

Study Plan for B.S.E., **INTERDISCIPLINARY ENGINEERING** & Renewable Energy emphasis

(2019-20 Catalog)

(MTH 201 Placement with Honors Alliance & Conflict - 4 year program)

Student Name: _____

Student ID#: *G* _____

	1st Semester: Fall _____				2nd Semester: Winter _____				Semester: S/S _____			
		Credits	Grade	Semester Completed		Credits	Grade	Semester Completed		Credits	Grade	Semester Completed
1st Year	* MTH 201	Calculus I	4	_____	* MTH 202	Calculus II	4	_____	* MTH 203	Calculus III	4	_____
	* CHM 115	Chemistry I	4	_____	* EGR 106	Intro to Egr Design I	3	_____	* PHY 230	Physics I	5	_____
	HNR 260	_____	3	_____	HNR 261	_____	3	_____	* EGR 107	Intro to Egr Design II	3	_____
	HNR 201	Live, Learn, Lead	3	_____	HNR 262	_____	3	_____				
2nd Year	3rd Semester: Fall _____				4th Semester: Winter _____				Semester: S/S _____			
	* STA 220	Statistical Modeling	2	_____	* MTH 302	Lin Alg & DEQ	4	_____	* EGR 290	Engg Co-op I	3	_____
	* EGR 220	Measure/Data Analysis	1	_____	* EGR 309 or 223	Mach Dsgn or Prob/Sgnls	4	_____	* EGR 226	MicroCtrl Pgm Appl	4	_____
	+ * PHY 234/1	Physics II	4/5	_____	* EGR 250 or 257	Materials	4	_____				
	* EGR 214	Circuits	4	_____	~ EGR 224 or 312	Dig Sys or Dynamics	3	_____				
	* EGR 209	Mech & Mach	4	_____								
* EGR 289	Engrg Co-op Prep	1	_____									
3rd Year	5th Semester: Fall _____				Semester: Winter _____				6th Semester: S/S _____			
	& EGR 360, 314 or IE	Elective	4	_____	EGR 390	Engrg Co-op II (sws)	3	_____	& EGR 362 or IE	Elective	4	_____
	\$ EGR 346	Mechatronic Sys	4	_____	^ GEO 360	Earth Resources	3	_____	~ EGR 323 or 365	Signals or Fluids	3/4	_____
	IE	Elec	3/4	_____					# HNR	Jr. Sem	3	_____
4th Year	Semester: Fall _____				7th Semester: Winter _____				8th Semester: S/S _____			
	EGR 490	Engrg Co-op III	3	_____	! EGR 485	Sr Project I	1	_____	! EGR 486	Sr Project II	2	_____
	EGR 463	Alternative Energy	3	_____	^ EGR 406	Renewable Energy	3	_____	IE Elec.	_____	3/4	_____
				EGR 413	Mats Energy Storage	3	_____	% ECO 210/2	Micro/Macroecon.	3	_____	
				IE Elec.	_____	3/4	_____					
				^ HNR	LS (BIO 105)	3	_____					

PCEC Student Services: (616)331-6025

- * Engineering Foundation course
- + Students may enroll in PHY 231 instead of PHY 234
- # The Jr. Seminar fulfills one Issue and one SWS requirement. HNR 312 will also fulfill US Diversity. Junior Seminars can be taken when students have >= 45 credits. Online seminars offered each semester.
- % ECO 210 or 211 is required in the engineering curriculum. Also fulfills one HNR SBS.
- @ HNR US Diversity requirement can be met with a Jr. Seminar (HNR 312).
- ! Completion of EGR 485 and 486 will fulfill the HNR 499 Senior Project requirement.
- & IE required course Energy (must take EGR 360 or EGR 362)
- ^ Emphasis required
- \$ IE required course Systems and Control (must take EGR 326, EGR 345 or EGR 346)
- ? IE Prerequisite course for upper-level electives (EGR 224 is for Solar Track ONLY!)

Electives	Credits	Title	Semester	Prerequisites (in addition to upper division)	Energy Focus
EGR 314	4	Circuit Analysis II	Fall		Solar
EGR 315	4	Electronic Circuits I	Fall		Solar
EGR 326	4	Embedded System Design	Fall		Solar
EGR 345	4	Dynamic Sys Model & Control	Fall		Only if not taken for required course, no double dipping
EGR 346	4	Mechatronic Sys Dyn & Control	Fall		
EGR 352	4	Kinematics and Dynamics	Fall	EGR 312	Windmill, Alternative
EGR 405	3	Materials Failure Analysis	Summer	EGR 250	Windmill, Alternative
EGR 430	4	Electromechanics	Winter	EGR 330	All
EGR 450	4	Manufacturing Control Systems	Winter	EGR 345 or 346	Windmill
EGR 455	4	Automatic Control	Summer	EGR 323	All
EGR 465	4	Computational Fluid Dynamics	Winter	EGR 365	Windmill
EGR 435	3	Math Modeling of Phys Sys	Winter	MTH 302	All

Secondary Admissions Criteria:

- A GPA of 2.7 or above in the Engineering Foundation courses
- Completion of each course in the Engineering Foundation with a grade of C (2.0) or above, **with no more than one repeat per Foundations course**
- Completion of preparation for placement in the cooperative engineering education, EGR 289

Recommendation:

It is strongly encouraged that students do not begin or break a curriculum thread by taking courses at other institutions; e.g., take the MTH 201 equivalent elsewhere, return to GV and continue in the math thread with MTH 202.