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

**Student Name:** _____

**(2019-20 Catalog)** ***(MTH 123 Placement - 5 Year Program)*** **Minor:** _____ **Student ID#:** G

| | | | | | Credits | Grade | Semester Completed |
|---|---|---|---|---|---|---|---|
| **1st Year** | | **1st Semester: Fall____** | | | | | |
| | | MTH | 123 | Trigonometry | 3 | | |
| | * | WRT | 150 | Writ Strategies | 4 | | |
| | ! | EGR | 100 | Intro to Engrg | 1 | | |
| | # | GE - HP | | _____ | 3 | | |
| | | GE - Arts | | _____ | 3 | | |
| | | **2nd Semester: Winter ____** | | | | | |
| | * | MTH | 201 | Calculus I | 4 | | |
| | * | CHM | 115 | Chemistry I | 4 | | |
| | * | EGR | 106 | Intro to Egr Design I | 3 | | |
| | @ | GE | P & L | PHI 102 - Ethics | 3 | | |
| | | **Semester: S/S ____** | | | | | |
| | | _____ | | | __ | | |
| | | _____ | | | __ | | |
| | | _____ | | | __ | | |
| **2nd Year** | | **3rd Semester: Fall____** | | | | | |
| | * | MTH | 202 | Calculus II | 4 | | |
| | * | EGR | 107 | Intro to Egr Design II | 3 | | |
| | ^ | BIO | 105 | Environmental Sci. | 3 | | |
| | * | STA | 220 | Statistical Modeling | 2 | | |
| | * | EGR | 220 | Measure/Data Analysis | 1 | | |
| | | **4th Semester: Winter ____** | | | | | |
| | * | MTH | 203 | Calculus III | 4 | | |
| | * | PHY | 230 | Physics I | 5 | | |
| | * | EGR | 226 | MicroCtrl Pgm Appl | 4 | | |
| | | **Semester: S/S ____** | | | | | |
| | | _____ | | | __ | | |
| | | _____ | | | __ | | |
| **3rd Year** | | **5th Semester: Fall____** | | | | | |
| | + * | PHY | 234/1 | Physics II | 4/5 | | |
| | * | EGR | 214 | Circuit Analysis I | 4 | | |
| | * | EGR | 209 | Mech & Mach | 4 | | |
| | * | EGR | 289 | Engrg Co-op Prep | 1 | | |
| | | **6th Semester: Winter ____** | | | | | |
| | * | MTH | 302 | Differential Equations | 4 | | |
| | * | EGR | 309 or 223 | Mach Dsgn or Prob/Signal | 3/4 | | |
| | * | EGR | 250 or 257 | Materials | 4 | | |
| | ~ | EGR | 224 or 312 | Intro Dig Sys or Dynamics | 3 | | |
| | | **Semester: S/S ____** | | | | | |
| | | EGR | 290 | Engrg Co-op I | 3 | | |
| **4th Year** | | **7th Semester: Fall____** | | | | | |
| | & | EGR | 360, 314 or IE Elective | | 4 | | |
| | $ | EGR | 346 | Mechatronic Sys | 4 | | |
| | | IE | Elec | _____ | 3/4 | | |
| | | **Semester: Winter ____** | | | | | |
| | | EGR | 390 | Engrg Co-op II (sws) | 3 | | |
| | | **8th Semester: S/S ____** | | | | | |
| | & | EGR | 362 or IE Elective | | 4 | | |
| | ~ | EGR | 323 or 365 | Signals or Fluids | 3/4 | | |
| | # | GE | GP | _____ | 3 | | |
| | • | GE | SBS/US | (SOC 105) | 3 | | |
| **5th Year** | | **Semester: Fall____** | | | | | |
| | | EGR | 490 | Engrg Co-op III | 3 | | |
| | | EGR | 463 | Alternative Energy | 3 | | |
| | | **9th Semester: Winter ____** | | | | | |
| | | EGR | 485 | Sr Project I | 1 | | |
| | ^ | EGR | 406 | Renewable Energy | 3 | | |
| | | EGR | 413 | Matls Energy Storage | 3 | | |
| | | IE | Elec. | _____ | 3/4 | | |
| | ^ | GEO | 360 | Earth Resources | 3 | | |
| | | **10th Semester: S/S ____** | | | | | |
| | | EGR | 486 | Sr Project II | 2 | | |
| | | IE | Elec. | _____ | 3/4 | | |
| | % | ECO | 210/211 | Micro/Macroecon | 3 | | |

* Engineering Foundation course

\+ Students may enroll in PHY 231 instead of PHY 234

• Consider taking a course that doubles as SBS and US (See Gen Ed guide for selections)

\# Consider taking a course that doubles as GP and Historical Perspectives (See Gen Ed guide for selections)

@ An ethics course is required in the engineering program (PHI 102 or another ethics course in General Education).

% ECO 210 or 211 is required in the engineering curriculum. Also fulfills one SBS GenEd requirement.

& IE required course Energy (must take EGR 360 or EGR 362)

^ Emphasis required general education course. Check course offering ASAP for planning purposes.

$ IE required course Systems and Control (must take EGR 326, EGR 345 or EGR 346)

! Not required, but highly recommended for success.

~ IE Prerequiste course for upper-level electives (EGR 224 is for Solar Track ONLY!)

**Secondary Admission Criteria:**

- 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 course, EGR 289

| Electives | Credits | Title | Semester | Course Prerequisites | Energy Focus |
|---|---|---|---|---|---|
| EGR 314 | 4 | Circuit Analysis II | Fall | Only if not taken for required course, no double dipping | 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 | | |
| EGR 346 | 4 | Mechatronic Sys Dyn & Control | Fall | Only if not taken for required course, no double dipping | |
| EGR 352 | 4 | Kinematics and Dynamics | Fall | EGR 312 | Windmill, Alternative Cars |
| EGR 405 | 3 | Materials Failure Analysis | Summer | EGR 250 | Windmill, Alternative Cars |
| 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 |

It is strongly encouraged that students do not beging 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

PCEC Student Services
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