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| |  |  | | --- | --- | | **Student Name:** |  | | **Major:** |  | | **Senior Design Semester:** |  | | **Team:** |  | | **Project:** |  |   **Requirements Checklist**  To be completed by the student and verified by the TA:   |  |  | | --- | --- | | Individual Requirements: | | | \_\_­\_\_/16 | Lab Attendance | | \_\_­­\_\_/ 5 or 10 | Professional Development Hours | | □ | Mandatory Senior Design Meeting | | □ | Peer Review - Midterm | | □ | Peer Review - Final | | □ | Project Proposal (1st semester/490 SD students) | | □ | Project Description (2nd semester/490 SD students) | | □ | Final Reflection (2nd semester/490 SD students) | | □ | Demo (2nd semester/490 SD students) | | Team Requirements: | | | □ | Design Document - Midterm | | □ | Project Evaluation Rubric - Midterm | | □ | Design Document - Final | | □ | Project Evaluation Rubric - Final | | □ | Transition Document | | **Grading Guidelines:**  Must satisfy all requirements of a grade level to achieve that grade.  Grade level indicated is for base grade, and +/- modifiers will be added as appropriate.  **A:**   * Receive at least 90% for Senior Design outcomes * No unexcused absences from lab and attended mandatory SD meeting * Team and individual requirements complete * All Professional Development Hours (PDH) complete   **B:**   * Receive at least 80% for Senior Design outcomes * No more than one unexcused absences from lab and attended mandatory SD meeting * Team and individual requirements complete * All Professional Development Hours (PDH) complete   C:   * Receive at least 70% for Senior Design outcomes * No more than two unexcused absences from lab and attended mandatory SD meeting * More than half of the team and individual requirements complete * At least 60% of the PDH hours completed   D:   * Receive at least 60% for Senior Design outcomes and must have at least “adequate/acceptable” for each outcome * No more than three unexcused absences from lab and attended mandatory SD meeting * At least 40% of the PDH hours completed   F:   * Fails to meet minimum requirements for a D   **Student’s Comments:**   |  | | --- | | **Signature:** |   **Instructor’s Comments:**   |  | | --- | | **Signature:** | |

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| **Outcomes** | **Indicators**  (rate each indicator on a scale from 1 to 4, where 4 is “Excellent”, 3 is “Good”, 2 is “Adequate/Acceptable”, and 1 is “Inadequate/Unacceptable”) | **Rating** |
| **Product Design**  i. An ability to apply engineering design to create a product[[1]](#footnote-1) that meets the specified needs of this engineering design experience with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.  Evaluated: Demo, Project Proposal/Project Description, Design Notebook, Project Documentation  Grade factor: 30% | Student was proficient at applying engineering design processes to create the product resulting from this senior design experience. |  |
| Careful consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors was evident. |  |
| **Testing and Analysis**  ii. An abilitiy to develop and conduct experimentation, analyze and interpret data, and use engineering judgment to draw conclusions related to the development of the product of this engineering design experience.  Evaluated: Demo, Project Proposal/Project Description, Design Notebook, Project Documentation  Grade factor: 15% | Student demonstrated a strong ability to develop and conduct experimentation, analyze and interpret data in the context of this senior design experience. |  |
| Student demonstrated sound engineering judgment to draw conclusions related to the development of the product of this senior design experience. |  |
| **Problem Solving**  iii. An ability to identify, formulate, and solve complex engineering problems arising from this engineering design experience by applying principles of engineering, science, and mathematics.  Evaluated: Demo, Project Proposal/Project Description, Design Notebook, Project Documentation  Grade factor: 15% | This design experience contained elements associated with complex engineering problems (see definitions). |  |
| Student demonstrated ability to apply principles of engineering, science, and mathematics in the context of this senior design experience. |  |
| **Teamwork and Leadership**  iv. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives associated with this design experience.  Evaluated: Team observation, peer reviews  Grade factor: 10% | Student demonstrated leadership. |  |
| Student contributed to creating a collaborative and inclusive environment. |  |
| Student fully participated in establishing team goals, planning tasks, meeting objectives. |  |
| **Communication**  v. An ability to communicate effectively with a range of audiences appropriate to this design experience in both a written report and oral presentation.  Evaluated: Written and verbal communication in team observation, design reviews, Design Document, peer reviews  Grade factor: 10% | The quality of the student's contributions to the written report(s) associated with this senior design experience was excellent. |  |
| Student demonstrated effective oral presentation skills. |  |
| **New Knowledge**  vi. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies to complete the engineering design experience associated with this course.  Evaluated: Project Description, Design Notebook  Grade factor: 10% | Student demonstrated an ability to acquire and apply new knowledge as needed, using appropriate learning strategies to complete the product of this senior design experience. |  |
| **Ethical and Social Responsibility**  vii. An ability to recognize ethical and professional responsibilities associated with this engineering design experience and make informed judgments which must consider the impact of the product of this engineering design experience, in global, economic, environmental, and societal contexts.  Evaluated: Project Description, Reflections  Grade factor: 10% | Student demonstrated an ability to recognize ethical and professional responsibilities associated with this engineering design experience. |  |
| Student demonstrated an ability to make informed judgements in the context of this senior design experience. |  |
| Careful consideration of the impact of the product of this senior design experience in global, economic, environmental, and societal contexts was evident. |  |

1. “Product” refers to any device, system, process, software, etc. resulting from this design experience. [↑](#footnote-ref-1)