

The M.I.M.E. Department Study Lounge, Room NE-1050, is the central meeting place for M.I.M.E. students. It is a place to do homework between classes, meet and talk with classmates, leave messages, and just hang out. There are tables and chairs, a blackboard, refrigerator, sink and bulletin board. Feel free to make use of this lounge but please do not abuse it.

2.3 Your Student Folder and Course Flowchart

Your student folder in our departmental files contains important information about you regarding the undergraduate program. The only people who may see this folder are authorized faculty, staff, administrators and yourself. We take this issue of confidentiality very seriously. No other person at The University of Toledo, and certainly no one outside the university, may see anything in this file. When you want to see the file, you may do so in the Office of the Academic Program Coordinator, the Office of the Program Director, or your Academic Advisor's office. If this file leaves the department office, it must be in the possession of a faculty member, the Academic Program Coordinator, or an authorized office staff member.

The semester flowcharts for BSME and BSIE on the following pages show the courses and their prerequisites for your Bachelor of Science degree and will also assist you in the scheduling and registration process. It is recommended that you obtain a copy from the Academic Program Coordinator or use the appropriate one on the following pages to track your progress in your degree program. It is helpful to mark a "half slash" over the courses in which you have advanced registered. Mark a full slash "/" across the boxes of the courses that you are presently taking. Finally, mark an "X" across the courses you have completed. Before you know it, all of your undergraduate requirements will be met, and you will be a proud graduate of the University of Toledo.

2.3.1 Making up Deficits after your Freshman Year

This section only refers to entry level freshmen in fall 2008. Entry level freshmen normally will take MATH 1850 (Calculus I) in the fall semester followed by MATH 1860 (Calculus II) and PHYS-2130 (Physics I) in the spring semester. However, if you are not prepared to take MATH 1850, then you will likely be taking MATH 1330 (Trigonometry) or MATH 1340 (College Algebra and Trigonometry), followed by MATH 1850 in the spring semester. To remain on schedule for your Sophomore year and co-op plan which will start during or after your Sophomore year, you would then need to take MATH 1860 and PHYS-2130 or equivalent courses [perhaps in your hometown] during the summer term. This also applies to students who do not earn a C– grade or better in MATH 1850 in the fall semester [See section 1.10]. In addition, during your first semester, freshmen are scheduled to take CHEM 1230 (College Chemistry). However, if you are not prepared for CHEM 1230, then you will be taking CHEM 1090 (Elementary Chemistry). Again, in order to remain on schedule, you would need to enroll in CHEM 1230 during the spring semester. If this applies to you, it is important to make plans early in the spring semester so that you are not behind in these courses in your Sophomore year. This will be discussed further in the Professional Development course in spring semester. [See section 1.15 and your Academic Advisor for more info.]

Who's Who in the College of Engineering [as of May 2016]:

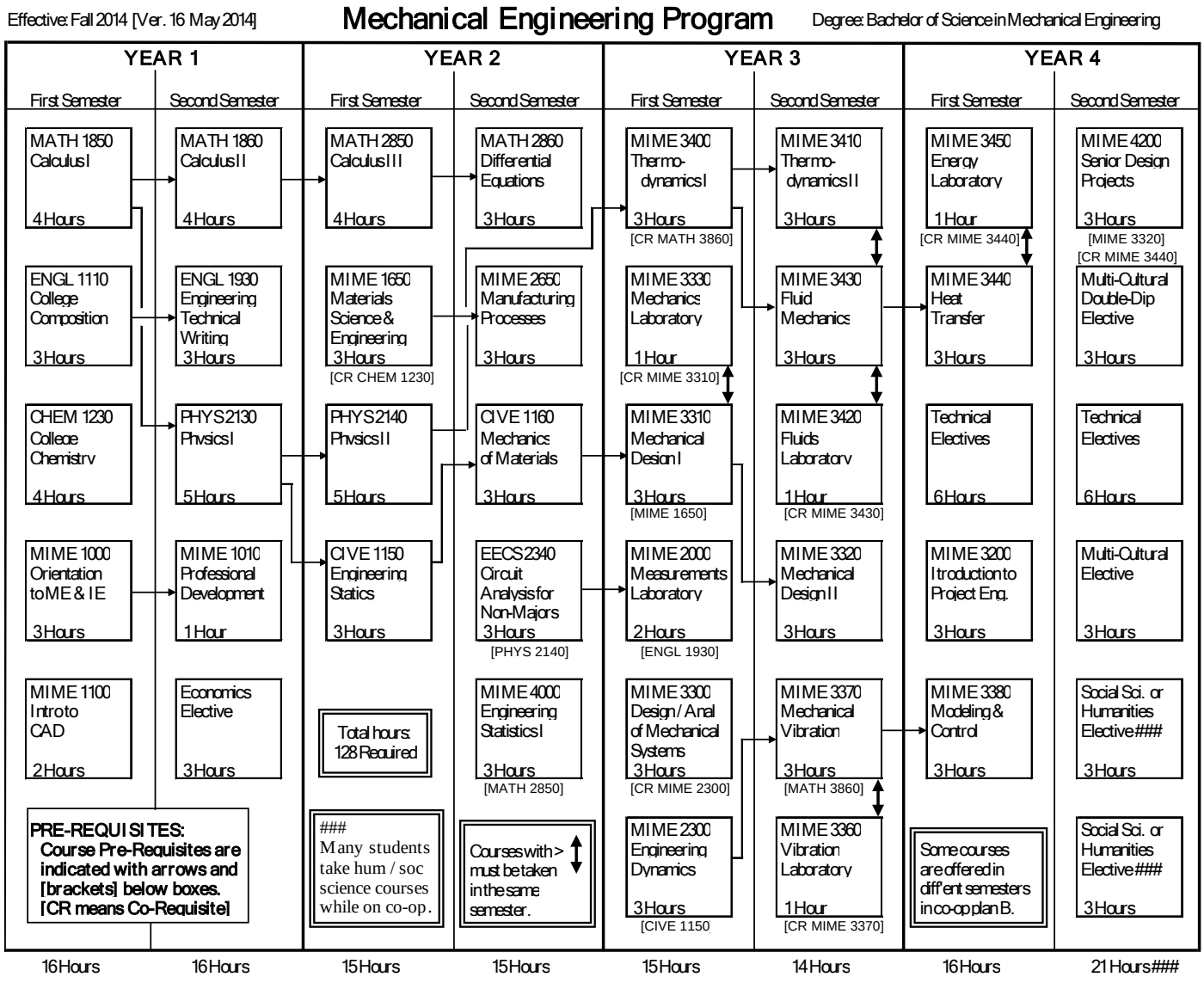
_____	You. Student in MIME Department
Debbra Kraftchick, M.S.I.E.	Associate Director of Department Student Support
Matthew Franchetti, PhD., P.E.	Associate Chairman and Program Director of Undergraduate Studies
Vickie Kuntz, PhD.	Director of Engineering Career Management Center
Abdy Afjeh, PhD., P.E.	Chairman of MIME Department
Scott Molitor, PhD.,	Dean of Undergraduate Studies for the College of Engineering
Michael Toole, PhD.,	Dean - College of Engineering

2.3.2 B S M E Degree Requirements and the B S M E Flowchart:

The semester credit hour requirements for the BSME degree are:

32	hours in Math plus Science
15	hours in Humanities, Social Science and MultiCultural courses
6	hours in English [Composition and technical writing]
63	hours in required engineering subjects
12	hours in technical elective courses
128	hours in total

With regard to the flowchart below, note that the first semester in a year does not necessarily correspond to the fall semester [and second semester does not necessarily mean spring semester]. This is because of the Co-Op plans. See Section 2.4 for more information.



2.4 The Co-Op Program - This will be discussed in detail in Professional Development in spring

The Co-Op Program enables you to work for a company in your field of study to gain experience while still a student. Based on the plans described below, you will start your co-op work experience 1 in the spring semester of your Sophomore year or in the summer following your Sophomore year. Co-op experience is very important because companies want to hire experienced graduating engineers. Although it will take one semester longer to graduate, you will be much more marketable since you will have one year of engineering experience. Some of the benefits of co-op's are: (1) You get practical experience under your belt and on your resume; (2) You come in contact with many senior practicing engineers - a great way for a future engineer to network; (3) Engineering co-op positions pay very well – enough to cover school expenses in the next term; (4) Co-op experience helps you decide if engineering or this job is right or wrong for you; (5) Co-op experience helps to better see the academic side along with the practical side of engineering; and (6) While on your co-op work experience, you may want to take an evening class at a local college or university to get you a step closer to your degree. However, it is strongly recommended you check this out with your co-op company before hand. The Engineering Career Management Center [ECMC for short] is located in NI-1040. Ms. Vicki Kuntz is the contact for all ME and IE students. Her telephone number is 419-530-8054. MIME 3940 is the course you'll sign-up for but there is no tuition fee for this. There is a co-op fee payable toward the end of the co-op term. Details in Professional Development. This keeps you "on-the-books", maintains your full-time status with regard to medical insurance that your family may have for you, and keeps your engineering computer account active. Students who graduate from our program here at UT usually graduate with no debt, with one-year's worth of engineering experience and with an engineering job in hand.

2.4.1 Plan A for Mechanical Engineering Students:

Course / work experience			Cr	Course / work experience			Cr	Course / work experience			Cr
Freshman / Fall				**Freshman / Spring**				**Freshman / Summer**			
CHEM	1230	General Chemistry I	4	ENGL	1930	Technical Writing for Engineers	3				
ENGL	1110	College Composition	3	MATH	1860	Single Variable Calculus II	4	Best advice is to make up deficits			
MATH	1850	Single Variable Calculus I	4	MIME	1010	Professional Development	1	in English, Math, Physics			
MIME	1000	Orientation to ME and IE	3			Economics Elective	3				
MIME	1100	Introduction to CAD	2	PHYS	2130	Engineering Physics I	5				
		Total	16			Total	16				
Sophomore / Fall				**Sophomore / Spring**				**Sophomore / Summer**			
CIVE	1150	Engineering Statics	3					CIVE	1160	Mechanics of Materials	3
MATH	2850	Elem Multivariable Calculus	4	MIME 3940-001				EECS	2340	Elect Circuits for Non-Majors	3
MIME	1650	Materials Science & Engrg	3	Co-op Experience 1				MATH	2860	Differential Equations	3
PHYS	2140	Engineering Physics II	5					MIME	2650	Manufacturing Processes	3
				Soc. Sci or Hum Elective while on Co-op			3	MIME	4000	Engineering Statistics I	3
		Total	15							Total	15
Pre-Junior/ Fall				**Pre-Junior / Spring**				**Pre-Junior / Summer**			
				MIME	2000	Measurements Laboratory	2				
MIME 3940-002				MIME	2300	Engineering Dynamics	3	MIME 3940-003			
Co-op Experience 2				MIME	3300	Design Anal of Mech. Systems	3	Co-op Experience 3			
				MIME	3310	Mechanical Design I	3				
				MIME	3330	Mechanics Laboratory	1				
Soc. Sci or Hum Elective while on Co-op			3	MIME	3400	Thermodynamics I	3				
						Total	15				
Junior / Fall				**Junior / Spring**				**Junior / Summer**			
MIME	3370	Mechanical Vibration	3					MIME	3380	Modeling and Control	3
MIME	3360	Vibration Laboratory	1	MIME 3940-004				MIME	3440	Heat Transfer	3
MIME	3320	Mechanical Design II	3	Co-op Experience 4				MIME	3450	Energy Laboratory	1
MIME	3410	Thermodynamics II	3	or make up course deficits, or				MIME	3200	Intro to Project Eng.	3
MIME	3420	Fluids Laboratory	1	take Business Minor courses.						Technical Electives	6
MIME	3430	Fluid Mechanics	3								
		Total	14							Total	16
Senior / Fall				**Senior / Spring**							
MIME	4200	Senior Design Projects	3	If necessary, this semester may be used to							
		Technical Electives	6	take Business Minor courses,				Courses with credit hours in a border must			3
		MultiCultural Dbl-Dip Elective	3	or make up remaining course deficits,				be taken in the same semester, such as ==>			1
		MultiCultural Elective	3	or begin graduate study.							
		Total	15								

2.4.2 Plan B for Mechanical Engineering Students:

See the comparisons table in section 2.4.9 for the advantages and highlights of plans A and B.

Course / work experience			Cr	Course / work experience			Cr	Course / work experience	Cr
Freshman / Fall				**Freshman / Spring**				**Freshman / Summer**	
CHEM	1230	General Chemistry I	4	ENGL	1930	Technical Writing for Engineers	3		
ENGL	1110	College Composition	3	MATH	1860	Single Variable Calculus II	4	Best advice is to make up deficits	
MATH	1850	Single Variable Calculus I	4	MIME	1010	Professional Development	1	in English, Math, Physics	
MIME	1000	Orientation to ME and IE	3			Economics Elective	3		
MIME	1100	Introduction to CAD	2	PHYS	2130	Engineering Physics I	5		
		Total	16			Total	16		
Sophomore / Fall				**Sophomore / Spring**				**Sophomore / Summer**	
CIVE	1150	Engineering Statics	3	CIVE	1160	Mechanics of Materials	3		
MATH	2850	Elem Multivariable Calculus	4	EECS	2340	Elect Circuits for Non-Majors	3	MIME 3940-001	
MIME	1650	Materials Science & Engrg	3	MATH	2860	Differential Equations	3	Co-op Experience 1	
PHYS	2140	Engineering Physics II	5	MIME	2650	Manufacturing Processes	3		
				MIME	4000	Engineering Statistics I	3	Soc. Sci or Hum Elective while on Co-op	3
		Total	15			Total	15		
Pre-Junior/ Fall				**Pre-Junior / Spring**				**Pre-Junior / Summer**	
MIME	2000	Measurements Laboratory	2					MIME 3370 Mechanical Vibration	3
MIME	2300	Engineering Dynamics	3			MIME 3940-002		MIME 3360 Vibration Laboratory	1
MIME	3300	Design Anal of Mech. Systems	3			Co-op Experience 2		MIME 3320 Mechanical Design II	3
MIME	3310	Mechanical Design I	3					MIME 3410 Thermodynamics II	3
MIME	3330	Mechanics Laboratory	1					MIME 3420 Fluids Laboratory	1
MIME	3400	Thermodynamics I	3			Soc. Sci or Hum Elective while on Co-op	3	MIME 3430 Fluid Mechanics	3
		Total	15					Total	14
Junior / Fall				**Junior / Spring**				**Junior / Summer**	
				MIME	3380	Modeling and Control	3		
MIME 3940-003				MIME	3440	Heat Transfer	3	MIME 3940-004	
Co-op Experience 3				MIME	3450	Energy Laboratory	1	Co-op Experience 4	
				MIME	3200	Intro to Project Eng.	3	or make up course deficits, or	
						Technical Electives	6	take Business Minor courses.	
						Total	16		
Senior / Fall				**Senior / Spring**					
MIME	4200	Senior Design Projects	3	If necessary, this semester may be used to				Courses with credit hours in a border must	3
		Technical Electives	6	take Business Minor courses,				be taken in the same semester, such as ==>	1
		MultiCultural Dbl-Dip Elective	3	or make up remaining course deficits,					
		MultiCultural Elective	3	or begin graduate study.					
		Total	15						

2.4.3 Plan C for Mechanical Engineering Students:

This plan is for varsity athletes who are not permitted to work during the academic year due to NCAA regulations. This plan is not intended for non-athletes because companies want students on an alternating basis, and because of MIME course scheduling requirements. Note that there are nine semesters of coursework instead of eight for plans A and B.

Course / work experience			Cr	Course / work experience			Cr	Course / work experience	Cr
Freshman / Fall				**Freshman / Spring**				**Freshman / Summer**	
CHEM	1230	General Chemistry I	4	ENGL	1930	Technical Writing for Engineers	3		
ENGL	1110	College Composition	3	MATH	1860	Single Variable Calculus II	4	Best advice is to make up deficits	
MATH	1850	Single Variable Calculus I	4	MIME	1010	Professional Development	1	in English, Math, Physics	
MIME	1000	Orientation to ME and IE	3			Economics Elective	3		
MIME	1100	Introduction to CAD	2	PHYS	2130	Engineering Physics I	5		
		Total	16			Total	16		
Sophomore / Fall				**Sophomore / Spring**				**Sophomore / Summer**	
CIVE	1150	Engineering Statics	3	CIVE	1160	Mechanics of Materials	3		
MATH	2850	Elem Multivariable Calculus	4	EECS	2340	Elect Circuits for Non-Majors	3	MIME 3940-001	
MIME	1650	Materials Science & Engrg	3	MATH	2860	Differential Equations	3	Co-op Experience 1	
PHYS	2140	Engineering Physics II	5	MIME	2650	Manufacturing Processes	3		
				MIME	4000	Engineering Statistics I	3	Soc. Sci or Hum Elective while on Co-op	3
		Total	15			Total	15		
Junior/ Fall				**Junior / Spring**				**Pre-Junior / Summer**	
MIME	2000	Measurements Laboratory	2	MIME	3370	Mechanical Vibration	3		
MIME	2300	Engineering Dynamics	3	MIME	3360	Vibration Laboratory	1	MIME 3940-002	
MIME	3300	Design Anal of Mech. Systems	3	MIME	3320	Mechanical Design II	3	Co-op Experience 2	
MIME	3310	Mechanical Design I	3	MIME	3410	Thermodynamics II	3		
MIME	3330	Mechanics Laboratory	1	MIME	3420	Fluids Laboratory	1	Soc. Sci or Hum Elective while on Co-op	3
MIME	3400	Thermodynamics I	3	MIME	3430	Fluid Mechanics	3		
		Total	15				14		
Senior / Fall				**Senior / Spring**				**Junior / Summer**	
MIME	3380	Modeling and Control	3	MIME	4200	Senior Design Projects	3		
MIME	3440	Heat Transfer	3			Technical Electives	6	MIME 3940-003	
MIME	3450	Energy Laboratory	1			MultiCultural Dbl-Dip Elective	3	Co-op Experience 3	
MIME	3200	Intro to Project Eng.	3			MultiCultural Elective	3		
		Technical Electives	6						
		Total	16			Total	15		

	If necessary, this semester may be used to take Business Minor courses, or make up remaining course deficits, or begin graduate study.	Courses with credit hours in a border must be taken in the same semester, such as ==> 3 1

2.4.8 Courses and When They Are Offered

Students find it helpful to know when courses are offered and not offered. In order to maintain both co-op plans in both programs, the following courses plus several technical electives [which change on a one-year or two-year cycle] will be offered in fall, spring and summer semesters.

	Fall Semester			Spring Semester			Summer Semester		
#	Course #	Course Title	Cr.	Course #	Course Title	Cr	Course #	Course Title	Cr.
1	1000	Orientation to ME and IE	3	1010	Professional Development	1	2300	Engineering Dynamics	3
2	1100	Introduction to CAD	2	1650	Material Science & Engrg	3	2650	Manufacturing Processes	3
3	1650	Materials Science & Engrg	3	2000	Measurements Laboratory	3	3320	Mechanical Design II	3
4	2000	Measurements Laboratory	2	2300	Engineering Dynamics	3	3360	Vibration Laboratory	1
5	2300	Engineering Dynamics	3	2600	Engineering Economics	3	3370	Mechanical Vibration	3
6	2600	Engineering Economics	3	2650	Manufacturing Processes	3	3380	Modeling and Control	3
7	2650	Manufacturing Processes	3	3300	Design Anal of Mech. Systems	3	3410	Thermodynamics II	3
8	3300	Design Anal of Mech. Systems	3	3310	Mechanical Design I	3	3420	Fluids Laboratory	1
9	3310	Mechanical Design I	3	3320	Mechanical Design II	1	3430	Fluid Mechanics	3
10	3320	Mechanical Design II	1	3330	Mechanics Laboratory	3	3440	Heat Transfer	3
11	3330	Mechanics Laboratory	1	3360	Vibration Laboratory	3	3450	Energy Laboratory	1
12	3360	Vibration Laboratory	3	3370	Mechanical Vibration	1	4000	Engineering Statistics I	3
13	3370	Mechanical Vibration	3	3380	Modeling and Controls	3			
14	3380	Modeling and Controls	3	3400	Thermodynamics I	3			
15	3400	Thermodynamics I	1	3410	Thermodynamics II	3			
16	3410	Thermodynamics II	3	3420	Fluids Laboratory	3			
17	3420	Fluids Laboratory	3	3430	Fluid Mechanics	3			
18	3430	Fluid Mechanics	3	3440	Heat Transfer	3			
19	3440	Heat Transfer	3	3450	Energy Lab				
20	3450	Energy Lab		4200	Senior Design Projects				
21	4200	Senior Design Projects							
22									

2.4.9 Co-Op Comparison Table

The following table indicates the advantages / highlights of the plans for comparison purposes:

Plan A without the Business Minor:	Plan A with the Business Minor:	Plan B without the Business Minor:	Plan B with the Business Minor:
Your degree is BSME or BSIE	BSME or BSIE w "Business Minor"	Your degree is BSME or BSIE	BSME or BSIE w "Business Minor"
Same Freshman year as other plans.	Same Freshman year as other plans.	Same Freshman year as other plans.	Same Freshman year as other plans.
After Freshman yr, a vacation or a chance to makeup any deficits.	After Freshman yr, a vacation or a chance to makeup any deficits.	After Freshman yr, a vacation or a chance to makeup any deficits.	After Freshman yr, a vacation or a chance to makeup any deficits.
First Co-Op in Spring of Soph year. Then: Fall of Pre-Jr yr, and Summer after Pre-Jr yr.	First Co-Op in Spring of Soph year. Then: Fall of Pre-Jr yr, and Summer after Pre-Jr yr.	For MEs: Co-Op Sum of Soph yr. Then: Spring of Pre-Jr yr and Fall of Jr yr.	For MEs: Co-Op Sum of Soph yr. Then: Spring of Pre-Jr yr and Fall of Jr yr.
		IEs: Co-Op in Spring of Soph yr. Then: Fall of Pre-Jr yr, and Summer after Pre-Jr yr	IEs: Co-Op in Spring of Soph yr. Then: Fall of Pre-Jr yr, and Summer after Pre-Jr yr
Priority registration over students in Plan B in your semesters 4, 5 and 6.	Priority registration over students in Plan B in your semesters 4, 5 and 6.	Priority registration over students in Plan A in your semesters 4, 5 and 6.	Priority registration over students in Plan A in your semesters 4, 5 and 6.
Spring of Jr yr.=Optional 4th Co-Op or time to make up course deficits.	Spring of Jr yr.=Optional 4th Co-Op or time for Business Minor courses.	Spring of Jr yr.=For MEs: Courses. For IEs: Time to make up deficits.	Spring of Jr yr.=For MEs: Courses. For IEs: Business Minor courses.
Summer after Jr yr. = Semester of courses.	Summer after Jr yr. = Semester of courses.	Sum after Jr yr = For MEs: make up deficits or optional Co-Op. For IEs: Courses.	Sum after Jr yr = For MEs: time for Business Minor courses. For IEs: Courses.
8 semesters of full-time study.	9 semesters of full-time study.	8 semesters of full-time study.	9 semesters of full-time study.
Full-time status maintained while on Co-Op Work Experiences.	Full-time status maintained while on Co-Op Work Experiences.	Full-time status maintained while on Co-Op Work Experiences.	Full-time status maintained while on Co-Op Work Experiences.
BSME full-time loads in 8 sems are: 16, 16, 15, 17, 15, 18, 15, 16 hrs.	BSME full-time loads in 9 sems are: 16, 16, 15, 17, 15, 18, 15, 15, 16 hr	BSME full-time loads in 8 sems are: 16, 16, 15, 17, 15, 15, 16, 18 hrs.	BSME full-time loads in 9 sems are: 16, 16, 15, 17, 15, 15, 16, 15, 18 hr
BSIE full-time loads in 8 sems are: 16, 16, 15, 15, 15, 18, 15, 18 hrs.	BSIE full-time loads in 9 sems are: 16, 16, 15, 15, 15, 18, 15, 15, 18 hr	BSIE full-time loads in 8 sems are: 16, 16, 15, 15, 15, 18, 15, 18 hrs.	BSIE full-time loads in 9 sems are: 16, 16, 15, 15, 15, 18, 15, 15, 18 hr
December graduation after 4.5 yrs.	May graduation after 4.5 yrs.	December graduation after 4.5 yrs.	May graduation after 4.5 yrs.
May graduation [5 yrs] in case any courses are still needed to be taken.	May graduation [5 yrs] in case any courses are still needed to be taken.	May graduation [5 yrs] in case any courses are still needed to be taken.	May graduation [5 yrs] in case any courses are still needed to be taken.

2.5 Syllabi of Courses Required in the Freshman and Sophomore Years

This section contains the *highlights* of the syllabi of each required course in the freshmen and sophomore years for ME and IE students. The syllabi presented here are condensed to give you an idea of the goals, topics to be covered, and pre-requisites in each course. The syllabus that will be handed out in each class when you take it will contain additional information and will supercede whatever you see here. The order in which these syllabi are listed is: MIME, MATH, CHEM, PHYS, CIVE, ENGL and PSY [this last one is Psychology and is required by IE's only].

2.5.1 Syllabi of MIME Courses

Mini-Syllabus of MIME-1000 Orientation for ME's [3 credit hours]

Catalog Data: The mechanical and industrial engineering professions are discussed with emphasis on career opportunities. Orientation to the university campus, study skills, and time management. Computer usage for word processing, spreadsheets, email, and mathematics packages are studied. How to use your creativity for design and manufacturing.

Goals: The goal of orientation is two-fold: First, to discuss career opportunities in engineering, rules, regulations, hints and tips from upperclassmen, advising and registration procedures, effective study skills, time management, creativity and problem solving. The second part of the course involves computer skills. Specifically computer programming, mathematical computations and graphing capabilities using MATLAB, general PC usage, word processing using Microsoft Word, spreadsheets and graphing using Microsoft Excel, email, internet, and world-wide-web.

Topics to be covered: Orientation to the University of Toledo and the College of Engineering, The MIME Student Handbook, Campus resources - what is available here at the University of Toledo, How to use the University of Toledo Library, PC usage: How to use a PC, PC protocol, electronic mail [email], the internet and world-wide-web, Word processing using Microsoft Word, spreadsheets and graphing using Microsoft Excel, Mathematical computations and graphing techniques using MATLAB, Computer programming using MATLAB, What engineers do - career opportunities with emphasis on Mechanical and Industrial Engineering, The BSME and BSIE Programs and the Co-Op Program, Creativity and problem solving – this is really what engineers do using the tools they learn in school, Advanced registration for spring semester courses. Study skills, hints on note taking, hints on test taking, stress management.

Pre-Requisites by topic: none.

Other Information: This course is open to ME and IE students only. This course has one 75 minute lecture and one 75 minute computer laboratory session each week.

Mini-Syllabus of MIME-1010 Professional Development [1 credit hour]

Catalog Data: Social protocol and ethics in industry are reviewed. Resume writing and interview skills are developed. Course assists in preparing the student for the Co-Op experience in industry.

Goals: This course provides students with information about professionalism, the engineering code of ethics, the importance of lifelong learning and what it's really like out in the business and engineering world. Students gain experience in resume and cover letter preparation and interviewing techniques. This course is offered in the Freshman year in order to prepare students for their Co-Op experiences in the Sophomore year.

Topics to be covered: the importance of lifelong learning, resume and cover letter preparation, interviewing techniques, the job market, salaries, trends, supply and demand, the value of different degrees, the engineering code of ethics, whistle-blowing, conflicts of interest, the history of engineering, networking, sexual harassment, discrimination, labor unions, patents, product liability, professional registration, engineering societies, working with non-engineers, working in groups.

Pre-Requisites by topic: none

Other Information: Guest speakers from the Engineering Co-Op Office and industry enhance the course. This course is open to ME and IE students only.

Mini-Syllabus of MIME-1100 Introduction to CAD [2 credit hours]

Catalog Data: Techniques for visualization and representation of machine components using solid modeling and projection. Section views, orthographic projection, dimensioning and tolerancing. CAD techniques for solving vector problems.

Goals: To develop a basic understanding of multiview engineering drawing and conventions as a means of engineering communication, to develop basic familiarity with 2D Computer Aided Design (CAD) techniques which permit the generation of multiview engineering drawings and other layouts required in engineering problem solving, and to develop the ability to visualize three dimensional objects given multiview drawings. In addition, the I-DEAS program is covered.

Topics to be covered: The AutoCAD system; creating and editing two dimensional multiview drawings of mechanical components; geometry creation; editing (delete, move, copy, trim, extend, and array); object snap, layers, grids and snap, applying appropriate line types, creating first auxiliary views and section views, adding dimensions, symbols and annotations to drawings, manipulating CAD drawings in terms of plotting, exporting/importing blocks, merging drawings, and inserting drawings in applications such as word processing documents.

Pre-Requisites by topic: none

Other Information: The goal is <u>not</u> to develop draftspersons.

Mini-Syllabus of MIME 1650 Materials Science Engineering [3 credit hours]

Catalog Data: Engineering properties of materials, the effect of atomic bonding and crystalline structure on the mechanical properties of metals, ceramics and polymers. Common measurement, testing, and comparison techniques to aid in selection of materials. Laboratory experiences include compressive and tensile strength testing, the effects of heat upon strength, hardness and micro-structure, the effects of combining certain materials in a composite to improve overall mechanical properties.

Goals: To understand the basic information on materials; to understand material properties and their behavior; to prepare for more advanced courses in materials.

Topics to be covered: Introduction to materials, Properties of materials, Nature of metals and alloys, Equilibrium Diagrams and Iron-Carbon System, Ferrous Metals and Alloys, Nonmetallic materials, Material selection, Measurement and inspection.

Pre-Requisites by topic: a working knowledge of college chemistry is needed during this course.

Other Information: In addition to the lectures there is one weekly laboratory session.

Mini-Syllabus of MIME 2000 Statistics and Measurements Laboratory [2 credit hours]

Catalog Data: How to write engineering laboratory reports. Statistical analysis of experimental data, uncertainty analysis, general characteristics of measurement systems, static and dynamic measurements, computer data acquisition, applications to thermal, mechanical and electrical systems.

Goals: This laboratory course will enable students to write effective engineering laboratory reports, teach them how to calibrate equipment, how to take and process data, and how to apply statistical methods to data acquisition and evaluation.

Topics to be covered: Laboratory experiments with applications to thermal, mechanical and electrical systems. How to write an engineering laboratory report. Statistical methods and how they apply to data taking and processing. How to work in teams.

Pre-Requisites by topic: Technical writing, algebra, trigonometry.

Mini-Syllabus of MIME 2300 Engineering Dynamics [3 credit hours]

Catalog Data: Kinematics of particles and rigid bodies. Thorough study of kinetics of particles and rigid bodies using Newton's laws of motion, work-energy methods, and impulse and momentum methods.

Goals: This course gives the student an understanding of the motion of particles and rigid bodies when acted upon by forces and moments. In addition, the student will be able to solve impact and momentum problems for particles and rigid bodies.

Topics to be covered: Motion of a point. Kinematics of particles. Force, mass and acceleration of particles. Principle of work and energy, and conservation of energy for a system of particles. Principle of linear impulse and momentum, and impact for a system of particles. Kinematics of rigid bodies. Moments of inertia. Force, mass and acceleration of rigid bodies. Principle of work and energy, and conservation of energy for a system of rigid bodies. Principle of linear impulse and momentum, angular impulse, angular momentum, and impact for a system of rigid bodies.

Pre-Requisites by topic: statics, vectors, differential calculus, integral calculus.

Mini-Syllabus of MIME 2600 Engineering Economics [3 credit hours]
[Normally Taken in the Junior Year but listed here anyway]

Catalog Data: The study of micro-economic and macro-economic theories. Methods of economic analysis, including the time value of money, are described. Economic decision criteria are used to select best alternatives. Relationships to professions other than engineering are explored. Impact of economic decisions on various sectors of society are discussed.

Goals: In this class students will learn the fundamentals of macroeconomic and microeconomic theories. In the majority of this course, students will learn the importance of the time value of money and the impact of other economic concepts on engineering. Techniques and concepts are covered which will allow improved engineering decisions regarding costs, accounting, and optimum economic choices. This class will also assist students in their professional and personal lives to make better financial decisions.

Topics to be covered: Microeconomic theory, macroeconomic theory, the balance sheet, interest formula, present worth, future worth, annual equivalence, gradient analysis, bonds, loans, rate of return, internal rate of return, minimum attractive rate of return, payback period, depreciation, return on investment, inflation, deflation, replacement cost analysis, economic analysis, the cost / benefit ratio, decision analysis, break-even analysis.

Pre-Requisites by topic: Algebra. The published prerequisite is “Sophomore Status”.

Other Information: This course satisfies the economics requirement for the Business Minor. However, students wanting to obtain the MBA degree must take two economics courses (microeconomics, and macroeconomics). For more info, see Section 2.9.

Mini-Syllabus of MIME 2650 Manufacturing Processes [3 credit hours]

Catalog Data: Manufacturing processes discussed include metal casting and forming such as forging, rolling, extrusion, stamping and drawing. Metal cutting processes such as turning, boring, drilling, milling, sawing and broaching are discussed. Polymer processes including injection molding and extrusion as well as ceramic part production are covered. Laboratory experiences include creating parts using many of these processes.

Goals: To provide a descriptive introduction to a wide variety of processes and their advantages and limitations; to prepare for more advanced courses in processes in manufacturing.

Topics to be covered: Introduction to manufacturing processes, heat Treatment, fundamentals of casting, powder metallurgy, fundamentals of metal forming, hot-working processes, cold-working processes, fabrication of plastics, ceramics, and composites, fundamentals of chip-type machining processes, cutting tools and machining, turning, boring, and related processes, drilling and related hole-making processes, milling, abrasive machining processes, numerical control and machining centers, Nontraditional machining processes, gas flame processes: welding, cutting, and straightening; arc processes: welding and cutting, brazing and soldering, surface treatments and finishing.

Pre-Requisites by topic: Material science engineering [MIME-1650], or a working knowledge of materials.

Other Information: In addition to the lectures there is one weekly laboratory session.

Mini-Syllabus of MIME 4000 Engineering Statistics I [3 credit hours]

Catalog Data: This course introduces the student to the areas of probability theory and statistical inferences. Topics include sample spaces, the concepts of random variables, probability distributions, functions of random variables, transformation of variables, moment generating functions, sampling and estimation theory; t, F and chi-square distribution.

Goals: This course gives the student the fundamentals of statistical analysis and probability theory for use in a wide variety of engineering applications.

Topics to be covered: Mean, standard deviation, variance, probability, conditional probability, random variables, transformation of variables, discrete and continuous probability distributions including normal, gamma, exponential, Poisson, Weibull and chi-squared distributions, density functions, moment generating functions, and sampling and estimation theories.

Pre-Requisites by topic: differential calculus, integral calculus, multivariable calculus.

2.5.2 Syllabi of Mathematics Courses

Mini-Syllabus of MATH 1850 Single Variable Calculus [4 credit hours] [Often called Calculus-I]

Catalog Data: Limits, differentiation, fundamental theorem of calculus, mean value theorem, curve sketching, maxima and minima, definite and indefinite integrals, applications.

Goals: To introduce students to the foundations underlying calculus. Functions, limits, derivatives, and other fundamental topics will be covered.

Topics to be covered: Limits and rates of change, derivatives, maxima and minima, mean value theorem, curve sketching, definite and indefinite integrals, applications of differentiation and integration.

Pre-Requisites by topic: intermediate algebra and trigonometry

Other Information: This is equivalent to MATH 1920 - Honors Calculus I (for honors students only).

Mini-Syllabus of MATH 1860 Single Variable Calculus II [4 credit hours] [Often called Calculus-II]

Catalog Data: Inverse functions, techniques and applications of integration, polar coordinates, sequences and series.

Goals: To expand upon student's knowledge of derivation and integration and provide examples of practical applications. Exponential and logarithmic functions and their integrals and derivatives will be examined. Vector algebra is introduced in preparation for future math, science, and engineering courses.

Topics to be covered: Inverse functions, techniques of integration, applications of integration, parametric equations, polar coordinates, infinite sequences and series.

Pre-Requisites by topic: topics in Calculus I as MATH 1850 is pre-requisite.

Other Information: This is equivalent to MATH 1930 - Honors Calculus II (for honors students only).

Mini-Syllabus of MATH 2850 Elementary Multivariable Calculus [4 credit hours] [Often called Calculus-III]

Catalog Data: Geometry of functions of several variables, partial differentiation, multiple integrals, vector algebra and calculus. Theorems of Green, Gauss, and Stokes, and applications

Goals: To expand upon the students' knowledge of calculus by exploring multivariable functions, partial differentiation, and dimensional integrals. Vector analysis of physical phenomena will be explored in detail. Vector fields and Green's theorem are covered with applications. Multiple integrals and their applications to practical problems of flux and volume will be examined.

Topics to be covered: Three dimensional analytic geometry and vectors, partial derivatives, multiple integrals, vector calculus.

Pre-Requisites by topic: topics in Calculus II as MATH 1860 is pre-requisite.

Other Information: This is equivalent to MATH 2950 - Honors Calculus III (for honors students only).

Mini-Syllabus of MATH 2860 Elementary Differential Equations [3 credit hours]

Catalog Data: An introduction to the analysis and solution of ordinary differential equations with emphasis on the fundamental techniques for solving linear differential equations.

Goals: An analysis of several methods of solution for elementary differential equations. First and second order equations will be closely examined and general methods applicable to higher order equations will be studied. Matrix solutions using eigenvalues and eigenvectors will be closely examined and numerical methods of solution will be touched upon.

Topics to be covered: First order differential equations, second order linear differential equations, higher order linear differential equations, LaPlace transforms, series solutions, systems of linear equations.

Pre-Requisites by topic: Multivariable calculus – MATH 2850 or equivalent

2.5.3 Syllabi of Chemistry Course[s]

Mini-Syllabus of CHEM 1230 General Chemistry I [4 credit hours]

Catalog Data: An introduction to atomic structure, chemical bonding, kinetic-molecular theory, solutions, equilibrium, acid-base theory, energy relationships and structural concepts. This sequence is for students who major in sciences, engineering or other fields which require chemistry as a prerequisite subject. Three hours lecture and one hour discussion per week.

Goals: To provide a foundation in basic chemistry for students in a variety of fields and strengthen problem solving ability.

Topics to be covered: Matter, Energy, Properties, Measurements, Units, Unit Factor Method, Percentage, Density Heat, Atoms, Molecules, Formulas, Atomic Weights, Moles, Percent Composition, Formula Determination, Purity, Chemical Equations, Calculations, Limiting Reagents, Percent Yield, Sequential Reactions, Concentrations, Dilution, Solution Stoichiometry, Titrations, Periodic Table, Aqueous Solutions, Reaction in Solutions, Precipitation and Acid/base Reactions, Introduction to Oxidation Numbers, Redox Reactions, Displacement Reactions, Activity Series, Subatomic Particles, Isotopes, Mass Spectroscopy, Electronic Structure of Atoms, Wave Nature of Matter, Quantum Numbers, Orbitals, Electron Configurations, Atomic Radii, Ionization Energies, Periodic Properties, Chemical Reactions and Periodicity, Nomenclature, Dot Structures of Atoms, Ionic Bonding, Covalent Bonding, Molecular Shapes and Bonding, Multiple Bonds, Acids and Bases, Acid Strength, Acid-Base Reactions, Salts, Lewis Theory, Oxidation-Reduction Reactions, States of Matter, Gas Laws, Molecular Weight Determination, Gas Properties.

Pre-Requisites by topic: CHEM 1090 or: high school chemistry plus a score of 20 or higher on the placement test.

IMPORTANT NOTE: Students who are required to take CHEM 1200 along with CHEM 1230 [because of a low Chemistry placement test score] must successfully complete 1200 in order to earn credit for CHEM 1230. In the past, there were a few students who did not take CHEM 1200 seriously, didn't do the work, and consequently earned F grades. As a consequence, their passing grades in CHEM 1230 were not credited to them because the requirement of "successful completion of CHEM 1200" was not met. Therefore, you must take this one-credit-hour course seriously to receive credit for CHEM 1230. See below for info on CHEM 1200.

Mini-Syllabus of CHEM 1200 Problem Solving in General Chemistry [1 credit hour]

CHEM 1200 is required only if your Chemistry placement test score was a 16, 17, 18 or 19. Chem 1200 [taken along with CHEM 1230] covers material to bridge the gap between high school chemistry and college chemistry. Although some of the material may seem elementary, you must take this course seriously if you are required to take it. See note below.

Note: Students who are required to take CHEM 1200 along with CHEM 1230 [because of a low Chemistry placement test score] must successfully complete 1200 in order to earn credit for CHEM 1230. In the past, there were a few students who did not take CHEM 1200 seriously, didn't do the work, and consequently earned F grades. Their passing grades in CHEM 1230 were not credited to them because the requirement of "successful completion of CHEM 1200" was not met. Therefore, you must take this one-credit-hour course seriously to receive credit for CHEM 1230.

2.5.4 Syllabi of Physics Courses

Mini-Syllabus of PHYS 2130 Physics for Science and Engineering Majors I [5 credit hours]

Catalog Data: Calculus based general physics. Mechanics of motion and energy, rotation, gravitation, harmonic motion, waves, fluids, and the laws of thermodynamics. Five hours lecture and discussion, two hours laboratory per week.

Goals: To introduce students from science and engineering disciplines to the study of the physical world. Problem solving and analysis are stressed.

Topics to be covered: Kinematics and free-fall, Dynamics, Forces, Work and energy, Momentum, Collisions, Rotational motion, Torque and angular momentum, Gravitation, Harmonic motion and oscillations, Waves, Fluid statics and dynamics, Heat; first law of thermodynamics, Entropy; second law of thermodynamics, Thermodynamics.

Pre-Requisites by topic: MATH 1850. Corequisite: MATH 1860.

Other Information: A supplementary lab (2 hours per week) is required where students perform experiments involving motion of particles. Measurements are conducted with stop-watches, rulers and other common devices. Do not forget to sign up for a Physics lab section: 021, 022, ….

Mini-Syllabus of PHYS-2140 Physics for Science and Engineering Majors II [5 credit hours]

Catalog Data: Calculus based general physics. Electricity and magnetism, capacitors and inductors, electromagnetic oscillations, Maxwell's equations and electromagnetic radiation, optics, images, interference, and diffraction. Five hours lecture and discussion, two hours laboratory per week.

Goals: To provide the students with a solid understanding of the forces involved in electricity and magnetism and examine the natural laws governing such phenomena. Electric circuits will be examined in light of this knowledge.

Topics to be covered: Charges and electric field, Gauss' Law and electric potential, Ohm's Law and D.C. circuits, Magnetic field, Ampere's Law, Faraday's Law, Capacitors, inductors, field energies, Electromagnetic oscillations, A. C. circuits, Maxwell's equations and radiation, Reflection and refraction, Optics, Images, Interference, Diffraction.

Pre-Requisites by topic: PHYS 2130.

Other Information: A supplementary lab (2 hours per week) is required where students perform experiments with circuits involving components such as resistors, capacitors, and inductors. Measurements are conducted using various electrical meters, including oscilloscopes. Do not forget to sign up for a Physics lab section: 021, 022, ….

2.5.5 Syllabi of Civil Engineering Courses

Mini-Syllabus of CIVE 1150 Engineering Mechanics: Statics [3 credit hours]

Catalog Data: Study of coplanar statics of particles, vector addition, resultant components, equilibrium, free body diagrams, equivalent force systems, vector products, scalar products, two- and three-dimensional equilibrium of rigid bodies, analysis of machines, pulleys, trusses, centroids, moments of inertia, shear and bending moment diagrams.

Goals: At the end of this course a student will be able to resolve a force into components, find centroids and moments of inertia, draw shear and moment diagrams for simply supported beams and analyze statically determinate structures.

Topics to be covered: Statics of particles, rigid bodies equivalent systems of forces, equilibrium of rigid bodies, distributed forces, centroids and centers of gravity, analysis of structures, friction, distributed forces, moments of inertia.

Pre-Requisites by topic: Calculus I (MATH 1850) and Physics I (PHYS 2130)

Mini-Syllabus of CIVE 1160 Engineering Mechanics: Strengths of Materials [3 credit hours]

Catalog Data: Study of stress, strain, mechanical properties, axial loads, torsion, beam bending, shear, combined loads, stress transformation, beam deflection, buckling, and other topics.

Goals: This course provides the student with an understanding of material properties, prismatic and circular member loading conditions and member behavior. In addition, stresses, strains and deflections due to any type of loading will be covered.

Topics to be covered: Stress, strain, mechanical properties, axial loads, torsion, beam bending, shear, combined loads, stress transformation, beam deflection, buckling.

Pre-Requisites by topic: Engineering Mechanics: Statics (CIVE 1150) and Calculus I (MATH 1850)

2.5.6 Syllabi of English Courses

Mini-Syllabus of ENGL 1110 College Composition I [3 credit hours]

Catalog Data: Explanatory and persuasive writing; instruction and practice in generating, focusing, developing, and presenting ideas in ways consistent with one's subject, purposes, and intended audience.

Goals: After this course, the student will be able to present his/her ideas clearly in written word to whatever audience is intended. Proper style, format, and structure will also be met.

Topics to be covered: How to present your views, style, structure, review of grammar, punctuation and much more.

Pre-Requisites by topic: English ACT of 20, or suitable performance on placement test.

Other Information: Honors students do not take this course. They take Honors Readings Conference I (HON 1010).

Mini-Syllabus of ENGL 1930 Technical Writing for Engineers [3 credit hours]

Catalog Data: Instruction and practice in writing technical reports and documents for the field of engineering. Students will compose on the computer.

Goals: After this course, students will be able to write clear, concise and organized technical reports. They will be able to locate research reports and data on the world-wide-web and import it into their reports. They will also be able to include equations using the equation editor, and import figures, tables, and graphs into their reports.

Topics to be covered: How to write a technical report, the equation editor, using the world-wide-web for research purposes, how to import a figure, table and graph into a document, presenting your work to a professional group.

Pre-Requisites by topic: ENGL 1110

Other Information: This course is similar to ENGL 2950 but was developed for MIME students only as it covers the additional topics indicated above. Honors students do not need to take ENGL 1930. Instead, they should take Honors Readings Conference II (HON 1020). However, honors students may take this course in which case their second Honors Readings will count as a humanities or (if properly chosen) a multicultural course. See advisor for more info.

2.5.7 Mini-Syllabus of Psychology Course

Mini-Syllabus of PSY 1010 Principles of Psychology [3 credit hrs]
[Required by IE's and will count as one of the Social Science Electives]

Catalog Data: A survey of the branches of psychology and the scientific approach to the study of behavior.

Goals: To give an overview of the broad diversity of topics in psychology.

Topics to be covered: What is Psychology, Biological Psychology, Development, Sensation and Perception, Consciousness, Learning, Memory, Thought and Language, Intelligence and Creativity, Social Psychology, Motivation and Emotion, Personality, Abnormal Psychology, Psychotherapy, Health Psychology.

Pre-Requisites by topic: none

Other Information: This is a required course for Industrial Engineering students and counts as one of the two Social Science courses. All students would find this course very interesting. It is highly recommended as your Social Science course.

2.6 Student Societies in the M. I. M. E. Department

Student sections of professional societies are excellent ways to get more involved in your profession. Several societies are available for you to become a member and even better, an active member. Active participation in these societies is a great way to make friends, become more involved in the Engineering College, and to network and make contacts with engineers in industry. We urge you to consider joining and participating in at least one society.

American Society of Mechanical Engineers (ASME)

The American Society of Mechanical Engineers is the national professional society in Mechanical Engineering. UT has an ASME student section open to all engineering students. Section activities include meetings generally at noon every other Wednesday starting the second week of the term, guest speakers on various topics of interest, industrial tours, no cost admission to all ASME national conferences, social and athletic events, and many other advantages. It is highly recommended for majors in Mechanical Engineering to join ASME so that you can participate in these activities. Check the M. I. M. E. study lounge [Room NE-1050] and the ASME Office in Room NI-4026 for more information about ASME.
Email address: asme@eng.utoledo.edu

Institute of Industrial Engineers (IIE)

The Institute of Industrial Engineers is the national professional society in Industrial Engineering. The University of Toledo has a student section of IIE which is open to all engineering students. Student section activities include meetings with guest speakers on various topics of interest, industrial tours, social and athletic events, co-sponsorship of the MIME Picnic held on the last day of classes in spring and many other advantages. It is highly recommended for majors in Industrial Engineering to join IIE. Check the MIME study lounge [Room NE-1050] and the IIE Office [Room NI-4026] for more information about IIE. Email address: iie@eng.utoledo.edu

Society of Automotive Engineers (SAE)

The Society of Automotive Engineers is a national professional society and the University of Toledo has a student section which is open to all engineering students. SAE student section activities include design, fabrication, maintenance, and performance testing of the vehicles for the SAE Formula competition, mini-baja, and super-mileage competition. In addition, SAE in the past offered a car maintenance and repair day to the UT community to raise money for SAE section activities. Check the SAE Office [Room NE-1013] for information about SAE. Email address: sae@eng.utoledo.edu

Other Societies in Engineering - Not Just Mechanical or Industrial Engineering

The College of Engineering also has several student societies open to all engineering students regardless of their departmental affiliation. These include the Ohio Society of Professional Engineers (OSPE), the Society of Black Engineers (SBE), the Society of Women Engineers (SWE), and Theta Tau, a co-ed Professional Engineering Fraternity. Two Social Engineering Societies exist within the College of Engineering. Phi Sigma Rho is an engineering Sorority [female] and Triangle is an engineering Fraternity [male]. Information concerning these organizations can be obtained on the organizational bulletin boards in Nitschke Engineering Building.

Honorary Societies in the ME and IE Programs

Pi Tau Sigma is the Mechanical Engineering Honorary Society and Alpha Pi Mu is the Industrial Engineering Honorary Society. Junior and Senior students are invited to join based on their grade point average and other professional qualifications. Usually the top 15 percent of the class is eligible for membership. Pi Tau Sigma and Alpha Pi Mu share the same office in Room NI-4027. Tau Beta Pi is the College of Engineering Honorary Society with similar membership qualifications.

2.7 The Honors Program

The University of Toledo has a very active Honors Program. M.I.M.E. students in the Honors Program take the same courses [except for two Honors Readings courses] but have special Honors sections enabling a deeper and broader coverage of the material. Generally, additional work is required as an Honors student. The Honors Program is intended to challenge these students more. An advantage of the Honors Program is that during advanced registration you get to schedule your classes before everyone else at UT.

2.8 The Missed Class Policy

In January 2002, the University of Toledo approved a "Missed Class Policy" for situations such as jury duty, death in the family, etc. See Appendix 3 for this policy and pay careful note about what the professor says in the course syllabus regarding this issue.

2.9 The Business Minor

The College of Business in conjunction with the College of Engineering has established a program whereby engineering students may earn a minor in Business Administration [often called 'the Business Minor']. Many COOP plans are designed to accommodate a Business Minor with only an additional semester of coursework. Below is an ***unofficial*** list of requirements/steps.

1. Declare yourself for the Business Minor by filling out a form at the Student Service Center in the College of Business Administration in Stranahan Hall (ST 1016). This will get you 'coded' as pursuing the Business Minor. Ask for the current **official** requirements.
2. BUAD 2040 [Financial Accounting Information] is a requirement but need not be taken first. This course is a prerequisite for BUAD 3040 and this prerequisite cannot be waived.
3. Any three [3] of the following courses must be taken: BUAD 1010, BUAD 2050, BUAD 2070, BUAD 2080, BUAD-3010, BUAD 3020, BUAD 3030, BUAD 3040, BUAD 3050, or BUAD 3470.
4. Two [2] additional courses may be taken as follows: any of the above courses not taken, or any 3000- or 4000- level course in BUAD and ACCT, FINA, INFS, MGMT, EFSB, IBUS, EBUS, OPMT, ORGD, HURM, PSLS, BANS, BLAW, MKTG. However, at least three out of the five courses must be 3000-level or higher.

Note1: Prerequisites for engineering students have been waived provided they are coded as pursuing the Business Minor.
Note2: The Business Minor requires a C grade or better in each and every Business course.
Note3: The prerequisite for BUAD 3010 is MIME 2600 and this cannot be waived.
Note4: There is a course numbered: IBUS-3150 [Understanding Cultural Differences in Business] which is approved as a Non-western Tradition Multicultural course. This course may be selected as one of the two additional courses [see number 4 above] and will also count as your Nonwestern Tradition Multicultural course. See section 1.16.

Thus, the business minor requires six business courses. However, if IBUS 3150 is selected as your Non-Western Tradition multi-cultural course, then five additional courses are needed. Further, one business course at or above the 3000-level will count as one of your required technical electives [see section 2.13]. Therefore, a net of four additional courses are needed for the Business Minor.

2.10 The Professional Sales Minor

The College of Business in conjunction with the College of Engineering has established a program whereby engineering students may earn a minor in Professional Sales [PS]. This is an excellent credential to have if you want to go into sales. Five business courses are required for the PS minor. The **unofficial** requirements/steps are:

1. Declare yourself for the Professional Sales Minor by filling out a form at the Student Service Center in the College of Business Administration in Stranahan Hall (ST 1016). This will get you 'coded' as pursuing the Sales Minor. Ask for the current official requirements.
2. MIME 2600 is one of the required courses for the PS minor and is also required for the BSME and BSIE degree.
3. The courses BUAD 3010 and PSLS 3440 should be taken next.
4. The following two courses can be taken in any order after the above three courses: PSLS 3450 and PSLS 4740.
5. Either one of the following two courses is required: PSLS 3080 and PSLS 4710.
6. BUAD 3010 will count as a technical elective so the Professional Sales minor is really a net of four extra courses.

2.11 The Combined BS in Engineering and the MBA [Masters in Business Administration]

The College of Business in conjunction with the College of Engineering offers a program whereby a student may simultaneously earn both a BS in Engineering (BSME) or (BSIE) and a Masters of Business Administration (MBA). This program provides a unique opportunity to combine business and engineering skills to prepare graduates for global competitiveness. Below is an **unofficial** set of program requirements. Check with the Business College for a current set of official requirements.

To be admitted to the program, students must have senior standing, score a minimum of 450 on the Graduate Management Admissions Test (GMAT), and have at least a 3.0 cumulative gpa. They must have also completed the business minor courses outlined above. Students who wish to pursue the combined MBA program should make this known to Dr. Bruce Poling, Associate Dean of Undergraduate Studies in the College of Engineering by the end of their sophomore year. Interested students will take the GMAT at the end of their junior year and should apply for admission to the program to the Graduate School before the fall of their senior year. Upon admission to the program by the Graduate School, by the College of Business and by the College of Engineering, students will be classified as special provisional graduate students so that they may take graduate courses while simultaneously completing their BS requirements for the engineering degree. For a complete list of the requirements for the MBA, contact the College of Business.

Normally, the BS engineering degree programs (with the co-op) requires four-and-a-half years and the MBA would require an additional two years. It is anticipated that by doing the two programs simultaneously, six years total will be required for the two degrees. In doing both degrees at the same time, students in ME or IE may use two of the business courses to simultaneously satisfy two electives in the engineering curriculum. For more information, see your Academic Advisor.

2.12 The Mathematics Minor

MIME students interested in mathematics may want to obtain a Minor in Mathematics. To obtain the mathematics minor, you must first go to the Mathematics Department to get 'coded' as a math minor student. At that time see an advisor in mathematics for more information on requirements. However, before you decide to do this minor, see your Academic Advisor. Since a course in Mathematics at or above the 3000-level will count as a technical elective [see Section 2.13]. With proper planning, a Mathematics Minor may only require two additional courses.

2.13 Selection of Technical Electives

One way to select your technical electives is to see what is offered and when it is offered and just pick one. This is not a good way to do that. A much better idea is to give this important decision a great deal of thought well ahead of the time when you intend to take your technical electives. For example, if you are a Mechanical Engineering student interested in Computer Aided Design, you may want to take several CAD courses. You are urged to discuss this with your academic advisor early in your Junior year. The requirement is: 12 hours of MIME courses at the 3000 or 4000-level for the BSME degree. Nine [9] hours of MIME courses at the 3000 or 4000-level for the BSIE degree. However for both ME and IE, upto three [3] credits may be taken outside of the MIME Department as follows:

- Any 3000-level or 4000-level engineering course in the departments of Bioengineering [BIOE], Chemical and Environmental Engineering [CHEE], Civil Engineering [CIVE], Electrical and Computer Science Engineering [EECS].
  NOTE: Courses in the Engineering Technology program are not approved as technical electives in ME or IE.
- Any 3000- or 4000-level course in Mathematics [MATH], Biology [BIOL], Chemistry [CHEM] or Physics [PHYS].
- Any ONE of the business courses at or above the 3000-level that students taking the business minor or professional sales minor are required to take [even though you are not pursuing either minor]. See sections 2.9 and 2.10.
- The course IBUS-3150 is not included because it counts as a non-western tradition multi-cultural course.

The Program Director has the authority to modify this requirement for a student on a case-by-case basis.

2.14 The Fundamentals of Engineering Exam and Becoming a Professional Engineer

The Fundamentals of Engineering [FE] Exam was formerly called the EIT [Engineering in Training] Exam and can be taken in your senior year. This is an optional exam given once in April and once in October for students who eventually want to get their Professional Engineering [PE] license. Deadline for registering for the exam is eight weeks prior to the exam. See the secretary in the Dean's Office in NI-1040. This PE license will enable you to join consulting companies and is another excellent credential you can add to your list of accomplishments. The exam is eight hours long. Students who prepare for it usually pass it. That is all that you need to do - pass it with a 70%. It covers the basics of mechanics, dynamics, kinematics, engineering economy, thermodynamics, electric circuits, chemistry, materials science and mathematics. The ASME Student Section sells a two-inch thick review manual with sample test questions and answers, and this is all you will need. Also, each semester one of the student societies organizes review sessions with the help of some faculty members who teach these courses. M. I. M. E. students from UT usually do well on the FE Exam partly because we have a good program and mostly because we have very good students. But if you fail it, you can retake it with no penalty.

After you have passed the exam and have graduated, you need to acquire four years of engineering experience. Graduate school in engineering also counts. Then you take the Professional Engineers [PE] Exam in the state you reside in [those who took both exams say the PE exam is actually easier than the FE Exam]. There is reciprocity for the PE license among all states. Getting the PE license is highly recommended. The best time to take the FE is when you are a senior - not after you have graduated because most of the material is fresh in your mind. That last comment comes from students who did it that way.

2.15 The Senior Checkout

After you have completed about 86 semester hours the academic program coordinator and your academic advisor do a "senior checkout" for you. This is an inventory of your course requirements and will clearly show what courses you have completed and what you have not. The senior checkout will be mailed to you telling you that, according to our records, you need such-and-such courses. This is done so there are no "surprises" two weeks before graduation. If you do not receive your senior checkout a few months after completing 86 hours, contact the academic program coordinator. In most cases it is a simple matter to determine what courses you need. Look at the flowchart. However, if you have transfer credits [especially from a school on the quarter system] it is not always obvious as to what courses and credits you need to complete.

SECTION 3 - Helpful Information to Save You Time, Trouble, Energy and Money

3.1 Campus Resources

Every full time student at The University of Toledo is required to pay a general fee. This money is used for extra services like the rec-center, football games, basketball games, and anything else that is so-called "free". Some of these services along with those that are provided independent of the general fee are described below. Other offices/services listed below are important ones you will likely need to visit such as Records Office and Cashier's Office. These are listed alphabetically.

Treasurer's Office or Cashier's Window [Rocket Hall — Telephone: 530-5755 or -5755 from campus]

The Bursar's Office is where you go to pay for classes, cash a check, or some other money transaction. This office is located across from Records Office in Rocket Hall.

Campus Escort Service [Telephone: 530-4292 or -4292 from campus]

Although UT is considered a very safe campus, it is nevertheless wise to use the escort service when walking alone in the dark to your car, dorm, nearby apartment, or any other destination within reason. The service originates at the Rec Center, Library, Com-Tech [as well as other locations if prearranged] and is free of charge.

Engineering Career Management Center [Nitschke Hall Room 1040 — Telephone: 530-8050 or -8050 from campus]

The Engineering Career Management Center [ECMC] in Nitschke Hall is the office regarding co-op and for finding your first permanent job in engineering. Whether this position is with the company where you did your co-op during your studies at UT or not, you will be interacting with Dr. Vickie Kuntz [Tel: 530-8054] from time to time. This will be discussed further in Professional Development in spring semester.

C.A.S.E. [Center for Academic Services for Engineering] [Palmer Hall Room 2600 — Telephone: none] This room is for free tutoring from upperclass students and graduate students in engineering. They are very knowledgeable in most subjects. Look at the schedule to see when the upperclass MIME students are on duty as they took the MIME courses you need. This term the schedule is: _____

Counseling Center [Rocket Hall — Telephone: 530-2426 or -2426 from campus]

The Counseling Center is designed to help you deal with any emotional or personal problems you may encounter. The center is staffed by psychologists and doctoral level graduate students in counseling who can help you through home-sickness, failing a class, family problems, roommate conflicts, abuse, and many other problems. Just think how much this would cost if you were not a student!

Financial Aid Office [Rocket Hall — Telephone: 530-5510 or -5510 from campus]

The Financial Aid Office is the one office which deals with loans and scholarships. It is in Rocket Hall.

Medical Center [Medical Center Building — Telephone: 530-3451 or -3451 from campus]

The medical center that is available to students is top notch! The doctor visits are free, but you do have to pay for any medications or lab work. This is an excellent service that should be utilized if you are not feeling well.

Off Campus Housing Office [Student Union Room 1511 — Telephone: 530-8521 or -8521 from campus]

This office was set up to benefit students who live off campus. They offer a free How To Live Off Campus guide, shuttle bus maps and schedules, cost comparison sheets, roommate assistance, and advice for roommate and landlord conflict resolution.

On Campus Housing [Dowd Hall Room 100— Telephone: 530-2941 or -2941 from campus]

The Office of On-campus Housing deals with UT's residence halls. They can give you information about your residence contract, your meal plan, any leadership or employment opportunities, and even a campus map!

Records Office [also known as Registration Office or Registrar's Office]
[Rocket Hall — Tel.: 530-4824 or -4824 from campus]

The Records Office is where you go to register for classes if you do not register over the telephone or using the web. It is in Rocket Hall. A word to the wise about registering for classes: No matter when you register, always plan at least two different schedules by way of listing several alternates. Also, if you need a transcript, you go to the Records Office, fill out a form, pay four dollars and they will send one to the address you indicate. The first one is free, though.

Security [Security Building — Telephone: 530-2600 or -2600 from campus]

There are many safety precautions taken around this campus. There are new, brighter lights, emergency telephones, patrolling police officers, and the campus escort service just to name a few. Also, UT Police are full time police officers who have full arrest powers on and off campus.

Student Accounts Office [Rocket Hall — Telephone: 530-2555 or -2555 from campus]

This is also called the Loan Disbursement Office and is located in Rocket Hall for picking up your scholarship or loan checks.

Student Development Center [Field House Room 128B — Telephone: 530-7914 or -7914 from campus]

The University of Toledo does not want anything to stand in your way of succeeding in college and the Student Development Center is there to make sure of that. UT offers a development program for all students which includes free tutoring, counseling dealing with your academic, personal, and social life, books to borrow for a semester, and they may even buy you a book for a class! They can also talk to your professor to schedule a make-up exam if you are sick.

Parking Services Office [Transportation Center — Room 1400 — Telephone: 530-2295 or -2295 from campus]

The Parking Services Office is where you go to register your car for a parking permit if you do not do this in connection with course registration. Also, you go to the Parking Services Office for a parking pass for a guest [max of two per semester per student], or anything else in connection with your car.

3.2 Non-Academic Advice

Year after year we encounter students who get into trouble by doing something they shouldn't have done, or not doing something they should have done. We're not talking about academics. This is about other things. Maybe your parents mentioned these; maybe they didn't. Since many of you are on your own for the first time, we offer this section called: "Non-Academic Advice" for what it's worth. In no special order…..

1. You will see advertisements for credit cards. We urge you to either not get one, or if you do, use it responsibly. Check with a family member for more advice on this issue.

2. Although UT is a reasonably safe place, we recommend locking your dorm door, apartment door, car doors, and don't leave valuable items in full view in your car.

3. Don't invite illness. Come December when it is cold, we recommend long pants, long sleeve shirt, and a coat. Pretty obvious huh? Just you wait and see how many people you'll see dressed for a summer picnic in December.

4. Alcohol. Legal drinking age notwithstanding, you may have an opportunity to consume alcoholic beverages; most likely beer. We recommend you avoid it, but if you feel you want to drink, please do so responsibly.

5. Illegal drugs. It is a smart idea to stay away from all illegal drugs for reasons too numerous to mention here.

6. Cigarettes. If you don't smoke, please do not start now. If you smoke, now would be an excellent time to stop. Difficult, of course; but consider this an important chapter in your life. As a non-smoker you will be much the better for it.

7. Use proper grammar. In the business and professional world, people often infer that you are uneducated if you speak using poor grammar. They shouldn't think that way, but they do. So, we recommend you make every effort to use proper grammar when you speak. This can be done by thinking before speaking [and that right there is a pretty good rule to follow too]. So, next time your advisor asks how you are doing in Calculus, don't say: "I'm doing good." Instead, say: "I'm doing well. I have a pretty good teacher."

8. The message on your answering machine. Do you have a humorous or musical message on your answering machine? If so, we recommend you enjoy it for two more weeks, and then change it to something professional sounding. This is because you may get calls from teachers, your advisor, our academic program coordinator, potential employers and others. A related question: Do you have an inappropriate answering machine message such as a joke that you think is funny but some may not? If so, we recommend you change this message today.

9. Leaving a message on someone's answering machine. When you leave a message and include your name and telephone number, it is wise to speak clearly and at a reasonable speed. Don't think you must rattle off your telephone number fast because you know it by heart. And don't be so quick to end your message speaking so fast. A moderate speed is about right.

Ignorance is not knowing what or how to do something. This is correctable by learning. [It's what we do here at UT.]

Stupidity is knowing what to do, but for some reason you choose not to do this. This is also correctable but requires....

3.3 Important Deadlines to be Aware of

It would be helpful to be aware of the following deadlines during the semester. For summer sessions, deadlines will be sooner so check the course scheduling information. See Section 1.7 for more information.

First three days of the semester

You can add a class without requiring the instructor's signature providing there is space available in the class. A common mistake by students after the third day is to try to change their section by dropping the section they are in and adding the one they want. Problem is you can't add a section after the third day unless you have the prof's signature. So don't drop a section until you have the signature. In which case you must go to the Records Office in person.

15th calendar day [first two weeks plus one day including weekends and holidays]

This is the last day to drop a class and it will not show up on your transcript. You get a percentage of your tuition back depending on when you drop the course. See course schedule information. Also, this is the last day to add a class.

For graduating seniors – Registration for Graduation

This is the best registration and is necessary [1] to be listed in the commencement program, [2] to have a diploma printed and mailed to you [assuming you have met all degree requirements], and most of all [3] will give the MIME department time to do a pre-graduation checkout which is a check of the courses you have completed so that we can contact you before your last semester begins regarding anything you might have overlooked. We don't like surprises two weeks before graduation. If you register after the following deadline, we may not be able to due a pre-graduation checkout for you. Register online at the UT website or go to the Records Office. Graduation ceremonies are held in May and December - on Saturday after exam week.

For May graduation:	Register by early-November of the preceding fall term.
For August graduation:	Register by early-November of the preceding fall term to 'walk' in May.
	You will be listed and can walk in the preceding May commencement program.
For August graduation:	Register by early April of the preceding spring semester to 'walk' in December.
	You will be listed and can walk in the following December commencement program.
For December graduation:	Register by early April of the preceding spring semester.

Friday of the tenth week of classes

This is the last day to withdraw from a course. This is done at the Records Office and you do not need anyone's approval. You do not even have to tell the instructor, however, to be courteous, you might want to do that. You will get a W on your grade card, but this does not affect your grade point average if you do not have too many. Use caution when doing this and it is recommended to see your academic advisor first.

Eighth week of spring semester: Advanced registration for next academic year begins. [Fall and Spring]

January 8, 9 or 10 [varies slightly each year]: Advanced registration for summer semester begins for everyone. Class schedules can be seen in December on the web during final exam week.

3.4 Course Information – from Students who have Taken the Courses

The following tips and comments were provided by upperclassmen about courses you will soon be taking. First some general comments and suggestions:

- Any time a professor takes the time to suggest a reading or to do some problems, make sure you follow up on it.
- Take advantage of the professor's office hours if you need extra help.
- Always check around for old tests as they can really help.

The following course information is provided in an effort to give you a little insight on what to expect and to help in planning your course load. This course information was obtained from several students who have recently taken these courses, however, depending on your instructor, the information included may not be totally accurate. Also note, we are not commenting on various styles and methods of professors because those are certainly matters of opinion. Also, see Section 2.5 for course syllabi.

MATH-1850, 1860 and 2850 CALCULUS I, II and III

Do not let yourself get behind in the calculus series. Do all of the homework even if it is not collected because this is what you will be tested on. Students who have done well in Calculus say they did many problems, learned the methods, and gained an understanding of what calculus is all about. You need to get a C– or better in Calculus I to take Physics, so it is best to get a good grade the first [and hence, only] time you take Calculus I.

MATH-3860 DIFFERENTIAL EQUATIONS
Differential equations is a very useful course in thermal sciences, mechanical vibrations, statistics and others. Differential Equations covers relations between functions, their derivatives and second derivatives.

CHEM-1230 CHEMISTRY
Chemistry is not based on calculus but it does require a lot of studying, understanding, and a bit of memorization.

CHEM-1200 PROBLEM SOLVING IN CHEMISTRY
You only have to take this if you didn't do well on the placement test. It's a review of high school chemistry but you must take this seriously [pass it] or they won't give you credit for CHEM-1230 [taken concurrently] even if you pass that.

PHYS-2130 and PHYS-2140 PHYSICS AND PHYSICS LABORATORIES
After the lecture, try to do as many problems as you can before you go over them in your recitation section and listen to how the problems are solved as you might find an easier way to do a problem. The class goes very fast. For the laboratories, there is no out-of-lab work. You need to show up, do the experiments, and write a fairly organized lab report. Like calculus, students who have done well in the Physics courses said they did as many of the problems as they could and the key was learning the method of solving the problems and then being careful not to make a math error.

ENGL-1110 COLLEGE COMPOSITION
This class is not too hard but it involves a good bit of out-of-class work in that you will be writing on various topics. Remember that the Writing Center is there to give you ideas and advice [and you have paid for this "free" service already]. Attendance usually counts for this class so do not skip this one.

CIVE-1150 STATICS
Statics is one of the first analytical engineering courses you will encounter. Statics is the study of forces on bodies in equilibrium. It is not a plug-and-grind, formula-based class. You must understand the concepts of the course and be able to apply them. It is similar to Physics I except there are no accelerations or velocities because the bodies are at rest. This course and CIVE-1160 are taught by faculty from Civil Engineering to students in several engineering departments.

CIVE-1160 MECHANICS OF MATERIALS
Mechanics of materials is the application of principles of statics in order to determine deflections and stresses in structures so that they will be able to withstand specific loading conditions without breaking. You use more formulas than statics and most of those formulas are based on the concepts learned in statics. Hence, statics knowledge is essential for this course.

MIME-1100 INTRO TO CAD
This course covers 2-D and 3-D graphics as well as tolerancing and dimensioning using AutoCAD. It is almost entirely done on the PC. If you have previous experience using this or another CAD drawing program, contact Dr. Franchetti to have this course replaced by an elective. This is an excellent skill that will likely be used in your Co-Op work experience.

MIME-1650 MATERIALS SCIENCE ENGINEERING
The two lectures cover the material for the exams, quizzes and labs. The experiments and exercises in the labs are the best features of this course. You need to keep up with this course as there is a quiz most every week.

MIME-2650 MANUFACTURING PROCESSES
Just like MIME-1650, the two lectures cover the material for the exams, quizzes and labs. The labs are excellent. You see how parts are made: drilling, tapping, milling, grinding, boring, cutting, arc-welding, processes of assembly, much more.

MIME-3300 DESIGN and ANALYSIS OF MECHANICAL SYSTEMS
Mechanical systems refers to machines, mechanisms, gears, planetary gears, cams, chains-sprocket devices, and belt drives. This course combines design with analysis and is pretty interesting especially the topics on cams and planetary gear trains.

MIME-2600 ENGINEERING ECONOMY
This is not your typical economics course. You learn about money, finance, and the world of interest rates. You can find out the real interest rate you are paying, not just for engineering projects, but on your own credit card. This course enables you to compare different economic alternatives based on financial concerns. This is a very practical course.

3.5 Things I wish I knew Three Years Ago – Hints from Seniors

The following are things upperclassmen wished they knew three years ago to make their program easier. These are provided here to help you. Their suggestions include:

1. Don't write in a book until you are absolutely sure you will need it for the course. Then write your name and telephone number in the book. Same goes for computer disks, because if found, people realize the value of these items and will most likely call you to pick up your lost item. And that's nice to know about UT.

2. Get involved in ASME, IIE, SWE or any other student society early and stay involved. You will meet upperclassmen who could be of help, and you get to go on great plant tours, listen to interesting speakers, and much more.

3. Don't drop a course or fail it. This will keep you on schedule so all the courses you will need will be available the term you need them.

4. Follow the steps / requirements for the Co-Op plan [e.g., resume, interviewing sessions, interviews, evaluations, paying fees, everything else] in a timely fashion. Don't wait to be in the last group to do these things because you'll miss out on great jobs and lots of money.

5. Get a calendar [daily, or weekly, or monthly] or some kind of planner, keep it with you, and use it frequently. Write appointments in pencil. This is a big time saver, and will take a lot off your mind.

6. Take your fundamental courses like calculus and physics very seriously even if you learned them in high school. These classes set the foundation for your future learning. Hard work in the beginning will make courses in your Junior and Senior years much easier.

7. Get to know your professors. Sit in the front of the class and don't be shy. By asking questions when you do not understand, you are benefiting yourself and letting the teacher know you are a serious student. Don't be afraid of asking questions because some students may laugh at you. A professor once told me, "I see their grades and your grades and many of them shouldn't be laughing." Also, let the teacher get to know your name. You never know when you may need his or her help in the future; like for a recommendation.

8. Apply for as many scholarships as you can. You have nothing to lose! Some students although they were excellent students in high school may not have had a very high ACT / SAT scores which may have hurt their chances for getting college scholarships in high school. By being a good student in college, your GPA, character, and activities are what really count for scholarships and your chances are much improved.

9. Do your homework even if it is not going to be collected as it will help you understand the material better. Also, it will improve your performance on exams.

10. Get information on technical electives from professors as well as from students who have taken them.

11. Do not get discouraged during your Freshman or Sophomore years while taking the so called 'ugly' courses [Calculus, Chemistry and Physics]. It gets a lot more fun and interesting if you can get through those courses. Also, make the commitment to study hard and avoid partying often. Engineering is a tough program but the rewards are great when you complete your degree. Stick with it. I was glad I did.

12. Don't listen to rumor or what your buddy says. Go by what your advisor says and what you see in writing. When in doubt, contact your advisor. To do this, use email as it is faster, easier and likely to get you the answer quicker.

3.6 The Absolute Best Advice in Order to Succeed in the Engineering Program [three things]

1. Do not let yourself get behind in any Math, Chemistry, Physics, or Engineering courses and hence need to cram for the tests. Since lessons in these subjects usually build on the previous ones, you need to stay right on top of the subject.

2. If you are having trouble in any of these subjects, get help soon. Don't wait till late in the semester. Personal help is usually free of charge. There's the Math Help Center, C.A.S.E. in the College of Engineering, and a free tutoring service in the MIME Department by MIME upperclassmen in NE-2047.

3. Check your email regularly. If you get an email from Dr. Franchetti or Ms. Kuntz, read it promptly, and [if requested] answer it soon. This is especially important during advising and registration and during interviewing.

3.7 Tips and Ideas to Improve Note Taking Skills

The following six sections reflect the comments from successful students over the last 20 years plus comments of numerous teaching assistants. They are presented in the following order: note taking, preparation for the test (study skills), taking the test, and reviewing the returned test.

Tips and Ideas to Improve Note Taking

First of all, do not miss any classes and do not be late. If you want an unobstructed view of the blackboard, get in the front row. Nobody is going to think you're a nerd or something. A study done many years ago indicated students sitting in the front row have a higher grade point average by 0.75 points. Is that causation or just correlation? Don't know.

To increase your speed of note-taking, develop your own abbreviations or shorthand [for example: 'v' will mean velocity, 'a' will mean acceleration, 'IC' will mean instant center]. Or, you may want to leave out vowels, or you may want to write down only the first two or three letters of each word and fill in the rest that evening. For derivations involving multiple steps of algebra [something you should know] take down the first line, write what the algebraic operations are, listen and watch the derivation, leave appropriate space in your notes and only write down the last line of the derivation. You can fill in the rest that evening. It will be a good review, too.

Date, label, and number each page in the top corner. You may want to start at number one at each lecture because each lecture will have a different date. Or you may want to number continuously upward.

Use a three-ring binder and loose leaf paper for each course because often you have to insert handout material, or something very important from the text you may want to photocopy. If these additions go between pages 3 and 4, you may want to number them 3a and 3b. Buy a three-hole punch.

If something in class is unclear, ASK! This is where outgoing people have no problem speaking up. If you are sort of reserved and shy, you will just have to muster up a little courage, raise your hand, and just say: "Could you go over that point again, please." However, you don't want to do this too much in each lecture.

If something is said twice or more, WRITE IT DOWN. You'll likely see it on the test.

Bring another colored pen or pencil to class to help highlight something or to assist in making a sketch of the diagram you need in the notes.

It is recommended to write on only one side of the page. When reviewing notes you can use the back of the previous page to add something appropriate. Then put an arrow pointing to the topic or sentence where it applies on the opposite page.

Pick out the main ideas and highlight them somehow. Such as with an asterisk (*), the other color you have, underline, box, etc.

Indicate in your notes where the appropriate page is in the text for more info [e.g., see p. 356 - top].

Compare notes with classmates. You or they may have missed something important.

When taking notes from a text, you may want to highlight certain material. Do not highlight too much because you will defeat the whole purpose.

Should you read the book before the lecture? Most profs want you to, but time constraints may prohibit this. If your prof gives good notes, it may be okay not looking at the book beforehand. However, you will likely find it very helpful if you read the book the day before - not expecting to learn it on your own - but just to put it someplace in your brain so that the lecture will trigger a better understanding. Try it if you have the time. For some, this is very helpful; for others it is only marginally helpful.

3.8 Tips and Ideas to Improve Study Skills and Preparation for a Test

Most people do their best work in a quiet surrounding [no interruptions, no music, no telephone, etc.]. If you prefer a little music in the background and that seems to work for you, fine. But the vast majority prefer and do better with quiet.

When do you concentrate best? Some people are sharpest in the morning; some in the afternoon; and some in the evening and night. Schedule your preparation at the best times for you.

Enlist the help of friends and family members to leave you alone, and not tempt you to go out and play instead of doing your work.

Make a list of the things you need to do and estimate the time it takes. [For a computer project, triple the estimate and that's about right. Honest.] Prioritize the list. Do some of the simple things to get them out of the way. Cross them off the list (don't erase) so you can see the progress you have made. Don't always leave the difficult and time consuming tasks at the end because they will never get done. Nothing feels better than to see a list of ten things done and crossed off. Then go out and play.

When an assignment is given which is due in several days, start it very soon - perhaps that evening. Don't expect to get it done then, but see where the big problems are going to arise. Perhaps the next lecture will address those issues. Perhaps someone in class will ask about that point. Perhaps you can ask about that point.

It is one thing to see how a problem is done by a teacher in class or as an example in a text. It is quite a different matter to do the problem yourself to see where you are getting stuck. After seeing a problem worked out, do one - or more - yourself and see where you are having the problem.

Change around some of the givens and unknowns and solve that problem. Profs usually do this when making out their test and exam questions because it is often a good way to tell if a student understands the method of solution.

Write down the method that works for that kind of problem. Understand why step 1 comes before step 2, and why step 2 must be done before step 3, etc.

It is important to follow the methods you have carefully studied. Don't try out a new method on a test unless it is the kind of test that requires you to extend or combine concepts.

After you have written down a line of algebra, or some equation, stop to check it, character and ± sign at a time. If it is correct, smile and proceed from there. This simple check often spots an error which, if undetected, would make every succeeding line wrong.

3.9 When should I prepare for a test and how much time should I allow?

These are tough questions and the answers will vary for each individual. You can see that other factors affect the answer such as family responsibilities, work responsibilities, your health, and time requirements for other courses. The best idea is to plan ahead based on your schedule so that you allow enough time during your best hours of the day. Depending on your past experiences in test preparation you may need several hours per evening for several evenings, or maybe four or five hours the night before the test may be adequate. Many students have found it is best to keep up with the material as you go along in the course so that studying the night before is more of a review than anything else. Lastly, always try to get a good night's sleep before a test.

For more efficient use of your time, you may want to prepare your own meal or have a friend bring you a burger or pizza so you won't have to take the time to go out. Of course, you need to take a break every now and then, but three 20 minute breaks in an evening are far better than a two-hour break which often extends itself to three hours. Then the whole evening is just about shot. Try not to be tempted by your friends who have less homework and less demanding courses. You need to be disciplined to get through this curriculum. This is the price you pay for wanting to do well in engineering. Believe me, you will be glad you did when the job offers start coming in during your senior year. So, stick with it.

3.10 Tips and Ideas to Improve Test Taking and Doing Homework Problems

On engineering tests involving problems to solve, read all problems fairly quickly before beginning. Start with the ones you know how to do. The others may come while your brain is working on the first few test questions.

Look at the point values and adjust your time accordingly. If three problems are worth 20 points, 40 points and 40 points, you will want to spend much more time on the last two problems than on the first one.

Read the entire problem statement and know what is asked for. In many cases the solution may be easier than it appears at first. This is because there is often information added at the end of the problem.

Write down the governing equations first. Draw sketches if necessary. Then substitute carefully. Check units. And calculate the answer.

Do not always assume that everything given in the problem statement is needed to solve the problem. Profs like to give you what they call 'fog factors'. These are values of parameters that are not at all needed to solve this problem. You just have to know which parameters are needed and which are not.

Give as concise an answer as possible. Do not supply extra info if it is not asked for. Some profs think this means inconsistency of thought.

Check all answers. Do they appear reasonable? Be sure to include units [and direction if a vector quantity]. You may lose a whole lot of points if these are omitted.

Don't feel that you have to write down the reason for going from each line to the next. Often students waste an enormous amount of time trying to justify everything. Be brief and correct. The correctness justifies the line you just wrote down.

Start at the top and work downward. When you are at the bottom, go to another sheet. Avoid jumping around and writing on the back because you often need to see both sides and it is awkward flipping the sheet over and back again. In fact, engineering reports are generally written on one side which makes photocopying easier.

For open book tests, it is not a good idea to cut back on your studying because you know you will have the book available. These tests primarily see if you know how to apply methods to solve problems. Hence, it is important to know where various equations, charts, tables, and graphs are located in the text as well as how to use them.

3.11 Tips to Increase your Speed when Taking a Test

Know what the methods are and how to apply them when you go into the test so that you don't have to think much about how to do it. Just apply the method to solve the problem. Methods and principles of engineering work very well with very few or no exceptions for a given type of problem. Do not try out a new method on a test.

Know the values of important constants, or know where to find them if you have an open book test.

If you have done an entire problem but only have a lengthy calculation to do, consider skipping it to do something else that will give you more points for the time spent.

Do not waste time thinking about other things during a test. Focus just on the test and get going on the problems.

Keep your speed up. A study of engineering students taking exams has shown that students do not decrease their accuracy when they increase their speed if they are careful to check the details.

3.12 Reviewing a Returned Test:

Regardless of how well or poorly you did on the returned test, learn how to do the problems as profs often repeat the same [or same kinds of problems] on the next test and/or the final. An actual example was a test on velocity analysis of a mechanism in a course. Three weeks later the same mechanism was given on the acceleration analysis test.

"Wisdom is gained from experience. Experience is gained from failure to use wisdom." Mark Twain
Moral: Best if you can learn from your mistakes.

The remainder of this section includes material courtesy of the University of Toledo FYI Office [1995]. It has been modified and supplemented with additional material for this handbook.

3.13 Stress Management and Test Anxiety

Stress is a demand made on the body to adapt, cope, or adjust. Stress is natural and not all stress is bad. Positive or pleasurable events, like buying a new car, can require as much adaptation as negative or painful events, like being audited by the IRS. Most of us, as we grow and develop, don't really learn how to cope effectively with stress-producing situations, and the result is that stress can overwhelm us, and interfere with our ability to perform. The primary way to manage stress is to modify it with something that enhances our feeling of control in the situation.

The signs or symptoms of stress are easy to recognize, as they differ little from person to person. Physical reactions to stress include: breathing rate becomes more rapid and shallower, heart rate increases, upset stomach, sweaty palms, frequent urge to urinate or defecate, loss of appetite, urge to eat when you are not hungry, insomnia, tiredness, and headache. A number of psychological changes also occur when you are under stress. These changes, the result of the body and mind trying to "defend" itself from some real or imagined threat, include: irritability, inability to concentrate, shifts in mood, impatience, racing mind, always late or rushed, forgetfulness, or depression.

Stress has many sources, but there are two prevailing theories as to its origin. The first theory attributes the general level of stress to an overload of personal hassles and a deficit of uplifts or reliefs. Personal hassles are regular aggravations and annoyances which, individually, are irritating situations. But the more of them encountered, the more stress that is experienced. Examples include: household hassles (cooking meals, minor repairs), time-pressure hassles (too much homework), health hassles, money hassles (paying bills, tuition, etc.), financial responsibilities, environmental hassles (breathing secondhand smoke, adverse weather conditions), social-relationship hassles (getting along with roommates, boy- or girl-friend), work hassles (not getting along at work).

The other theory of the origin of stress is the life events theory which attributes health risks and life span reduction to an accumulation of stress from events that have occurred in the previous twelve months of a person's life. They differ from personal hassles because life changes are more isolated events that generally occur infrequently, such as experiencing a change in financial state or living conditions.

There are different ways of reacting to stress. Some poor ways of reacting to stress include using drugs to dull the feelings of stress. Regular use of drugs as a way of handling stress can cause distortion of reality, aggression, or violence to handle social provocations and feeling of frustration. Another poor way is withdrawal – prolonged retreat from responsibilities and relationships impedes one's ability to cope. Another poor way is denial. Some people refuse to face the facts that they are stressed out.

<u>Some better ways of reacting to stress include:</u>

Be Realistic - set realistic goals; perfection isn't always necessary.
Exercise - do something physical like running, gardening, playing sports.
Use Relaxation Techniques - it is not possible to feel relaxed and stressed out at the same time.
Just Say No - don't let others abuse your time and generosity. Prioritize and determine what's important.
Ask for Help - practice esprit-de-corps and have a network of friends and family to help you cope.
Deal with Negative People - counter negative remarks with positive ones of your own.
Lose Yourself - escape for awhile by losing yourself in a book or movie.
Treat Yourself - do something special for yourself when you are under stress. Buy yourself a present or see a movie.
Get Your Life in Order - prioritize your life and get organized by using good time management.
Make a Wish List - how would you complete this sentence, "If only I had the time, I would ..... ? Make a list and do one of your wish list activities when you are stressed out.
Help Someone Else - it will make you forget your own problems and make you feel better about yourself.
Find Humor in Things - don't take life so seriously - lighten up.
Make Decisions - make changes if necessary. For example, if you are in a bad relationship, should you call it quits, get outside help, or let things stay the way they are? Decide now!
Know What to Expect - being forewarned helps you to brace yourself especially when faced with bad news.
Eat Right - take care of your body.
Balance Work and Recreation - all work and no play will make you dull.
Accept What You Cannot Change - if the source of stress is beyond your control, accept it until you can change it.

3.14 Background on Test Anxiety

Test anxiety is stress that is related to a testing situation. The severity of symptoms vary, but studies show that 20 percent of college students have moderate test anxiety - enough to lower their GPA's by one point. Ten percent of these students require treatment by a physician or counselor because symptoms are intense and prolonged. Some test anxiety is the result of inadequate preparation and is to be expected. This may be thought of as situational test anxiety, and students who experience it may be perfectly calm in testing situations for which they are prepared. For other students, test anxiety is a more complex problem evoked by deeply rooted emotional and psychological states rather than by a simple lack of preparation. Severely test-anxious students may be very well prepared as they walk into an exam, but anxiety soon overcomes them and their minds go blank. Afterward, they suddenly remember answers to questions they could not recall during the test. For anyone who has experienced it, test anxiety is indeed frustrating.

Adequate preparation is the answer to situational anxiety. For students who have severe anxiety, preparation is also important but may not be sufficient to relieve it. Although test anxiety is a learned response that students can unlearn, they need to understand that this process will take some time.

3.15 Suggestions to Reduce Test Anxiety

Sometimes you may feel anxious or nervous before or during an exam. Some anxiety or nervousness is a very natural feeling. Most people feel this way at times. But, too much anxiety can interfere with your performance on a test or exam. When you feel that test anxiety is getting in your way as you prepare for, and take a test, what can you do? One way to lessen test anxiety is to become "testwise". Studies have shown that students who understand how test questions work and are skilled in answering these questions tend to feel less anxious or nervous about exams. The more you feel that you understand and are prepared for a test the less nervous you'll be about it. The more capable you know you are as a test taker, the more confident you'll feel during tests. One important approach is to relax. Try to do a yoga or other breathing exercise to relax. Here are some suggestions to help reduce test anxiety.

Fight Distractions - become task-oriented and give all your attention to the test. Don't become distracted by other students and worry about how you are doing in comparison to them.

Talk Positively to Yourself - replace negative thoughts with positive ones such as, "I will pass this test," or " I am well prepared and I will do my best."

Improve Your Test Preparation - the only real cause for test anxiety is insufficient preparation for a test, which almost always does result in a poor grade. If you know you are not prepared, then you must expect to have some anxiety.

Arrive at the Testing Site on Time and Perhaps a Little Early - but don't be too early. If you have time on your hands before the test, relax, clear your head, and think relaxing thoughts. Don't talk about possible exam questions with other students.

Learn to Be Comfortable with Some Test Anxiety - say to yourself: "OK, so I'm anxious, now let's see if I can answer these questions."

Don't Schedule Stressful Situations Just Before Exams - stay away from people who stress you out or irritate you.

Develop a Test Day Tradition - you might wear a pair of "good luck" jeans on test days. Maybe you have a lucky pen or other confidence builder.

3.16 Time Management Tips

The following time management strategies are designed specifically for college students. As you read them, underline, circle, or otherwise note the suggestions you think you can use. Adopt two or three strategies immediately. After they become habits, come back to this section and pick a couple more. You'll be amazed about the amount of time you have gained.

STUDY DIFFICULT (OR BORING) SUBJECTS FIRST. Save the subjects you enjoy for later. If you find yourself avoiding a particular subject, get up an hour early to study it before breakfast. With that chore out of the way, the rest of the day can be a breeze.

Continued . . . . . .

BE AWARE OF YOUR BEST TIME OF DAY. Find time when learning feels best. Determine if you are a morning or night person. At what time of day does your energy peak and when do you feel worn out? If you can keep your life flexible enough to function at your peak hours, you'll be able to work more effectively.

GIVE YOURSELF SOME VARIETY. Yes, variety does appear to add some spice to life. Students become more alert and motivated when they are presented with novel stimulation or a change of pace. Study each subject for a while every day so you will avoid boredom and maintain a lively interest in the subject matter.

USING YOUR TIME BETWEEN CLASSES. Often you will have an hour or two between classes. Find a table and chair near your next class, sit down - possibly with a studymate - and do homework, review notes, read the text, or something. An hour spent there is one less hour needed later that day and frees up an hour either to do more studying or to relax.

USE WAITING TIME. Five minutes waiting for a bus, 20 minutes for the doctor, 10 minutes between classes - waiting time adds up fast. There are lots of little projects that take only a few minutes, such as making a call, writing a quick note, an appointment, doing a little bit of exercise, or catching up on an unread back issue of a magazine. Have some tasks ready to do during these times. See next topic.

SET YOUR PRIORITIES. Keep lists of the ways in which you want to spend your time. Establishing priorities and reevaluating them should be a continuing process.

DO TWO THINGS AT ONCE. No matter how much you streamline your day, there will always be a few odd jobs to take care of. It is often these petty tasks that make us feel disorganized. Exercise and do laundry; recite while jogging, review notes while eating. Busy-work can actually be painless if your mind is diverted from regarding it as a chore.

AVOID MARATHON STUDY SESSIONS. When possible, study in shorter sessions. Three 3-hour sessions are far more productive for most people than one 9- or 10-hour study marathon. In a long study marathon, the actual time on task can be depressingly small.

BEWARE OF INVISIBLE TIME THIEVES. Learn to consider the long-range demands of everything (and everyone) you get involved with.

HAVE AN AGENDA. Don't start the day without a battle plan. A To-Do-List is the surest way to put you in charge of how to spend your time. Carry it with you because it is like a wristwatch: it does no good to have either of them waiting for you at home.

ELIMINATE LITTLE ERRANDS. Consolidate all of your errands into one trip at a convenient and unobtrusive time. Also, try to eliminate the number of 'quick trips' you make to the store.

DO NOT PROCRASTINATE. Make a list of the things you chronically avoid doing and you will have a surprising map of your own psyche; the things that scare you, the things that you're afraid you don't do well enough, the things that you're doing because somebody else wants them done.

BREAK BIG JOBS INTO SMALLER, MORE MANAGEABLE TASKS. Most jobs are much less intimidating once they're started. It's most satisfying when you realize that after the job is done, then it is DONE and you won't have to procrastinate any longer.

DO TOMORROW'S WORK TODAY. At the end of a long day, you'll almost always have enough energy to complete one more relatively small task. Pack your lunch, iron your shirt, gas up the car the night before. Those end-of-the day tasks will soon add up. Also, organize your books papers, notes, homework in a pile or bookbag. This is especially helpful if, by accident, you oversleep, at least your school stuff is right there together and ready to go.

LEARN TO SAY NO. It's tough to turn down a co-worker asking for a bit of help or a friend with a problem he's got to get off his chest. Sometimes other people's demands will coincide nicely with our own procrastination urges, and before you know it, another evening is shot. You can learn how to bow out of things you don't have time to do. But if you're chickenhearted, you can always take the phone off the hook and not answer the door.

ANTICIPATE THE UNEXPECTED. Flexibility is an integral part of being organized. Have a "Plan B" in mind, and possibly a "Plan C" in case the original set of events do not happen.

SET UP A "CONTROL CENTER". Have a room, or a desk - even one drawer on a single shelf will do, as long as it remains your special place, devoted only to organizing your life. Keep a master calendar with room for appointments and reminders. Also, maintain a file for important papers, co-op information, advanced registration information, etc.

DELEGATE RESPONSIBILITIES. No home or business for that matter, can run well if it is one person's job to do everything. Assign tasks to other family members or roommates so that they know their responsibilities in advance. Make a chart of whose responsibility it is to do what and keep it in a prominent place.

THROW THINGS OUT. One of the best ways to keep a home running smoothly is to have a large wastebasket in every room. Then a majority of clutter gets chucked out right away instead of being piled into drawers or magazine racks. But if things are piled up already, why wait for spring cleaning? Put clutter in a box in the closet, garage, or attic. If after six months you find yourself perfectly happy without the stored things, get rid of them.

HANDLE PAPERS ONLY ONCE. Don't let newspapers, junk mail and catalogs accumulate.

USE THE TELEPHONE TO YOUR ADVANTAGE. There is no law requiring you to drop everything when you hear the phone ring. You don't have time to answer the phone, let your answering machine do its job. As far as using your car phone, it is a better idea to use the time you spend getting to and from school to unwind, or plan your day's activities.

DETERMINE IF PERFECTION IS NECESSARY. You don't have to apply the same standards of grammar to review notes that you apply to a term paper. If you can complete a job 95 percent perfect in two hours, and 100 percent perfect in five hours, ask yourself whether the additional five percent is worth the additional three hours time. In some cases it is okay to accept lower standards, especially when time is short.

3.17 How Are You Spending Your Time?

Here is an incomplete list of ways college students spend their time (you can add more items at the end if you like). Place a RED CIRCLE around those if you feel you spend <u>too much time</u>. Place a BLACK CIRCLE around those that you feel you spend <u>too little time</u> on. If the time you spend is just about right or the item doesn't apply, leave it blank.

Sleeping	Attending class	Doing homework	Relaxing with friends
Relaxing alone	Doing chores	Volunteer work	Eating
Brooding	Worrying	Daydreaming	Transportation
Personal hygiene	Playing games	Playing cards	Interacting with my family
Listening to music	Talking on the phone	Being with girl or boyfriend	Being with your spouse
Caring for children	Watching TV	Working out	Drop-in visitors
Reading for pleasure	Working on hobbies	Working a part-time job	Working a full-time job
Partying	Extracurricular activities	_____	_____

Look over the checklist and consider which areas you might be <u>willing to spend less time on</u> in order to have more time for things that are more important to you. Now look at the list and note below the items you most enjoy and the ones you least enjoy. Then, consider saving an enjoyable but low-priority activity as a reward for completing an unpleasant but important one.

3.18 Scholarships and Maintaining the Grade

There are several scholarships available to engineering students. You may already have one or you may have a University of Toledo scholarship. In the fall semester the "Engineering Scholarship Application" form will be available on the web. Fill it out so that you are in the running for additional scholarships before the January 30th deadline. Most scholarships are renewable if you maintain a cumulative 3.00 gpa. If your gpa goes below this, you will likely need to contact Mrs. Betty Stanford in the Financial Aid Office. Indicate that you slipped a little in your grade point average which caused you to go below a 3.00 cumulative gpa. Indicate the reasons and what you are planning to do to correct this for the next term. Check the letter carefully. Check it again because a good deal of money is riding on this well written letter. Get it out as soon as practical. She may contact you to discuss the matter in which case: no gum, dress nicely, bring appropriate material, and certainly be ontime.

– SECTION 4 –
Career Opportunities in Mechanical Engineering and Industrial Engineering

Section 4 discusses graduate school in Mechanical Engineering, Industrial Engineering, and other disciplines as well as career opportunities in engineering. First, the question of whether or not to get a masters degree is addressed. Next, graduate school, and finally, different career options in Mechanical and Industrial Engineering are presented. For more information, see your academic advisor.

4.1 Should I go to Graduate School or get a Job after Graduation?

Like any choice in life, there are advantages and disadvantages to choosing graduate school versus starting your engineering career upon graduation. Section 4.2 discusses the Master of Science degree at UT and other schools, financial aid, part-time versus full-time, and graduate degrees in other disciplines. Section 4.3 discusses career opportunities with your engineering degree. A PhD degree [doctorate] is needed for people interested in college level teaching and research. This is discussed briefly in section 4.3.4. Your academic advisor has more information on the PhD degree.

Most students are ready to start their careers in engineering immediately after they earn their BSME or BSIE degree because that is what they have been focusing on for the last four or more years. Some students feel they are tired of school and want a break. For those students, getting a well-paying job is just the ticket. Some students have significant financial responsibilities and the income of a mechanical or industrial engineer would solve these financial obligations. If, however, you want to focus on a particular area of specialization such as mechanical design, CAD, fluid mechanics, biomechanics, quality control, reverse engineering, manufacturing, etc., then being in graduate school provides a place to do this in a relatively short time and little or no money commitment. If you would like more information on graduate school, see the next section and feel free to discuss this with your academic advisor.

4.2 Graduate School

4.2.1 Advantages of a Graduate Degree in Engineering

The main advantage of a graduate degree in engineering is that you gain a specialization and this can open a lot of doors for you. In addition, you get to work closely with a professor in that area of specialization if you do a project or a thesis. Further, graduate school is different than undergraduate school. You are a member of a smaller closer-knit team; in this department you are one of about 30 masters-level students rather than one among 350 bachelor-level students. As for the job benefits, you get a more interesting, challenging and rewarding job in your area of specialization and with a higher salary. Several studies have shown the payback period is about three years if you take into consideration that the salary you turned down by staying in school doesn't all go to you. Uncle Sam takes a big cut.

It is important to note that student loans you may already have are generally deferred while you are in graduate school. So this need not be an excuse to forego the experience of graduate school. It is wise to consider that you will probably be working as an engineer for about 40 more years. Taking a year or so now to get the Master of Science degree in engineering offers so many more advantages, it is hard to pass it up. Plus, you have the momentum to study and take tests. Two disadvantages are that you will just have to hold off buying that brand new car, and you will be cracking the books for another year or so. Like the undergraduate program, the M. I. M. E. Department has two separate masters degrees: the Master of Science in Mechanical Engineering [MSME] degree, and the Master of Science in Industrial Engineering [MSIE] degree.

4.2.2 Admission Requirements to the Master of Science Program

The only requirement for admission to the MSME and the MSIE programs at UT by a UT graduate is a 2.7 GPA or better. The Graduate Record Examination [GRE] is not required because we know about your academic background. Some schools in the U.S. require the GRE and some do not. Applications to our program should be submitted in December or January for those wishing to start the following fall. Financial aid decisions are made in March for students starting in the fall. See section 4.2.4 for more information on financial aid. [Note: In some situations students with gpa's below 2.7 are admitted on a provisional basis and permitted to continue if they perform well in the first few terms. See the Graduate Program Director for more information.]

4.2.3 Academic Requirements for Obtaining the Master of Science Degree

To get the MSME or MSIE degree you need 30 semester credit hours of coursework if you are doing the [nine credit] thesis, or [six credit] project option. If you choose to take courses only, then 36 hours of courses are required. Of the 30 [or 36] hours, two courses [six credits] must be selected in advanced mathematics and you can choose from among about 15 advanced mathematics courses. The rest are selected by you and your advisor based on your specialization. So, you pretty much choose your courses. As for grade point average, a minimum of a 3.0 gpa is expected. How extensive is a thesis? Think of the largest project or laboratory experiment you did for your BS degree. Quadruple it and that's about the scope of a thesis. As for the level of the courses, if you can handle the 4000-level technical electives, you can probably handle the graduate level work as the courses are harder but not overwhelmingly harder.

4.2.4 Financial Aid Available for the Master of Science Degree

In February you will know if you have been admitted and in March you will find out if you have been awarded financial aid. There are three kinds of financial aid: [1] Teaching Assistantships [TA's] assist a professor as a grader or help in an undergraduate laboratory for about 20 hours per week. The financial support you receive is that instructional cost is waived [i.e., free tuition] plus you get about $12,200 per academic year [that is the amount during the last academic year and this may increase next year]. Although this income is less than you would be earning at GM or DaimlerChrysler, it will surely pay the bills. [2] Research Assistantships [RA's] enable you to work with a professor who has a grant for a specific project. You must do a thesis and your thesis topic is this very topic. RA's do not have TA assignments and the support is usually the same as for a TA. [3] Fellowships are just like scholarships. The amount of support varies and you have the choice of thesis, project, or coursework only. As above, you have the choice of thesis, project, or coursework only. In all of the above you have to pay lab fees, computer usage fees, general fee [and health insurance fee if applicable]. If you accept a TA, RA or fellowship you are not permitted to be employed elsewhere while in graduate school unless your advisor approves it. For more details, see Dr. Walter Olson, the Graduate Program Director.

4.2.5 What are Your Chances of Getting Financial Aid ?

That will depend on the resources available and your GPA. Students with *very high gpa's have received TA's.* Professors who receive grants award RA's to students they feel will work well with them on their project. These are usually limited in number. Fellowships are very competitive across the university. There are several scholarship awards made for minorities and women [who have always been underrepresented in engineering]. In addition, several scholarships are provided from various corporations. You will want to see Dr. Walter Olson, Graduate Program Director for more information on financial aid. The bottom line is that there is no guarantee of financial aid at this time.

4.2.6 Pursuing the Masters Degree Part-Time While Working Versus Returning after a Few Years

If you decide to pursue your masters degree part-time while working at a full-time engineering job, you can expect the degree to take about four to five years taking classes in the evening. People who have done this have found it difficult to devote the necessary time and effort after their daily work requirements, and they usually were not able to have the personal and continuous interaction with the faculty that differentiates the masters program from the bachelors program. Sadly, many students got frustrated and never did finish their degree. Based on these observations and the fact that you will have plenty of chance to work a full time job *after* your schooling, it is strongly recommended that you get your masters degree before you begin your career.

Leaving a well-paying job two or three or more years later to return to graduate school is also very difficult and not recommended. This is because you are likely committed to a new car, new clothes, nice apartment, possibly a spouse and children. Maybe your car payments and other expenses prohibit this choice. Plus you may be out of practice in studying and focusing on textbooks. For some, however, this option may work just fine. If you select it, allow a month or so to get back in the swing of full-time studying.

4.2.7 Where Can I Get More Information ?

For more information, see your Academic Advisor, or Dr. Efstratios Nikolaidis, Director of the M.I.M.E. Graduate Program. You may also want to talk to some of the graduate students in the department to get their perspective.

4.2.8 Should I go to Graduate School in Another Discipline such as Business, Law, Medicine ?

Many students pursue a Masters in Business Administration [MBA], or a Law Degree or become a doctor [medical doctor]. The MBA is the most popular. You can select management, finance, information systems, among several other departments. According to some of our former students who have been through this program, there is much less analytical and computer work but there is a lot more reading and report writing. Check with the MBA Office on the ground floor of Stranahan Hall.

The Law degree coupled with the BSME or BSIE degree - perhaps specializing in patents or product liability - may be an excellent option. Law school requires a lot of reading too. For more information, contact the Law Center Admissions Counselor. With the merger of UT with the Medical University of Ohio, we can expect significant cooperation with medical programs.

4.3 Career Opportunities for Graduates of the M. I. M. E. Department

4.3.1 Product Design, Research and Development [R&D], Production and Manufacturing Engineering

Product design involves developing a product that will perform a particular task. Often this involves taking an existing device, improving it, or extending it to meet additional requirements. Sometimes product designers start from scratch to develop a design to perform a task. Design is a very creative area of engineering. It requires brainstorming skills, an understanding of engineering concepts, and teamwork among many other things. If you liked your design courses, you may want to strongly consider this area.

Research and Development [R&D] usually involves analytical solution of problems that may or may not have an immediate application. Companies hope that the R&D team and product design engineers will be able to implement these new developments into income generating products down the road. For example there was a good deal of R&D on sensors in the 70's without a particular application. Now you find sensors in automobiles, aircraft, machinery, robotics, and countless other devices.

Production and manufacturing engineers deal with making the device in a cost effective manner. They are primarily focused in manufacturing methods. They deal with questions such as: Should we cast this, machine this, or stamp this? Should this be made in five pieces and assembled a certain way? What materials should this be made of? In what quantities should this be made? What is the most cost-effective way to safely make this product?

4.3.2 Project Engineer, Sales or Applications Engineer

Project engineers deal with a particular product or project from start to finish. As a result, they are involved in the design, development, testing, quality control, production, and manufacturing so they have much better control of the product. If you are interested in seeing something from start to finish, you will want to consider product engineering.

Sales or applications engineer is exactly what it says. For complex products, an engineer with superior communication skills is needed to convey the technical knowledge of the product line to the company's customers. A knowledge of engineering, the product line, business and sales techniques make for a good sales or applications engineer. For example, you may be working with Dana Corporation in the driveshaft division. They have a multi-million dollar contract with Ford and you may be the Applications Engineer devoted to this contract keeping up on Ford's changing needs, problems, and suggestions from their engineers on the product. You would be interacting with Ford and Dana engineers daily.

4.3.3 Consulting Engineer

Consulting engineers work for consulting companies as large as hundreds or as small as half a dozen. Consulting engineers solve problems given to them by customers who are not able to [or choose not to] solve these problem with their own technical staff. Some consulting companies specialize in structural work, some in mechanical design, some in industrial piping, etc. A Professional Engineer's license is required if you want to go into consulting engineering. So, plan to take the FE Exam while in school. See Section 2.14.

4.3.4 Teaching, Research and the PhD Degree

If you are interested in being a college level teacher or working at a research firm you are expected to have a PhD [Doctor of Philosophy] degree. A PhD degree normally takes about three to four years full-time after the masters degree. If you are interested in college level teaching you are probably somebody who likes explaining things to people, likes interacting with all kinds of people, likes conducting research and likes a lot of freedom in the job. Research involves analytical work, writing papers, working with graduate students, attending and giving papers at conferences, and writing research proposals to get funding for your research.

The job of a Professor of Mechanical or Industrial Engineering [first you are an Assistant Professor, then Associate Professor, then Full Professor] is one where you devote part of your efforts to teaching and advising, part to research and writing papers and part to service such as committee work or Faculty Advisor to student groups. Most profs put in a considerable amount of time doing these things, but where and when the work is accomplished is not necessarily in the nine-to-five time slots. Hence, there is a lot of flexibility in this job. Also the profit motive is different as compared to working for a company.

The requirements of the PhD degree at UT and most other schools are: 45 credit hours of courses beyond a masters degree, pass an exam called "the comprehensive exam" which covers about eight subjects in your area of specialization, and write a dissertation where you have developed some new knowledge. Under the guidance of a professor, such a task is doable within a reasonable time period if you are really committed to this.

For more information see your academic advisor or Dr. Olson, Director of the MIME Graduate Program. You may also want to talk with some of the graduate students you see around the department to get their perspective.

<u>The Direct PhD Program</u>

There is a "Direct PhD Program" where you get a doctoral degree after the BSME or BSIE degree. This is full-time study and takes about three years. You do not get a Master of Science degree, but the PhD degree is much more valuable. See Dr. Olson for more information if and when you are ready to think about this option.

4.3.5 Owning Your Own Business

Another option, perhaps immediately after graduation, or much later is owning your own business. If you have an idea and want to do it all yourself, you may want to consider this option. The risks are large but so are the rewards. People who have done this have said you must have a sound and marketable idea or product, you must have a reliable accountant / business person well skilled in the areas of finance, marketing and personnel, and you must have an attorney. If you go into business, as head of the company you must become a Professional Engineer. See Section 2.12.

– NOTES –

APPENDICES

APPENDIX 1

The University of Toledo Policy on Academic Dishonesty

Academic dishonesty will not be tolerated. Among the aims of education are the acquisition of knowledge and development of the skills necessary for success as an educator or in another profession. Activities inconsistent with these aims will not be permitted. Students are responsible for knowing what constitutes academic dishonesty. If students are uncertain about what constitutes plagiarism or cheating they should seek the instructor's advice.

Examples of academic dishonesty include, but are not limited to:

1. Plagiarizing or representing the words, ideas or information of another person as one's own and not offering proper documentation.

2. Giving or receiving, prior to an examination, any unauthorized information concerning the content of that examination.

3. Referring to or displaying any unauthorized materials inside or outside of the examination room during the course of an examination.

4. Communicating during an examination in any manner with any unauthorized person concerning the examination or any part of it.

5. Giving or receiving substantive aid during the course of an examination.

6. Commencing an examination before the stipulated time or continuing to work on an examination after the announced conclusion of the examination period.

7. Taking, converting, concealing, defacing, damaging or destroying any property related to the preparation or completion of assignments, research or examination.

8. Submitting the same written work to fulfill the requirements for more than one course.

While academic integrity is particularly the responsibility of the student, the faculty members also have a responsibility. Assignments and tests should be constructed and proctored so as to discourage academic dishonesty. Faculty members are expected to inform their students explicitly as to what materials and procedures are authorized for use in the preparation of assignments or in examinations (e.g., the use of calculator, computer, text materials, etc.). Should cases of academic dishonesty be found among students, the instructor may chose to counsel the student, or the following sanctions may be imposed:

1. The student may be assigned an F for the work in question.

2. The student may be assigned an F for the course. In this case the instructor should inform the dean and the student of this action. The dean will make certain that the student receives the F grade and is not permitted to withdraw from the course.

3. The student may be placed on probation or suspended for some definite period of time, dismissed, or expelled by the dean if either the seriousness of the offense or a record of repeated offenses warrants it. A notation that such a sanction has been imposed will be made part of the student's permanent record. It is expected that the dean will consult with the instructor and the student making such a judgment, and that the dean will notify the student of the sanction imposed and of the appeals procedure.

A student found to be academically dishonest by a faculty member may appeal according to procedures approved by the respective colleges. The procedures for making a final appeal to the Student Grievance Committee may be found in the University of Toledo student handbook.

APPENDIX 2

The College of Engineering Policy on Academic Dishonesty

[Adopted December 1979]

Academic dishonesty in unacceptable conduct for engineering students, both as students of The University of Toledo and as candidates for careers in the engineering profession. Penalties commensurate with the offense shall be imposed on students found guilty of academic dishonesty.

Academic dishonesty includes improper access to evaluation material or records, submission of material which is not the student's work, and conduct which interferes with the work or evaluation of other students. Instances of academic dishonesty range from inappropriate collaboration on homework (which may have relatively little effect on the course grade) to copying on examinations or similar dishonesty (which may have a direct and significant effect on the course grade). All such instances, however, are infractions of the standards of academic integrity expected of engineering students. Faculty members are to discourage academic dishonesty by: 1) emphasizing the University's and his/her own rules and expectations for student work, 2) reducing the possibility of academic dishonesty by methods of student work evaluation, and 3) initiating penalties for violation of these standards.

The basis for this policy is found in both University documents and standards of the engineering profession. Instead of providing a detailed listing of possible offenses and their penalties, indications of the ranges of action considered appropriate for three violations of varying seriousness are given. This approach leaves latitude to the University persons involved to act on the basis of the specific conditions of each case while still providing a framework for reasonable consistency of action.

1. Violations relating to homework, laboratory reports or similar work generally done *outside* of class may be treated with warnings and/or F's (or zeros) on the work. Because of varying practices in this area, the instructor should inform the class in advance of his/her requirements on such work. Such instances may be handled by the instructor.

2. Copying on test and examinations may receive penalties ranging from an F (or zero) on that paper to an F in the course. In such cases, the instructor should discuss the instance with the student's department chairman, to gain an independent review of the proof of dishonesty and to determine if there have been other violations by that student. After consultation, if this is the first offense, the instructor takes appropriate grade action.

3. Repeated violations or more flagrant acts (such as stealing information from the instructor's office or destroying another's paper) may receive an F in the course or suspension or dismissal (the latter options requiring action by the Dean's Office). In these cases, the instructor should refer to his/her department chair who will consult with the Dean's Office.

The following principles should be observed. The student should be informed of the charge and be given an opportunity to respond before the penalty is imposed. Penalties, consistent with the offense, are intended to be used to discourage dishonest behavior among engineering students and to encourage honest behavior in the future by the offender. The formality of the procedure increases with the severity of the penalty. The student's right of privacy of information should not be violated by the handling of the cases of academic dishonesty.

APPENDIX 3

The University of Toledo Missed Class Policy

[Adopted January 2002]

This policy provides for basic protections and reasonable accommodations for students who miss class with excused absences. Students are expected to attend every class meeting of courses in which they are registered. Only in specific, unavoidable situations does the University excuse absences from class for: 1) personal emergencies, including, but not limited to, illness of the student or of a dependent of the student [as defined by the Board of Trustees' Policy on Family and Medical Leave], or death in the family; 2) religious observances that prevent the student from attending class; 3) participation in University-sponsored activities, approved by the appropriate University authority, such as intercollegiate athletic competitions, activities approved by academic units, including artistic performances, R.O.T.C. functions, academic field trips, and special events connected with coursework; 4) government-required activities, such as military assignments, jury duty, or court appearances; and 5) any other absence that the professor approves.

It is the responsibility of each instructor to decide what weight (if any) shall be placed on missed classes in the computation of final course grades. The instructor must inform students in writing during the first week of the course (e.g., in the course syllabus) of his/her policies on missed classes and related issues, including unexcused absences, make-up examinations, and makeup of work missed during students' excused absences. It is the responsibility of each instructor to identify in his/her syllabus the methods (written, e-mail, and/or voice mail) by which any unexpected student absences should be communicated. Each instructor should provide students with at least two of the aforementioned methods as options to communicate any absences. Instructors' missed class policies must be consistent with the University Policy as stated in the paragraph above. The taking of class attendance is at the discretion of the faculty.

Students are responsible for complying with the missed class policies of their instructors. Students bear the responsibility of notifying the instructor of a planned absence by one of the methods provided by the instructor. In the event of an emergency or an unavoidably short notice of absence, the student must present the instructor with an approved written excuse upon the student's return to class. Approved written excuses will be at the instructor's discretion, including, but not limited to, doctor's notice, funeral programs, etc. It is strongly recommended that the student use two of the three aforementioned methods (email, writing, or voicemail) to insure that the instructor is properly notified of the planned absence. In the event that the instructor should not receive the student's notification, the student should be prepared to present an alternative excuse. It will be at the instructor's discretion to approve or disapprove of the alternative excuse.

Students are responsible for all material covered in classes they miss, even when their absences are excused as defined above. Students must make arrangements with instructors to complete missed assignments, labs, examinations or other course requirements. In turn, instructors are not to penalize students with excused absences.

The Provost shall inform faculty in writing of this policy, making clear that instructors bear responsibility for the academic conduct of their classes and for providing reasonable accommodation for students who miss class with excused absences.

APPENDIX 4

Directory of Telephone Numbers and Room Numbers of Student Society Offices Followed by Faculty and Staff in the M. I. M. E. Department [as of August 2014]

NAME [POSITION]	TELEPHONE	ROOM	EMAIL *
Alpha Pi Mu Student Office	530-8229	NI-4027	
A S M E Student Section Office	530-8219	NI-4026	asme@eng.utoledo.edu
I I E Student Section Office	530-8219	NI-4026	iie@eng.utoledo.edu
MIME Student Services Office	530-8298	NI-4006	MIMEAdvising@utoledo.edu
Society of Automotive Engineers Office	530-8229	NI-4027	sae@eng.utoledo.edu
Afjeh, Abdollah [Department Chairman]	530-8210	NI-4005	Abdollah.Afjeh
Berhan, Lesley [Faculty Member]	530-8220	NI-4025	Lesley.Berhan
Bhaduri, Sarit [Faculty Member]	530-8223	NI-4029	Sarit.Bhaduri
Cioc, Sorin [Faculty Member]	530-8228	NI-4051	Sorin.Cioc
Combs, Brian [Machinist]	530-8244	NI-1093	Brian.combs
Elahinia, Mohammad [Faculty Member]	530-8224	NI-4045	Mohammad.Elahinia
Franchetti, Matthew [ME & IE Program Director]	530-8051	NI-4006	Matthew.Franchetti
Grivanos, Tim [Instrumentation Specialist]	530-6075	NI-1094	Timothy.Grivanos
Harb, Nadia [Academic Resource Analyst]	530-8037	NI-4004	Nadia.Harb
Hefzy, M. Samir [Associate Dean of Graduate Studies]	530-6086	NI-1016	Mohamed.Hefzy
Hixon, Duane Ray [Faculty Member]	530-8207	NI-4046	Duane.Hixon
Jaegly, John [Lab Supervisor]	530-8242	NI-1084	John.Jaegly
Jayatissa, Ahalapitiya [Faculty Member]	530-8245	NI-4049	Ahalapitiya.Jayatissa
Kahle, Terry [Eng Lab Assistant Manager]	530-8113	NI-1063	Terence.Kahle
Kraftchick, Debbra [Academic Program Coordinator]	530-8204	NI-4006	Debbra.Kraftchick
Kuntz, Vickie [Lead Director of ECMC]	530-8054	NI-1040	Vickie.Kuntz
Marinescu, Ioan [Faculty Member]	530-6051	NE-1043	Ioan.Marinescu
Nikolaidis, Efstratios [Faculty Member]	530-8216	NI-4035	Efstratios.Nikolaidis
Pourazady, Mehdi [Faculty Member]	530-8221	NI-4036	Mehdi.Pourazady
Rizvi, Reza [Faculty Member]	530-8237	NI-4061	Reza.Rizvi
Sheng, Chunhua [Faculty Member]	530-8248	NI-4064	Chunhua.Sheng
Sojoudi, Hossein [Faculty Member]	530-6007	NI-4024	Hossein.Sojoudi
Trease, Brian [Faculty Member]	530-8227	NI-4147	Brian.Trease
Zhang, Hongyang [Faculty Member]	530-6019	NI-4031	Hongyan.Zhang

* First Name dot Last Name is listed. Complete email address is: _____@utoledo.edu