**Kuwait University**

**College of Engineering and Petroleum**

**Rubric for Student Outcome 6 (SO6)**

**SO6:** *an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.*

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| **Performance indicator** | **4 (Exemplary)** | **3 (Proficient)** | **2 (Developing)** | **1 (Beginning)** | **Weight** | **Score** |
| **General Format of Report, Table of Contents, List of Tables and Figures, Nomenclature and Appendix** | * **Complete** list of all figures, tables and nomenclature in a logical sequence. * Well-organized report showing a good flow of information that is **easy to follow**. | * Complete list of all figures, tables and nomenclature but **not** presented in a **logical sequence**. * Well-organized report showing a good flow of information but with **slight difficulty to follow.** | * Incomplete list of figures and tables and nomenclature with **minor items missing.** * Poorly organized report with **some** significant information missing. | * Incomplete list of figures and tables and nomenclature with **major items missing.** * Poorly organized report with **major** significant information missing. |  |  |
| **Abstract, Introduction, Objectives, Background and Theory** | * **Well written** concise abstract in past tense and passive voice, using students’ own wording and covers all key components. * Clear referencing to all major theoretical aspects that introduce the experiment topic and shows full understanding of the purpose of the experiment without copying sentences. * All objectives stated **clearly**. * Detailed description of background theory with clear explanation of formula usage and well-defined terminology and figures. | * **Well written** concise abstract in past tense and passive voice, using students’ own wording but missing some **minor** components. * Clear referencing to mostmajor theoretical aspects that introduce the experiment topic and shows some understanding of the purpose of the experiment without copying sentences. * All objectives stated but **unclear**. * Description of background theory included but with an unclear explanation of formula usage and terminology and figures. | * **Unclear** abstract missing **major** key components with **some grammatical errors.** * Unclear introduction referencing sometheoretical aspects but shows poor understanding of the purpose of the experiment. * Some objectives are **missing**. * Background theory missing some figures, formulae and definitions with some flaws in organization. | * **Unclear** Abstract missing **major** key components and full of **grammatical errors.** * Unclear introduction missing many major theoretical aspects and shows no understanding of the purpose of the experiment. * Most objectives are **missing** and those included are **unclear**. * Background theory missing many figures, formulae and definitions and is not well organized. |  |  |
| **Experiment Set Up** | * **Complete** list of materials included. * Sample preparation well described, as applicable. * Complete list of apparatus included. * Clear understanding of methodology and description of experimental procedure that acknowledges any discrepancies. | * List of materials **missing some** items. * Sample preparation vaguely described, as applicable. * List of apparatus missing some major items. * Limited understanding of methodology and description of experimental procedure. | * List of materials **missing many** items. * Sample preparation poorly described, as applicable. * List of apparatus missing many major items. * Basic understanding of methodology and description of experimental procedure. | * List of materials **missing most** items. * Sample preparation not described although applicable. * List of apparatus missing most major items. * Poor understanding of methodology and description of experimental procedure. |  |  |
| **Data Collection, Analysis, Sample of Calculations and Results** | * **Correct** data presentation in both tabular and graphical format, as applicable. * Correct calculations were performed. * Detailed and in-depth analysis of data provided. | * **Correct** data presentation in both tabular and graphical format, as applicable with **minor** flaws. * Calculations were performed with one major calculation error. * Fairly detailed and in-depth analysis of data provided. | * **Correct** data presentation in both tabular and graphical format, as applicable with **major** flaws. * Calculations were performed with more than one major calculation error. * Some analysis of data provided but with no in-depth. | * **Incorrect** data presentation in both tabular and graphical format, as applicable. * Incorrect calculations were performed showing incorrect understanding of the theory. * Poor analysis of data provided. |  |  |
| **Discussion and Conclusions.** | * Experimental results compare **very well** with theory. * All important trends and data patterns are correctly interpreted and discussed with reference to the experimental results. * Excellent understanding of results is conveyed through sound conclusions. | * Experimental results compare **well** with theory. * Almost all important trends and data patterns are correctly interpreted and discussed with reference to the experimental results. * Good understanding of results is conveyed through thorough conclusions. | * Experimental results compare **fairly well** with theory. * Some important trends and data patterns are correctly interpreted and discussed with reference to the experimental results. * Average understanding of results is conveyed through average conclusions. | * Experimental results compare **poorly** with theory. * Important trends and data patterns are incorrectly interpreted and discussed with reference to the experimental results. * Poor understanding of results is conveyed through incorrect conclusions. |  |  |
| **References** | * **All** required references cited in appropriate citation style. * All figures and tables are correctly referenced in text. | * **Almost all** required references cited in appropriate citation style. * Almost all figures and tables are correctly referenced in text. | * **Some** required references cited in appropriate citation style. * Some figures and tables are correctly referenced in text. | * Most required references **not** cited in appropriate citation style. * Most figures and tables are incorrectly referenced in text. |  |  |

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