

ECE Advising Office – EERC 131
<http://www.mtu.edu/ece/undergraduate/advising/>

Scheduled appointments have priority over walk-ins. See above website for advisor hours.

Computer Engineers: Trever Hassell, tjhassel@mtu.edu

Electrical Engineers: Judy Donahue, eceadvise@mtu.edu

Call (906) **487-2550** to schedule an advising appointment, or stop in the ECE Main Office, **EERC 121**.

Important Dates for Fall semester 2015:

Monday August 31 – Classes begin.

Friday, Sept. 4 – Last day to **add** a full semester course – first-year students use orange add/drop form, before 5pm. Last day to drop a track A course (PE, MA2320, EE1110). Refund only if dropping below 12 credits.

Wednesday Sept 9 – Last day to **add/drop** courses and attain full time status with a minimum of 12 credits, for financial aid. Last day to **drop** full semester courses online. Refund only if dropping below 12 cr. After Sept. 9, all drops must be done in Student Services. First-year students need orange form to add/drop.

Friday Sept 18, by 5pm– Last day to **drop** a full-semester course without a grade. No refund.

Tuesday Sept. 29 – Career Fair! All students should attend. <http://www.mtu.edu/career/fair/students/>

Monday Oct. 19 – Mid-term grades available online for first-year students.

Monday Oct. 19 – Track B courses begin this week.

Sunday Oct 29 – Registration for **spring 2016 classes** begins. See Registration Priority Schedule at <http://www.mtu.edu/registrar/students/registration/prepare/>

Friday Nov 6, by 5pm– Last day to **drop** full-semester course with a grade of “W”. No refund. No drops allowed after Nov 6.

Nov 23 – 27 – Thanksgiving Break.

Dec 14 – 18 – Final Exams

Learning Center Locations:

Chemistry (CH): Chem-Sci 208

Computer Sciend (CS): Rekhi 114

Electrical & Computer Engineering (ECE): EERC 123

Engineering Fundamentals (ENG): Dillman 208

Mathematics (MA): Fisher 234

Multiliteracies: Walker 107 (help w/ writing and communication assignments for all courses)

Physics (PH): Fisher 128

General Education: Core and Humanities, Arts and Social Sciences (HASS)

2015-2016

Core Courses (12 credits)

UN1015 Composition (3 credits)	UN1025 Global Issues or Modern Language-3000 level or higher (3 credits)
Goal 4 – Critical and Creative Thinking (3 credits) FA2330 Art Appreciation FA2520 Music Appreciation FA2720 Audio Arts Appreciation FA2820 Theatre Appreciation HU2130 Introduction to Rhetoric HU2503 Literary Survey A HU2504 Literary Survey B HU2538 British Experience in Literature HU2700 Introduction to Philosophy HU2820 Communication and Culture HU2910 Language and Mind SS2300 Environment and Society	Goal 8 – Social Responsibility & Ethical Reasoning (3 credits) EC2001 Principles of Economics PSY2000 Introduction to Psychology SS2100 Introduction to Cultural Anthropology SS2200 Introduction to Archaeology SS2400 Introduction to Human Geography SS2500 United States History to 1877 SS2501 US History Since 1877 SS2502 European History to 1650 SS2503 European History Since 1650 SS2504 World History to 1500 SS2505 World History Since 1500 SS2600 American Government and Politics SS2610 Introduction to Law and Society SS2700 Introduction to Sociology

Humanities, Arts, and Social Sciences (HASS) (12 credits)

Students must take 12 credits from the HASS Electives (Humanities, Arts, and Social Sciences) with the following limitations:

- 6 credits must be upper division (3000-4000) level courses
- 3 credits are required from each of the following lists:
 - Communication/Composition
 - Humanities/Fine Arts (HU/FA)
 - Social and Behavioral Science (EC/PSY/SS)
- No more than 3 credits from the Restricted List
- Each course can satisfy only one requirement

Humanities/Fine Arts (HU/FA)

- at least 3 credits

FA2150	Creative Drawing	3
FA2222	Film Music	3
FA2300	Two-Dimensional Design	3
FA2315	Beginning Wheel Throwing	3
FA2320	Color and Meaning	3
FA2330	Art Appreciation	3
FA2520	Music Appreciation	3
FA2600	Beginning Acting	3
FA2720	Audio Arts Appreciation	3
FA2820	Theatre Appreciation	3
FA3133	Contemporary Music: The Search for New Sounds	3
FA3300	Three-Dimensional Design	3
FA3330	Art History-Prehistory to Renaissance	3
FA3340	Art History-Renaissance to Today	3
FA3350	Design History	3
FA3550	History of Jazz	3
FA3560	Music History	3
FA3600	Advanced Acting	3
FA3625	History of Rock	3
FA3810	Ancient Theatre History	3
FA3821	Modern Theatre History	3
FA3860	Costume History	3
FA4190	Art and Nature	3
FA4620	Musical Theatre Performance	3
HU2130	Introduction to Rhetoric	3
HU2271	Level I-A French Language & Culture	3
HU2272	Level I-B French Language & Culture	3
HU2273	Transitional Level I French Language & Culture	3
HU2281	Level I-A German Language & Culture	3
HU2282	Level I-B German Language & Culture	3
HU2291	Level I-A Spanish Language & Culture	3

International Study Abroad for HASS Courses

General Education international transfer credit, for students who participate in an international study abroad experience, will be assigned by International Programs and Services (IPS). It is understood that IPS will apply non-MTU courses based on their being equivalent or congruent with existing general education courses.

Communication/Composition

- at least 3 credits

HU2810	Research & Writing in Communication	3
HU2830	Public Speaking & Multimedia	3
HU3015	Advanced Composition	3
HU3120	Technical and Professional Communication	3
HU3151	The Rhetoric of Everyday Texts	3
HU3832	Advanced Digital Presentation	3
HU4628	Usability and Instructions Writing	3
HU4693	Science Writing	3
HU4694	Grant Writing	3

SS2505	World History Since 1500	3	SS4210	Global Change in Culture and Society Since 1400	3
SS2600	American Government & Politics	3	SS4390	Seminar in Sustainability Issues	var
SS2601	Politics of the European Union	3	SS4700	Communities and Research	3
SS2610	Introduction to Law and Society	3	SS4961	Experiential Learning Partners	3
SS2635	Comparative Politics	3			
SS2700	Introduction to Sociology	3			
SS3110	Food Systems	3			
SS3200	Historical Archaeology	3			
SS3230	Archaeology of Industry	3			
SS3240	Reading the Landscape	3			
SS3250	Human Origins and Evolution	3			
SS3260	Latin American Cultural History	3			
SS3270	Archaeology of the African Diaspora	3			
SS3300	Environmental Problems	3			
SS3313	Sustainable Science Policy & Assessment	3			
SS3315	Population and Environment	3			
SS3400	Contemporary Europe	3			
SS3410	World Resources & Development	3			
SS3500	Modern American History	3			
SS3505	Military History of the U.S.	3			
SS3510	History of American Technology	3			
SS3511	History of Science in America	3			
SS3512	Building America	3			
SS3515	History of American Architecture	3			
SS3520	U.S. Environmental History	3			
SS3521	Energy in America	3			
SS3530	The Automobile in America	3			
SS3540	History of Michigan	3			
SS3541	The Copper Country	3			
SS3552	Renaissance & Reformation	3			
SS3560	History of England I	3			
SS3561	History of England II	3			
SS3570	History of Canada	3			
SS3580	Technology & Western Civilization	3			
SS3581	History of Science	3			
SS3600	American Foreign Policy	3			
SS3610	International Law	3			
SS3612	International Relations	3			
SS3630	Environmental Policy & Politics	3			
SS3635	Climate Adaptation	3			
SS3640	Selected Topics in Cyber-Law	3			
SS3650	Intellectual Property Management	3			
SS3660	Constitutional Law	3			
SS3661	Civil Rights & Civil Liberties	3			
SS3700	Industry and Society	3			
SS3710	Social Problems	3			
SS3750	Social Inequality	3			
SS3760	Human Dimensions of Natural Resources	3			
SS3800	Energy, Technology, and Policy	3			
SS3801	Science, Technology, & Society	3			
SS3820	Ethical, Legal, & Societal Implications (ELSI) of Nanotechnology	3			
SS3910	Histories and Cultures	3			
SS3920	Topics in Anthropology/Archaeology	3			
SS3950	Topics in American History	3			
SS3951	Topics in European History	3			
SS3952	Topics in World History	3			
SS3960	International Experience	var			
SS3961	Preparing for Cross-Cultural Immersion Experiences	3			
SS3990	Topics in the Social Science	3			
SS4001	History of Social Thought	3			
SS4100	American Indian Political Issues	3			
SS4200	Environmental Anthropology	3			

HASS Restricted List

- no more than 3 credits

BL3970	Current Health Issues	3
ED3510	Communicating Science I	3
GE2100	Environmental Geology	3

Approved Transfer Electives

EC9300L	EC HASS Elective Lower
EC9300U	EC HASS Elective Upper
FA9300L	FA HASS Elective Lower
FA9300U	FA HASS Elective Upper
HU9300L	HU HASS Elective Lower
HU9300U	HU HASS Elective Upper
PSY9300L	PSY HASS Elective Lower
PSY9300U	PSY HASS Elective Upper
SS9300L	SS HASS Elective Lower
SS9300U	SS HASS Elective Upper
TA9004L	LG4 CORE Elective Lower
TA9005L	Communication Elective Lower
TA9005U	Communication Elective Upper
TA9008L	LG8 CORE Elective Lower

<http://www.mtu.edu/registrar/pdfs/Cocurricular-Courses.pdf>

[Co-curricular course list](#)

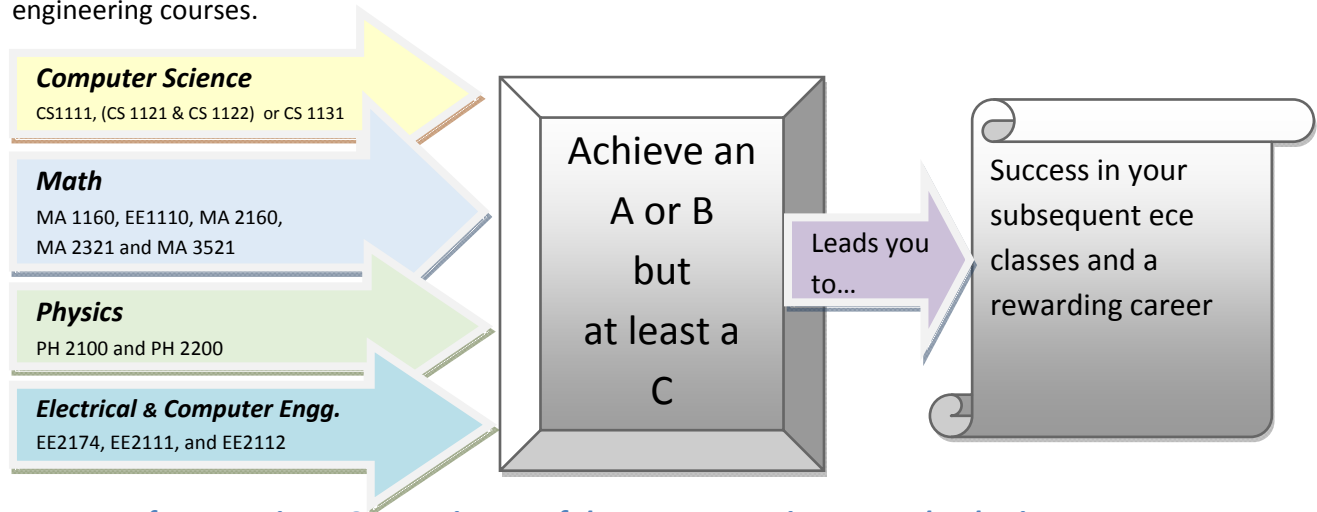
PE, AF, AR, FA

3 credits required.

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What can I do to best prepare myself to succeed in the electrical or computer engineering program at Michigan Tech?

Success in your freshmen and sophomore core classes is critical to your continued success in the ECE engineering courses.



If you receive a CD or D in any of the computer science, math, physics, or EE classes listed above, we strongly encourage you to retake the class BEFORE continuing on in the next class in the sequence. Math skills are significant keys to success in future ECE core classes (EExxxx).

Information on Retaking Classes

You may retake a class in which you receive a CD, D, or F (no more than 3 attempts per class).

A repeated course grade always replaces the prior grade. If you retake a class and receive a higher grade, this will improve your cumulative GPA. However, you could retake a class and get a lower grade. For example if you have a D (a passing grade) and retake a course and earn an F (a failing grade), you now have a failing grade in the course and would have to take the class a third time.

You may take a class up to three times. You must receive permission from the Dean of Students Office and your academic advisor to register for a class the third and final attempt. If the class that you are retaking is a required for your program, and you do not pass the class during the third attempt then you may no longer continue in the program. A 'W'(withdraw) grade does not count as an attempt.

Below is the link to the Registrar's Office policy on retaking classes.

<http://www.mtu.edu/registrar/students/registration/policies/repeat-course/>

Need help? Contact the ECE Advising Office, EERC 131, (906) 487-2550

Judy – eceadvise@mtu.edu Trever – tjhassel@mtu.edu

Special Approval / Restriction Waiver

Personal Information

M Number: _____ Email: _____

Name (please print): _____
Last First

Course Information

CRN #: _____ Semester / Year: _____

Course Subject / Number: _____

Type of Waiver

- Major (Dept) # Credits Research _____
- Level (Dept)
- Special Approval
- Prerequisite (Inst)
- Corequisite (Inst)
- Class Restriction to be Waived (Inst)

Course Dept.: _____ Date: _____

Course Instructor: _____ Date: _____

ECE Department Enterprises: Sections L02, L03 and L04

BMSE (L02) – Blue Marble Security Enterprise, EERC 637 Advisor: Dr. Glen Archer, EERC 629

WCE (L03) – Wireless Communication Enterprise, EERC 621 Advisor: Mr. Kit Cischke, EERC 520

HEVE (L04) Hybrid Electric Vehicle Advisors: Dr. John Lukowski, EERC 233 Mr. Robert Page, MEEM 604A

- Teams of undergraduate students working on projects across many industries and applications.
- Joining an enterprise is optional.
- See the enterprise list online for information about all the enterprises at Tech.
- You may obtain a concentration in Enterprise or a minor in Enterprise with your major.
- You may complete your engineering design requirements in the enterprise program
- You may switch enterprises between semesters except in your last two semesters.
- Optional one-credit enterprise modules supplement the enterprise program. See 'ENT' courses online.
- See your academic advisor to find out how enterprise (ENT) credits may apply to your degree.

Enterprise Program director and Enterprise Minor advisor: Dr. Mary Raber, M&M 722

Enterprise course codes: *with recommendation of when to join based on expected graduation semester.*

Freshmen level:

ENT1950 – Orientation to Enterprise program - fall of first year; graded pass/fail; may not apply to degree

ENT1960 - Project work – *join when you are in* **MA2160**

Sophomore level:

ENT2950 – Project work - *join when you are in* **EE2111**

ENT2960 – Project work - *join when you are in* **EE2112**

Junior level:

Begins design sequence for EE & CpE majors: join ENT3950 when you have 4 semesters remaining @Tech.

ENT3950 – Project work - *join as you begin the* **JR level core required** courses (EE3131)

ENT3960 – Project work - *complete senior design pre-requisites by end of this semester* *see below

Senior level: Must be 'Senior Design Ready' to enroll. ENT4950 & ENT4960 must be consecutive and in same enterprise. If you do not have pre-reqs complete for ENT4950, skip a semester of enterprise or enroll in ENT3980 if you wish to participate that semester. ENT3980 does not apply to your engineering design requirements.

ENT4950 – Project work; 2 credits; Complete permission form for enrollment. Take with or after EE3171/3173.

ENT4960 – Project work; 2 credits;

Ends engineering design sequence

ENT4961 - Project work; 1 credit. Optional, additional semester(s) in enterprise

To REGISTER for enterprise project work, print a Waiver Form (special approval), meet with the enterprise faculty advisor for approval signature. List *section number and CRN* that pertain to the enterprise you are joining. Bring completed waiver forms to the Student Services Center. If you are uncertain which course number (above list) to use, see *your academic advisor! Don't guess.*

***Engineering design pre-requisites: when you are "Senior Design Ready" – Take ENT4950**

EE3131, Electronics, and EE3901, Design Fundamentals, must be complete in order to enroll in **ENT4950**.

EE3171(EE's) or EE3173(CpE's) must be complete in order to enroll in **ENT4960**.

These suggested plans apply to students entering *Academic Year 2015-2016* who are not ready for calculus.

Fall 2015 Recommended Schedules for Pre-Calculus ECE Students

<i>EE Majors:</i>	Semester 1			Semester 2			Semester 3		
MA1032	Pre-calculus	4	MA1161	Calculus Plus w/ Tech 1	5	MA2160	Calculus II	4	
ENG1001	Engineering Problem Solving	2	ENG1100	Engineering Analysis	2	EE 1110	Essential Math for EE's	1	
CH1000*	Preparatory Chemistry	3	PH1100	Univ. Physics I Lab	1	PH2100	Univ. Physics I	3	
Or CH1150/51/53	Or Univ. Chemistry if well-prepared	4-5	EE1111	ECE 1.0	1	ENG1102	Engr. Modeling & Design	3	
	Goal4 or Goal 8 elective	3	CH1150/51	Univ. Chemistry I & Lab	4	CS1111	Intro. Programming in C/C++	3	
UN1015	Composition	3	CH1153	Optional Chem. recitation	1		HASS elective	3	
			UN1025	Global Issues	3				
	Total	15/17		Total	16-17		Total	17	

*Select appropriate Chemistry course in first semester. See university guidelines for chemistry placement. Adjust your schedule accordingly.

<i>CpE Majors:</i>	Semester 1			Semester 2			Semester 3		
MA1032	Pre-calculus	4	MA1161	Calculus Plus w/ Tech 1	5	MA2160	Calculus II	4	
ENG1001	Engineering Problem Solving	2	ENG1100	Engineering Analysis	2	EE 1110	Essential Math for EE's	1	
CS1121	Intro. to Programming I	3	EE1111	ECE 1.0	1	PH2100	Univ. Physics I (or a CS course)	3	
	Goal4 or Goal 8 elective	3	PH1100	Univ. Physics I Lab	1	EE2174	Digital Logic and Lab	4	
UN1015	Composition	3	CS1122	Intro. to Programming II	3		HASS elective or	3	
			UN1025	Global Issues	3	(ENG1102)**	If considering other engg major		
	Total	15		Total	15		Total	15	

**ENG1102 is recommended if you are considering changing your major to another engineering major, or considering a double-major with electrical engineering. It is not needed if you stay in computer engineering and/or computer science. ENG1102 may count in CpE Technical Electives if taken during your first-year engineering fundamentals sequence.

Have your AP and transfer credits sent to MTU ASAP, if applicable. Adjust your schedules accordingly.

Students may add *co-curricular activities* (Physical Education), usually .5 units.

Students who begin in a pre-calculus course will take ENG1001 and ENG1100 in place of ENG1101 in first year. ENG1102 is taken in fall of 2nd year.

Follow university requirements for *general education*.

Goal 4 = Critical and Creative Thinking list: Choose one course. Goal 8 = Responsibility and Ethical Reasoning list: Choose one course.

HASS = Humanities or Fine Arts Electives list. See general education rules.

Contact academic advisor for questions: Judy Donahue, EERC 131, eceadvise@mtu.edu

ALEKS placement	Course
55 and below	MA1030
56 – 69	MA1032
70-79	MA1161
80 or higher	MA1160