**Research Syllabus - Fall**

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| Syllabus: | Due Date: |  |
| Research proposal (5%) |  | (by the end of Sept) |
| Introduction (10%) |  | (By the end of Oct) |
| Working Setup and Data "show and tell day" (10%) |  | (The day before Thanksgiving) |
| Research defense (5%) |  | (around 2 weeks before the end of the semester) |
| Final Paper (70%) |  | (Same as above) |

**The first two will not be accepted late (Proposal and Intro)**

Introduction

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| A good introduction includes •**background information** about your topic logically organized from broad to narrow (with citations), a concise •**description of the question** (with •defined variables) you are answering accompanied with your •**hypothesis**, (with •defined variables) and a •**bibliography** with at least five sources. Use your favorite method of citation and bibliography entry | 10 |
| You are missing any one bulleted item above, or have done a less than serious job on two. | 8 |
| You are missing any two bulleted items above, or have done a less than serious job on three. | 6 |
| You are missing any three bulleted items above, or have done a less than serious job on four or more. | 3 |
| Your summary **is not word processed**, or you fail to meet any descriptor above | 0 |

Working Setup/Data

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| The setup is complete and you are ready to take data. You have taken and analyzed data. | 10 |
| The setup is complete. You have taken and analyzed some incomplete data. | 8 |
| The setup is still in progress, but there are a few minor problems to be solved.. You have taken and analyzed some preliminary data. | 6 |
| **No or insufficient preliminary data has been taken.** You have tried few preliminary trials, but have made little progress toward the final experimental setup | 4 |
| You have made no progress toward an actual experimental setup | 0 |

Your Paper (70%) will be graded according to these criteria: (These are out of 24 as per IB)

**IA marks:**

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|  | **Personal engagement:**  **1** - Limited independence, little personal interest, personal input and initiative  **2** - Clear independence, justification shows personal significance, personal initiative |
|  | **Exploration:**  **1-2** - question is stated but not focused, background superficial, methodology is limited, limited awareness of safety, ethical and environmental issues  **3-4** - question is not fully focused, background is mainly relevant, methodology takes into consideration many important factors, some awareness of safety, ethical and environmental issues  **5-6** - question is relevant and fully focused, background is entirely appropriate and relevant, methodology highly appropriate and factors in nearly all relevant issues that may influence data, full awareness of ethical, safety, and environmental issues. |
|  | **Analysis:**  **1-2** - insufficient relevant raw data to support conclusion, basic data processing is inaccurate or insufficient, little consideration of uncertainty, incorrect or insufficient interpretation of data  **3-4** - relevant but incomplete raw data, appropriate and sufficient data processing, with significant inaccuracies and inconsistencies in processing, some evidence of uncertainty analysis, broad interpretation of the data to a limited conclusion of the research question  **5-6** - sufficient data supports a detailed and valid conclusion, accurate, consistent and appropriate data processing is carried out, full analysis of the uncertainty, and correct interpretation leads to a detailed conclusion |
|  | **Evaluation:**  **1-2** - only an outline of a conclusion/irrelevant conclusion, superficial comparison to scientific context, weaknesses are outlined but restricted to procedural and practical, few relevant suggestions for improvement  **3-4** - conclusion is described and relevant, makes some relevant comparison to scientific context, weaknesses are described and there is some awareness of methodological issues, some relevant suggestions for improvement  **5-6** - conclusion is described, justified and entirely relevant. relevant comparison to accepted scientific context, weaknesses are discussed with a clear understanding of the methodological issues. Discussion of relevant improvements. |
|  | **Communication:**  **1-2** - presentation is unclear, difficult to understand, not well structured, process and outcomes are missing or incoherent, understanding of the focus, process and outcomes is obscured by irrelevant information, errors in terminology and conventions  **3-4** - presentation is clear, errors do not hamper understanding, well structured, consistent and coherent. report is relevant and concise and facilitates understanding of focus, appropriate and correct use of terminology and conventions |