Senior Design Project Title:

Supervisor:

**Table 1:Project Outline**

|  |  |
| --- | --- |
| Introduction |  |
| Problem Statement |  |
| Objectives |  |
| Methodology |  |
| Conclusions/Deliverables |  |

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**Knowledge Profile**

**Table2: Knowledge profile**

|  |  |  |
| --- | --- | --- |
| **SNO** | **Knowledge** | **Check** |
| **1** | **WK1:** A systematic, theory-based understanding of the **natural sciences** applicable to the discipline |  |
| **2** | **WK2:** Conceptually-based **mathematics**, numerical analysis, statistics and formal aspects of computer and information science to support analysis and modelling applicable to the discipline |  |
| **3** | **WK3:** A systematic, theory-based formulation of **engineering fundamentals** required in the engineering discipline |  |
| **4** | **WK4:** Engineering **specialist knowledge** that provides theoretical frameworks and bodies of knowledge for the accepted practice areas in the engineering discipline; much is at the forefront of the discipline. |  |
| **5** | **WK5:** Knowledge that supports **engineering design** in a practice area |  |
| **6** | **WK6:** Knowledge of **engineering practice** (technology) in the practice areas in the engineering discipline |  |
| **7** | **WK7: Comprehension of** the role of engineering in society and identified issues in engineering practice in the discipline: ethics and the professional responsibility of an engineer to public safety; the impacts of engineering activity: economic, social, cultural, environmental and sustainability |  |
| **8** | **WK8:** Engagement with selected knowledge in the **research literature** of the discipline |  |

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Range of Complex Engineering Activities:

Complex activities mean (engineering) activities or projects that have some or all of the following characteristics:

**Table3: Complex Engineering Activates**

|  |  |  |
| --- | --- | --- |
| **SNO** | **Attributes** | **Check** |
| **1** | Range of resources (EA1) |  |
| **2** | Level of interactions(EA2) |  |
| **3** | Innovation(EA3) |  |
| **4** | Consequences to society and the environment(EA4) |  |
| **5** | Familiarity(EA5) |  |

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**Justification of the Project as Complex Engineering Problem Solving:**

Constraints:

**Table 4: Complex Engineering Problem Attributes**

|  |  |  |
| --- | --- | --- |
| **SNO** | **Complex Attributes** | **Check** |
| 1 | Depth of Knowledge (WP1) |  |
| 2 | Range of Conflicting Requirements (WP2) |  |
| 3 | Depth of Analysis Required(WP3) |  |
| 4 | Familiarity of Issues (WP4) |  |
| 5 | Extent of Applicable Codes(WP5) |  |
| 6 | Extent of Stakeholder involvement and level of conflicting requirements (WP6) |  |
| 7 | Interdependence (WP7) |  |
| 8 | Consequences (EP1) |  |
| 9 | Judgment (EP2) |  |

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