

**UNIVERSITY OF MIAMI**  
**DEPARTMENT OF INDUSTRIAL ENGINEERING**  
**BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING**  
*128 Credits*  
**2016-2017**

| <b>Freshman Year:</b> |                               |   |           |   |   |
|-----------------------|-------------------------------|---|-----------|---|---|
| IEN 111               | Introduction to Engineering I | 3 | IEN 112   | Introduction to Engineering II  | 2 |
| ENG 105               | English Composition I         | 3 | ENG 107   | Writing About Science   | 3 |
| MTH 151               | Calculus I for Engineers      | 5 | MTH 162   | Calculus II   | 4 |
| PHY 205               | University Physics I          | 3 | PHY 206   | University Physics II   | 3 |
|                       |                               |   | PHY 208   | University Physics II Lab   | 1 |
|                       |                               |   | ECO 211   | Economic Principles and Problems<br>(People and Society Cognate) (PS Elective)* | 3 |
| <b>Total</b>          |                               |   | <b>14</b> | <b>Total</b>  |   |
|                       |                               |   |           | <b>16</b>   |   |

| <b>Sophomore Year:</b> |                                      |   |   |   |   |
|------------------------|--------------------------------------|---|---|---|---|
|                        | People and Society Cognate*          | 3 |   | Humanities and Arts Cognate (HA Elective)*  | 3 |
| IEN 201                | Methods Analysis & Work Measurements | 3 | ECE 205<br>or<br>CAE 210<br>or<br>MAE 303 | Principles of Electrical Engineering I<br>or<br>Mechanics of Solids I<br>or<br>Thermodynamics I | 3 |
| MTH 210                | Introduction to Linear Algebra       | 3 | CHM 151                                   | Chemistry for Engineers I   | 3 |
| PHY 207                | University Physics III               | 3 | CHM 153                                   | Chemistry Lab for Engineers   | 1 |
| PHY 209                | University Physics III Lab           | 1 | MTH 311                                   | Ordinary Differential Equations   | 3 |
|                        | Humanities and Arts Cognate *        | 3 |   | People and Society Cognate (Adv. PS Elective)*  | 3 |
| <b>Total</b>           |                                      |   | <b>16</b>                                 | <b>Total</b>  |   |
|                        |                                      |   |   | <b>16</b>   |   |

| <b>Junior Year:</b> |   |   |           |  |   |
|---------------------|---|---|-----------|--|---|
| IEN 310             | Introduction to Engineering Probability     | 3 | IEN 312   | Applied Statistical Methods              | 3 |
| IEN 351             | Industrial Safety Engineering               | 3 | IEN 361   | Industrial Cost Analysis                 | 3 |
| IEN 380             | Engineering Economy                         | 3 | IEN 363   | Project Management for Engineers         | 3 |
| IEN 441             | Deterministic Models in Operations Research | 3 | IEN 406   | Computer-Aided Manufacturing             | 3 |
|                     | Humanities and Arts Cognate*                | 3 | IEN 442   | Stochastic Models in Operations Research | 3 |
|                     |   |   |           | Technical Elective***                    | 3 |
| <b>Total</b>        |   |   | <b>15</b> | <b>Total</b>                             |   |
|                     |   |   |           | <b>18</b>                                |   |

| <b>Senior Year:</b> |  |   |           |  |   |
|---------------------|--|---|-----------|--|---|
| IEN 465             | Production & Inventory Control                   | 3 | IEN 494   | Senior Project                           | 3 |
| IEN 512             | Statistical Quality Control & Quality Management | 3 | IEN 524   | Decision Support Systems in IE           | 3 |
| IEN 547             | Computer Simulation Systems                      | 3 | IEN 568   | Materials Handling & Facilities Planning | 3 |
| IEN 557             | Ergonomics & Human Factors Engineering           | 3 |           | IEN Elective***                          | 3 |
|                     | IEN Elective***                                  | 3 |           | IEN Elective***                          | 3 |
| <b>Total</b>        |  |   | <b>15</b> | <b>Total</b>                             |   |
|                     |  |   |           | <b>15</b>                                |   |

\* Students must complete a minimum of 1 PS cognate and 1 HA cognate, to be selected from the list of available cognates. Each cognate should be a minimum of 3 courses (minimum of 9 credits). Students have to select a PS cognate that includes ECO 211 & ECO 212

\*\* The Technical Elective is selected from courses at the 300 level or above, offered by one of the following departments: MTH, BME (except BME 320), CAE, ECO, EEN, IEN, MAE, ACC, FIN, MGT (except MGT 303), MAS, MKT.

\*\*\* IEN electives are selected from courses at the 300 level or above offered by the Department of Industrial Engineering, with the approval of the Faculty Advisor