Minimum Course Requirements for all Applicants depending on their area of specialization.

**GEOTECHNICAL, MATERIALS & CONSTRUCTION**

<table>
<thead>
<tr>
<th>Course Topics</th>
<th>Penn State Courses</th>
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| Advanced mathematics typical of engineering undergraduate programs (calculus through partial differential equations) | MATH 140 Calculus With Analytic Geometry  
MATH 141 Calculus With Analytic Geometry II  
MATH 251 Ordinary & Partial Differential Equations |
| One lecture course and one laboratory course in chemistry                    | CHEM 110 Chemical Principles  
CHEM 111 Experimental Chemistry                                          |
| One year of mechanics (statics and Strength of materials)                    | E MCH 211 Statics  
E MCH 213 Strength of Materials                                        |
| One course in fluid mechanics                                                | C E 360 Fluid Mechanics                                 |
| One introductory course each in geotechnical engineering, materials, and structures | C E 335 Engineering Mechanics of Soils  
C E 336 Materials Science for Civil Engineers  
C E 340 Structural Analysis                                                |
| Laboratory experience in soils and materials                                 | C E 337 Soils and Materials Laboratory                  |