<table>
<thead>
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<th>Attribute</th>
<th>Performance indicators</th>
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| **Knowledge Base** | 1a. Demonstrate understanding of concepts in mathematics  
1b. Demonstrate understanding of concepts in natural science  
1c. Demonstrate understanding of engineering fundamentals  
1d. Demonstrate understanding of specialized engineering knowledge |
| **Problem Analysis** | 2a. Formulate a problem statement  
2b. Develop models to solve engineering problems including identifying approximations, assumptions and constraints  
2c. Critically evaluate solutions of engineering problems |
| **Investigation** | 3a. Create investigative studies of complex engineering problems  
3b. Gather information from relevant sources to address complex engineering problems  
3c. Synthesize information from multiple sources to reach valid conclusions |
| **Design** | 4a. Define design requirements and specifications for complex, open-ended engineering problems  
4b. Critically evaluate and compare design choices  
4c. Generate and refine potential solutions to complex, open-ended design problems |
| **Use of Engineering Tools** | 5a. Select appropriate engineering tools, considering their limitations  
5b. Modify and/or create appropriate engineering tools, identifying their limitations  
5c. Use engineering tools appropriately |
| **Individual and Team Work** | 6a. Contribute as an active team member or leader to complete individual tasks  
6b. Collaborate with others to complete tasks effectively as a team |
| **Communication skills** | 7a. Orally present information within the profession and to society at large  
7b. Communicate in a written format within the profession and to society at large  
7c. Interpret information, including instructions |
| **Professionalism** | 8a. Articulate the roles and responsibilities of the professional engineer in society with reference to the protection of the public and its interest  
8b. Describe the importance of codes, standards, best practices, laws, and regulations within engineering |
| **Impact of Engineering** | 9a. Identify the relevance of and uncertainty associated with the different aspects (social, cultural, economic, health, safety, legal, environmental), of an engineering project  
9b. Analyze the social, health, safety, and environmental aspects of an engineering project, incorporating sustainability considerations and environmental stewardship in making decisions |
| **Ethics & Equity** | 10a. Identify ethical and unethical behavior in professional situations  
10b. Identify how an engineer is accountable to multiple stakeholders in engineering practice  
10c. Identify equitable and inequitable situations or behaviors |
| **Economics & Project Management** | 11a. Apply project management techniques and other business practices in engineering projects, with attention to risk and change  
11b. Perform economic analyses of engineering projects with attention to uncertainty and limitations |
| **Life-long Learning** | 12a. Identify gaps in their knowledge, skills and abilities  
12b. Obtain and evaluate information or training from appropriate sources  
12c. Reflect on the use of information or training received |

1. Identifying factors that affect a system, and planning studies/experiments to determine their relationships  
2. Experiments, field data, literature, and other sources  
3. The design process can be iterative and may require going back and forth between any of these performance indicators  
4. Including health and safety risks, applicable codes/standards, economic, environmental, cultural, and societal considerations as appropriate  
5. “Tools” is defined broadly, to include physical tools and to also include software, hardware, techniques  
6. A leader can lead by example, not necessarily in the leadership role  
7. Effective collaboration includes conflict management and fair distribution of tasks