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| \**REQUIRES A GRADE OF “C” OR BETTER* | | | | | | | |
| Date | Grade | Course | Cr | Title | Sem | Pre-Req | Co-Req |
| Semester 1 | | (17 Credits) |  |  |  |  |  |
|  |  | GE-S | 3 | Social Sciences (w/ 6K words, D or N as needed) | F S Su |  |  |
|  |  | State Core- H | 3 | Humanities (w/ D or N as needed) | F S Su |  |  |
|  |  | MAC 2311\* | 4 | Analytical Geometry & Calc 1 (GE-M) | F S Su | Passing Score Readiness Assessment |  |
|  |  | CHM 2095\* | 3 | General Chemistry 1 (or CHM2045) (GE- B/P) | F S Su | Passing Score Readiness Assessment |  |
|  |  | CHM 2045L | 1 | General Chemistry Lab 1 (GE-B/P) | F S Su |  |  |
|  |  | IDS 1161 IDS 2935 | 3 | What is The Good Life or Quest 1 (w/ 4K words) | F S Su |  |  |
| Semester 2 | | (14 Credits) |  |  |  |  |  |
|  |  | CHM 2096\* | 3 | General Chemistry 2 (Or CHM2046) (GE-B/P) | F S Su | CHM 2095 & CHM 2045L |  |
|  |  | CHM 2046L | 1 | General Chemistry Lab 2 (GE-B/P) | F S Su |  |  |
|  |  | ABE2062 | 3 | Biology for Engineers (GE-B/P) | F |  |  |
|  |  | Or BSC2010 |  | **or** Integrated Principles of Biology 1 | F S Su |  |  |
|  |  | MAC 2312\* | 4 | Analytical Geometry & Calc 2 (GE-M) | F S Su | MAC 2311 |  |
|  |  | IDS 2935 | 3 | Quest 2 | F S Su |  |  |
| Semester 3 | | (17 Credits) |  |  |  |  |  |
|  |  | PHY 2048\* | 3 | Physics with Calculus 1 (GE-B/P) | F S Su | MAC 2311 | MAC 2312 |
|  |  | PHY 2048L | 1 | Physics Lab 1 (GE-B/P) | F S Su |  | PHY 2048 |
|  |  | MAC 2313\* | 4 | Analytical Geometry & Calc 3 (GE-M) | F S Su | MAC 2312 |  |
|  |  | ABE 2012C\* | 3 | Intro to Biological Engineering (2K words) | F |  | MAC 2311 |
|  |  | State Core-S | 3 | Social Sciences (with D if needed) |  |  |  |
|  |  | GE-C | 3 | ENC1101 or ENC1102 (6K words) | F S Su |  |  |
| Semester 4 | | (15 Credits) |  |  |  |  |  |
|  |  | PHY 2049\* | 3 | Physics with Calculus 2 (GE-B/P) | F S Su | PHY 2048, MAC 2312 | MAC 2313 |
|  |  | PHY 2049L | 1 | Physics with Calculus Lab 2 (GE-B/P) | F S Su |  |  |
|  |  | MAP 2302 | 3 | Elementary Differential Equations | F S Su | MAC 2312 |  |
|  |  | EGM 2511\* | 3 | Engineering Mechanics-Statics | F S Su | PHY 2048 | MAC 2313 |
|  |  | EML 3007 | 3 | Elements of Thermodyn. and Heat Transfer | F S Su | CHM 2095, MAC 2313 & PHY 2048 |  |
|  |  | EGN 2020C | 2 | Engineering Design & Society | F S Su |  |  |
| Semester 5 | | (12 Credits) |  | **THIS IS A SUMMER SEMESTER!** |  |  |  |
|  |  | EGM3520\* | 3 | Mechanics of Materials | F S Su | EGM 2511, MAC 2313 |  |
|  |  | ENC 3246 **6000 words** | 3 | Professional Communication for Engineers | F S Su | ENC 1101 |  |
|  |  | CGN 3710 or  EEL 3003 | 3 | Experimentation and Instrumentation in Civil Engineering or Elements of Elec. Eng. | F S Su | PHY 2049 |  |
|  |  | CHM 2200 (F,Su) (or 2210) or BCH3023 | 3 | Organic Chemistry (or Organic Chem 1) or Elem Organic and Biological Chemistry | F S Su | CHM 2096 & CHM 2046L or equiv. |  |
| Semester 6 | | (12-14 Credits) |  |  |  |  |  |
|  |  | ABE 3612C\* | 4 | Heat & Mass Transfer in Biological Systems | F |  | CGN3421, ENV3040c, or COP2271 & lab |
|  |  | ENV 3040C (Fall)  or CGN 3421  or COP2271 & lab | 3-4 | Computer Methods in Environmental Eng or Computer Methods in Civil Eng (4). or Computer Programming for Engineers | F S | MAC 2312  3 EG or >  MAC 2313, MAP 2302 |  |
|  |  | EGM 3400\* | 2 | Elements of Dynamics | F S | EGM 2511, MAC 2313 |  |
|  |  | PKG 3001\* | 3 | Principles of Packaging | F |  |  |
| Semester 7 | | (15 Credits) |  |  |  |  |  |
|  |  | EMA 3010\* | 3 | Materials | F S | CHM 2045 |  |
|  |  | ABE 3000C\* | 3 | Applications in Biological Engineering | S | BSC 2010 or equiv. |  |
|  |  | ABE4033\* or  ABE4413C\* | 3 | Fundamentals & App of Biosensors or  Post Harvest Operations Engineering | S,  Odd S | CHM2210, BSC2010, MAP2302  4EG, ABE3612C |  |
|  |  | PKG 4101c\* | 3 | Computer Tools for Packaging | S |  |  |
|  |  | PKG4011 or ABE4812 (F)\* | 3 | Packaging Production & Processing or  Food & Bioprocess Unit Operations (4) | S |  |  |
| Semester 8 | | (14-15 Credits) |  |  |  |  |  |
|  |  | ABE 4171\* | 3 | Power and Machines for Biological Systems | F | EGM 3520 & EML 3007 |  |
|  |  | ABE 4042C\* | 2 | Biological Engineering Design 1 | F | 4 EG |  |
|  |  | EGN3353C or CWR3201 | 3-4 | Fluid Mechanics(3) or Hydrodynamics(4) | F S Su | MAC 2313 & EGM 2511  EGN3400, MAP3202 |  |
|  |  | EMA 3066\* | 3 | Polymer Science & Engineering | F | EMA 3010, CHM 2200 or 2210 |  |
|  |  | PKG 3103\* | 3 | Food Packaging | F | CHM 2045 |  |
| Semester 9 | | (12 Credits) |  |  |  |  |  |
|  |  | ABE 4043C\* | 2 | Biological Engineering Design 2 | S | ABE 4042C, 4 or 5 EG |  |
|  |  | EGS4034, EML2920 or ECH4934 | 1 | Engineering Professionalism and Ethics course | F S |  |  |
|  |  | PKG 4008\* | 3 | Transportation and Distribution Packaging | S |  |  |
|  |  |  | 3 | Engineering Elective |  |  |  |
|  |  |  | 3 | Technical Elective |  |  |  |

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| TECHNICAL SCIENCE ELECTIVES | | | | |
| Date | GR | Course # | Course | CR |
|  |  | AEB 3300 | Agricultural and Food Marketing | 3 |
|  |  | AEB 3133 | Principles of Agribusiness Management | 3 |
|  |  | AEC3414 | Leadership Development | 3 |
|  |  | AEC3070C | Digital Media Production in Ag & Life Sci | 3 |
|  |  | AEC4036 | Advanced Ag Communication Production | 3 |
|  |  | FOS 3042 | Introductory Food Science | 3 |
|  |  | AOM 4062 | Food Engineering | 4 |
|  |  | Other AOM 3000 or above | **As approved by advisor** |  |
|  |  | FOS 3042 | Introductory Food Science | 3 |
|  |  | FOS 4427C | Principles of Food Processing | 4 |
|  |  | FOS 4731 | Gov’t Regulations and the Food Industry | 2 |
|  |  | PKG 4941 | Packaging Engineering Internship | 3 |
|  |  |  | ***Note: Pre-med and Pre-vet science courses may count toward technical electives. Check with your advisor.*** |  |
| **ENGINEERING ELECTIVES** | | | | |
|  |  | EGN 4641 | Engineering Entrepreneurship | 3 |
|  |  | EGN 4643 | Engineering Innovation | 3 |
|  |  | EGS 4038 | Engineering Leadership | 3 |
|  |  | EGN 4912 | Undergraduate Research in Engineering | 0-3 |
|  |  | EMA 3011 | Fundamental Principles of Materials | 3 |
|  |  | EMA 3513C | Analysis of the Structure of Materials | 4 |
|  |  | EMA 3800 | Error Analyses and Optimization |  |
|  |  |  | Methodologies in Materials Research | 3 |
|  |  | EMA 4062 | Biopolymers: Manufacture, Stability and |  |
|  |  |  | Biocompatibility | 3 |
|  |  | EMA 4223 | Mechanical Behavior of Materials | 3 |
|  |  | EMA 4066 | Polymer Processing | 3 |
|  |  | PKG 4941 | Packaging Engineering Internship | 3 |

The above electives have been identified as appropriate for your specialization area but you are not limited to this list. Other technical, departmental, or engineering courses at the 3000 level or approve may count if approved in advance by your advisor. **Other** **ABE courses count toward any elective area.**