

Student's Name \_\_\_\_\_  
UMID: \_\_\_\_\_  
Expected Graduation Date \_\_\_\_\_

Current/Revised Date(s) \_\_\_\_\_  
Cum G.P.A. \_\_\_\_\_ Cum Credits \_\_\_\_\_  
First Term at UM-Flint \_\_\_\_\_  
Advisor: \_\_\_\_\_

EGR Prerequisite Courses (15 credits)	Term	Grade
EGR 102 Intro to Engineering (t) (3)		
EGR 165 Computer-Aided Design (t) (3)		
EGR 230 Statics (3)		
EGR 260 Mechanics of Solids (3)		
EGR 280 Engineering Materials (3)		

EGR Core Courses (30 credits)	Term	Grade
EGR 310 Engineering Economics (fq) (3)		
EGR 315 Machine Element Design (3)		
EGR 330 Egr Circuit Analysis (3)		
EGR 350 Fluid Mechanics (3)		
EGR 353 Thermodynamics (3)		
EGR 356 Heat Transfer (3)		
EGR 370 Dynamics (3)		
EGR 432 Manufacturing Process (3)		
EGR 465 Egr Design I (3)		
EGR 466 Egr Design II (Capstone) (3)		

Three EGR Labs (3+ credits) (EGR-PHY track: EGR 281 + one lab)	Term	Grade
EGR 281 Egr Materials Lab (1)		
<b>plus two additional EGR labs:</b>		
EGR 322 Analog/Digital Elec Lab (1)		
EGR 335 Egr Circuit Analysis Lab (1)		
EGR 355 Thermofluids Egr Lab (1)		
EGR 397 Robotics/Mechatronics Lab (1)		
EGR 433 Adv Physics Lab II (1-3)		

General Education (for CAS B.S.)	Term	Grade
FYE - UNV 100 (3)		
English Comp: ENG 112 (or EHS 120, HON 156) (3)		
Humanities (h) PHL 162 Ethics recom. (3)		
Humanities (h) (3)		
Soc Sci (s) (3) <i>EGR/SOC 203Tech &amp; Society recommended for all tracks; ECN 202 required for Egr Mgmt track.</i>		
Soc Sci (s) (3)		
Global Studies (gs) EGR/POL 235 Global <i>Energy recommended</i> (3)		
Fine Arts (f) (3)		
Health & Well Being (hw) PHS 421 <i>Occupational Health and Safety recom.</i> (3)		
Finance & Quantitative Literacy (fq) (3)	EGR 310/MTH121	
Nat Sci w/lab (n/nl) (4)	PHY 243/245	
Technology (t) (3)	EGR 102/165	
Capstone (3)	EGR 466	

MTH - PHY - CHM - ENG - CSC (37 credits)	Term	Grade
MTH 121 Calc I (fq) (4)		
MTH 122 Calc II (4)		
MTH 222 Multivariate Calc (4)		
MTH 303 Diff Equations (4)		
PHY 243 Prin Phys I (n/nl) (5)		
PHY 245 Prin Phys II (n/nl) (5)		
CHM 260 Prin Chem I (3)		
CHM 261 Gen Chem Lab (1)		
ENG 112 or EHS 120 (Eng. Comp) (3)		
CSC/CIS 175 Programming C++ (t) (4)		

**OTHER PROGRAM REQUIREMENTS**

**Option A** (below) **or Option B** (see side two) **(20-21 credits)**  
**Fundamentals of Engineering Exam** (1st part of Professional Engineering licensure) - typically taken during final term.  
**Minimum 128 credits** including all CAS B.S. and General Education requirements.

Option A: (20 credits of EGR 300+ level courses.)	Term	Grade
EGR 300 Renewable Energy (4)		
EGR 312 Kinematics & Mechanism (3)		
EGR 314 Egr Ethics & Communication (3)		
EGR 321 Analog & Digital Electronics (3)		
EGR 345 Finite Element Analysis (3)		
EGR 354 Optics (3)		
EGR 356 Heat Transfer (3)		
EGR 367 Elect & Magnetism (3)		
EGR 368 Elect Mach & Power Trans (3)		
EGR 369 Embedded Systems (3)		
EGR 381 Composite Materials Design (3)		
EGR 392 Special Topics in Egr (1-4)		
EGR 399 Robotics/Mechatronics (3)		
EGR 410 Vibrations (3)		
EGR 451 Comp Fluid Dynamics (3)		
EGR 492 Advanced Topics (1-4)		

**OPTION B - complete one:**

<b>Computer Engineering</b> (20 credits)	Term	Grade
CSC 265 Computer Logic Design plus CSC 266 Lab (3)+(1)		
CSC 275 (C++ cont'd) (4)		
CSC 277 Org & Assembly Lang (3)		
<b>Plus ≥ 9 elective credits in 300+ level CSC or CIS courses - possibilities listed below:</b>		
CIS 314 Cyberethics (h) (3)		
CSC 335 Computer Networks I (3)		
CSC 336 Computer Networks II (3)		
CSC 365 Computer Architecture (3)		
CSC 375 Data Structures & Algorith (3)		
CSC 377 Operating Systems (3)		
CSC 391 Independent Study (1-3)		
CSC 477 Distributed Systems (3)		
CSC 478 Parallel Processing (3)		

<b>Environmental Engineering</b> (21 credits)	Term	Grade
GEO 151 Physical Geography II (4)		
GEO 272 Principles of Hydrology (3)		
RPL 370 Geographic Info Systems I (4)		
RPL 371 Geographic Info Systems II (4)		
RPL 486 Environ Site Assessment (3)		
Three credits from: RPL 411 Land Use Issues, or RPL 472 Watershed Management, or RPL 476 Environmental Planning		

<b>Engineering Management</b> (21 credits)		Term	Grade
<i>Pre-reqs</i>	<i>ECN 202 Microecon (s) (3)</i>		
	<i>BUS 115 Intro to Bus Applic (t) (3)</i>		
	<i>MTH 121 Calc I (fq) (4)</i>		
	<i>SOC or PSY ____ (s) (3)</i> <i>EGR/SOC 203Tech &amp; Society recommended.</i>		
BUS 211 Bus Statistics (fq) (3)			
BUS 313 Intro to Mgmt Science (3)			
BUS 341 Human Behavior in Org (3)			
BUS 347 Managing Proj & Teams (3)			
BUS 349 Innovation Mgmt (3)			
BUS 371 Operations Mgmt (3)			
BUS 472 Adv Operations Mgmt (3)			

<b>Engineering Physics</b> (20 credits)	Term	Grade
PHY 333 Advanced PHY Lab (3)		
PHY 343 Modern Phy (3)		
EGR/PHY 354 Optics (3)		
EGR/PHY 367 Electric & Magnet (3)		
EGR/PHY 433 Adv Physics Lab II (1-3)		
<b>Plus additional 300+ level EGR, PHY, MTH or CSC elective credits to bring total credits to ≥20.</b>		

**Prerequisites for the EGR Prerequisite and Core Courses**  
(Note: Grade of "C" or better required in most)

<b>EGR Prerequisite Courses</b>	<b>EGR</b>	<b>MTH</b>	<b>PHY</b>
EGR 102 Intro to Engineering		MTH 111	PHY 143
EGR 165 Computer-Aided Design			
EGR 230 Statics	EGR 102	MTH 121	PHY 243
EGR 260 Mechanics of Solids	EGR 102, 230	MTH 122 (or concurrent)	
EGR 280 Engineering Materials	EGR 102 (or concurrent)		PHY 243
<b>EGR Core Courses</b>	<b>EGR</b>	<b>MTH</b>	<b>PHY</b>
EGR 310 Engineering Economics	Jr. standing	MTH 120	
EGR 315 Machine Element Design	EGR 260, 280		
EGR 330 Egr Circuit Analysis		MTH 122	PHY 245
EGR 350 Fluid Mechanics	EGR 230		
EGR 353 Thermodynamics		MTH 122 (MTH 222 rec.)	PHY 243
EGR 356 Heat Transfer	EGR 230, 353		
EGR 370 Dynamics	EGR 230		
EGR 432 Manufacturing Process	EGR 260, 280; Jr. standing		
EGR 465 Egr Design I	EGR 165, 310, 315, 350		
EGR 466 Egr Design II (Capstone)	EGR 330, 432, 465		

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