

Course Outline for OCES 4964 - Ocean Science and Technology Capstone Project Research

Course description: OCES4964 serves as the basic research training in an area of ocean science provided by the BSc Ocean Science and Technology. Students are required to conduct a literature review or research project under the supervision of a faculty member, and to submit a written report and give an oral presentation.

OCES 4964 offers a series of literature review based research project on the below listed topics under the supervision of OCES faculties. This research project involves literature search, scientific readings, organization and summary of scientific contents in specific science topic, and presenting the key findings in both written and oral formats. Upon completion of the study, students are required to submit a written project report and give an oral presentation of their findings.

OCES 4964 intended learning outcomes:

1. Understand the current and emerging topics in ocean science and technology
2. Interpret and critically analyze scientific data, and draw conclusions from literature review or research project.
3. Integrate learnt knowledge and effectively communicate related knowledge through oral and written formats
4. Work independently and/or collaborate effectively in team work
5. Self-evaluate their own learning process, and develop motivation and skills for life-long learning.

Course Assessment:

1. Individual project report **(55%)**
2. Individual oral presentation of the project findings **(35%)**
 - Presentation time: Each student 10 min + 5 min Q&A
3. Continuous assessment **(10%)**

**OCES 4964 - Ocean Science and Technology Capstone Project Research
Course Rubrics**

Assessment Criteria	Exemplary (4-5)	Satisfactory (2-3)	Unacceptable (1)
Individual Report (55%)			
<u>Literature Searches</u> <ul style="list-style-type: none"> • <i>Basic Literature Searches</i> • <i>Identification & Utilization of Scientific materials</i> • <i>Usage of Cited References</i> 	<ul style="list-style-type: none"> • Demonstrated in-depth & effective searches of literature with all being specific and relevant to the background of the topic • Exhibited effective use of a wide range of scientific media including scientific database, broad-based websites & published articles in scientific journals • Used cited reference search effectively to support scientific arguments/ assertions 	<ul style="list-style-type: none"> • Demonstrated basic searches of literature with some being irrelevant to the background of the topic • Exhibited use of a range of scientific media including textbooks, specific websites & reviewed articles • Used cited reference search to support scientific evidence 	<ul style="list-style-type: none"> • Demonstrated a lack of ability in basic searches of literature being largely inappropriate and irrelevant to the background of the topic • Exhibited use of a limited range of scientific media such as textbooks, lecture notes and outdated websites • Seldom used cited reference search or failed to use appropriately to support scientific evidence
<u>Extraction, analysis and summary of key topic Content</u> <ul style="list-style-type: none"> • <i>Analysis and Integration of topic information</i> • <i>Summary of Key Findings</i> 	<ul style="list-style-type: none"> • Demonstrated comprehensive analysis of reading materials and excellent integration of the information into tables and graphs to illustrate the key findings • Summarized key findings into a well-organized synthesis of ideas, concepts and recommendations for the further study of the topic 	<ul style="list-style-type: none"> • Demonstrated analysis of reading materials, and organization and presentation of the information • Provided part of key findings with some ideas, concepts and recommendations in the report which helps to understand the topic 	<ul style="list-style-type: none"> • Not enough analysis of reading materials and integration of the information • Failed to provide summary of key findings of the topic in the report
<u>Writing Style & Referencing</u> <ul style="list-style-type: none"> • <i>Complexity and higher order thinking</i> • <i>Relevancy</i> • <i>Synthesis & Integration of Scientific Information</i> 	<ul style="list-style-type: none"> • Higher-order thinking skills to explain complexity that is understandable and relatable to the topic • Referencing is well-managed. Most citations (including in-text citations and end-of-paper reference list) are of high relevancy and written effectively 	<ul style="list-style-type: none"> • Some of the significance of complex ideas were explained and most sources were related to the topic, though a limited amount of irrelevant sources were found • Referencing is satisfactory in general. Citations contain errors and inconsistencies, and not all are relevant. The end-of-report reference list is acceptable, with a few errors and inconsistencies 	<ul style="list-style-type: none"> • Failed to explain the complexity and most or all sources were unrelated to the topic • Referencing is poorly-managed and referencing guidance is not followed. Most citations are missing with obvious plagiarism in text. The reference list contains many errors and inconsistencies.

Assessment Criteria	Exemplary (4-5)	Satisfactory (2-3)	Unacceptable (1)
<u>Plagiarism</u> <ul style="list-style-type: none"> Academic Integrity 	<ul style="list-style-type: none"> Part of the writing content were similar with the internets, websites and academic journals (less than 10% similarity checked under turnitin) 	<ul style="list-style-type: none"> Some of the writing content were extracted from the internets, websites and academic journals (10 – 30% similarity checked under turnitin) 	<ul style="list-style-type: none"> Most of the writing content were extracted from the internets, websites and academic journals (over 30% similarity checked under turnitin)
Individual oral presentation (35%)			
<u>Presentation Skills</u> <ul style="list-style-type: none"> Knowledge Summary of Key Findings Organization Time Management Q & A session 	<ul style="list-style-type: none"> Presented flawless report of details logically organized in accordance to the guidelines given Demonstrated a summary of key findings and conclusions in the presentation Figures and graphs are well-presented and integrated from relevant sources Managed to finish presentation within the given time 	<ul style="list-style-type: none"> Presented report with insufficient evidence and synthesis of information but was coherent in general Demonstrated part of the findings and conclusions in the presentation Figures and graphs are presented and integrated with some inappropriate sources Finish presentation with just or a minute more than required 	<ul style="list-style-type: none"> Presented a poorly written report with very little information in all aspects of presentation Failed to demonstrate a summary of key findings and conclusions in the presentation Figures and graphs are poorly presented and extracted from inappropriate sources Could not finish presentation on time or required a last minute to wrap up the presentation
Continuous assessment (10%)			
<u>Meeting with Faculty</u> <ul style="list-style-type: none"> Frequency Workload 	<ul style="list-style-type: none"> Managed to meet regularly with faculty at least twice per month for progress discussion and paper writing Submitted the project outline before paper writing, and regularly sent the most-up-to-date draft of writing to the faculty for comments and discussion 	<ul style="list-style-type: none"> Meet with faculty once per month for progress discussion and paper writing Submitted the project outline upon request before paper writing, and sent a few version of draft to the faculty for comments 	<ul style="list-style-type: none"> Seldom to meet with faculty (or even could not show up) for progress discussion Never submitted the project outline and the draft of writing to the faculty for comments