

Name: \_\_\_\_\_

PSU ID: \_\_\_\_\_

**Dual Degree Courses for Engineering Majors\*****The Pennsylvania State University****Dual Degree Institution: Slippery Rock University**

| PSU Course      | Credits | Course Title  | PSU Majors   | Dual Degree Inst. Course | Credits | Grade |
|-----------------|---------|---|--|--------------------------|---------|-------|
| BIOL 141, 142   | 3, 1    | Physiology and Lab  | BIO E, elective for E SC, I E, M E                               |                          |         |       |
| CAS 100         | 3       | Effective Speech  | ALL  | COMM 200                 | 3       |       |
| CHEM 110        | 3       | Chemical Principles I                                       | ALL  | CHEM 107                 | 3       |       |
| CHEM 111        | 1       | Experimental Chemistry I                                    | ALL except AERSP, M E  | CHEM 111                 | 1       |       |
| CHEM 112        | 3       | Chemical Principles II                                      | BIOE, CH E, elective for E SC, I E, M E,<br>ALL EMS except MNG E | CHEM 108                 | 3       |       |
| CHEM 113        | 1       | Experimental Chemistry II                                   | BIOE, CH E, MATSE  | CHEM 112                 | 1       |       |
| CHEM 210        | 3       | Organic Chemistry I   | BIOE, CH E, MATSE(PLMSE), ENENG                                  | CHEM 201                 | 3       |       |
| CHEM 212, 213   | 3, 2    | Organic Chemistry II and Lab                                | BIOE, CH E, MATSE(PLMSE)   | CHEM 202, 212            | 4       |       |
| CMPEN 270       | 4       | Introduction to Digital Systems & Lab                       | CMPEN, E E, I E  | No Equivalent            | ---     |       |
| CMPSC 121, 122  | 3, 3    | Intermediate Programming                                    | CMPEN  | No Equivalent            | ---     |       |
| CMPSC 201       | 3       | Computer Programming for Engineers                          | ALL except B E, CH E, CMPEN                                      | CPSC 140                 | 3       |       |
| E E 210         | 4       | Circuits and Devices  | BIOE(EE option), CMPEN, E E, E SC                                | PHYS 325                 | 3       |       |
| E MCH 211       | 3       | Statics   | ALL except CH E, CMPEN, MATSE (PLMSE),<br>and ENENG              | PHYS 314                 | 3       |       |
| E MCH 212       | 3       | Dynamics  | ALL except CH E, CMPEN, E E, MATSE<br>(PLMSE) and ENENG          | PHYS 315                 | 3       |       |
| E MCH 213       | 3       | Strength of Materials                                       | ALL except CH E, CMPEN, E E, ENVSE,<br>MATSE (PLMSE) and ENENG   | No Equivalent            | ---     |       |
| ECON 002 or 004 | 3       | Intro. Microecon. or Macroecon. Analysis and Policy<br>(GS) | ALL  | ECON 201 or 202          | 3       |       |
| EDSGN 100       | 3       | Introduction to Engineering Design                          | ALL except CMPEN, ENVSE, MATSE, PNG E<br>and ENENG               | PHYS 140, 141            | 3       |       |
| ENGL 015        | 3       | Rhetoric and Composition                                    | ALL  | ENGL 101                 | 3       |       |
| ENGL 202C       | 3       | Effective Writing: Technical Writing                        |  | ENGL 103                 | 3       |       |
| GEO SC 001      | 3       | Physical Geology  | C E, PNG E, ENVSE, MNG E   | EGEO 101                 | 3       |       |

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|---|---------|--|---|--------------------------|---------|-------|
| MATH 140                                  | 4       | Calculus and Analytic Geometry I   | ALL   | MATH 225                 | 4       |       |
| MATH 141                                  | 4       | Calculus and Analytic Geometry II  |   | MATH 230                 | 4       |       |
| MATH 220                                  | 2       | Matrices   | ALL except B E, CH E, PNG E, ENENG                          | MATH 240                 | 3       |       |
| MATH 230                                  | 4       | Calculus and Vector Analysis   | ALL except C E, ENVSE, MNG E                                | MATH 231                 | 4       |       |
| MATH 251                                  | 4       | Ordinary and Partial Differential Equations  | ALL   | MATH 301<br>PHYS 331     | 6       |       |
| M E 201/300                               | 3       | Introduction to Thermal Science/<br>Engineering Thermodynamics I   | ALL except CH E, CMPEN, E E, E SC,<br>MNG E and ENENG       | PHYS/CHEM 375            | 3       |       |
| PHYS 211                                  | 4       | General Physics (Mechanics)  | ALL   | PHYS 211                 | 4       |       |
| PHYS 212                                  | 4       | General Physics (Electricity and Magnetism)  |   | PHYS 212                 | 4       |       |
| PHYS 213                                  | 2       | Fluids & Thermodynamics  | AERSP, E E, E SC, PNG E, MNG E                              | PHYS 213                 | 3       |       |
| PHYS 214                                  | 2       | Waves & Quantum Physics  | ALL except B E, C E, I E, ENVSE, PNG E,<br>MNG E, and ENENG | PHYS 213                 | 3       |       |
| STAT 401/ 418                             | 3       | Experimental Methods/ Probability  | C E, CMPEN, E E   | MATH 307                 | 3       |       |
| <b>General Education Electives</b>        |         |  | ALL   |                          |         |       |
| Arts Electives (GA)                       | 6       | e.g. Architecture, Art History, Integrative Arts,<br>Landscape Architecture, Music, Theatre Arts             |   |                          |         |       |
| Health (GHA)                              | 3       | Health Education and Exercise and Sport Activities   |   |                          |         |       |
| Humanities Electives (GH)                 | 6       | e.g. American Studies, Classics, History, Humanities,<br>Multi-Ethnic Studies, Philosophy, Religious Studies |   |                          |         |       |
| Social & Behavioral Science Elective (GS) | 3       | e.g. Anthropology, Human Development, Political Science, Psychology, Sociology                               | PNGE, MNG E, and ENENG require an ethics elective           |                          |         |       |

**\* College of Engineering (EN) Majors:**

|       |                        |       |                        |
|-------|------------------------|-------|------------------------|
| AERSP | Aerospace Engineering  | E E   | Electrical Engineering |
| B E   | Biological Engineering | E SC  | Engineering Science    |
| BIOE  | Bioengineering         | I E   | Industrial Engineering |
| CH E  | Chemical Engineering   | M E   | Mechanical Engineering |
| C E   | Civil Engineering      | NUC E | Nuclear Engineering    |
| CMPEN | Computer Engineering   |       |                        |

**\*College of Earth and Mineral Sciences (EMS) Majors:**

|         |                                       |
|---------|---------------------------------------|
| ENENG   | Energy Engineering                    |
| ENVSE   | Environmental Systems Engineering     |
| MATSE   | Material Science and Engineering      |
| (PLMSE) | Polymer Science and Engineering       |
|         | Option of MATSE                       |
| MNG E   | Mining Engineering                    |
| PNG E   | Petroleum and Natural Gas Engineering |