

Subject Description Form

Subject Code	ABCT4652
Subject Title	Capstone Project
Credit Value	3
Level	4
Co-requisite	All level 3 core subjects.
Objectives	The capstone project is related to the programme of study covered by the Course. The aims of the research project are to promote independent and creative thinking, and to train students to develop the academic and practical skills to define, investigate, analyses and solve a scientific/technical problem. The project may involve a theoretical and/or experimental investigation of a fundamental or practical problem in analytical sciences.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. conduct thorough literature search and critically assess the information; b. demonstrate the ability to carry out research work independently; c. identify, formulate and solve a research problem; d. generate hypothesis, design and conduct studies as well as to critically analyze and interpret data, and draw significant conclusions; e. manage and organize time efficiently; f. write research report and present results orally in an effective, skilful and professional manner.
Subject Synopsis/ Indicative Syllabus	Project could be an experimental investigation of the identity and quantity of a selected target in real sample matrix. The detailed theory, methodology and experimental procedure will be proposed by student. Analytical data collected by the student will be processed and presented in form of oral presentation and final report. Students can benefit greatly from problems/investigations in the real-world situations
Teaching/Learning Methodology	Students are required to form a group and work on the group project under a supervisor, who is normally a member of the academic staff. With guidance from the project supervisor, each group of students is going to choose and propose their own project theme. The supervisor's major role is to provide advice and guidance to the student throughout the development of the project. Project could be an experimental investigation of the identity and quantity of a selected target in real sample matrix. The detailed theory, methodology and experimental procedure will be proposed by each student group. Analytical data collected by the students will be processed and presented in form of oral presentation and individual final report. Students can benefit greatly from problems/investigations in the real-world situations.

Assessment Methods in Alignment with Intended Learning Outcomes	Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)					
			a	b	c	d	e	f
	1. Project preparation and efficient planning, organization, approach and execution of the project	10	✓	✓	✓		✓	
2. Project outcomes: originality and significance of work; knowledge and understanding of work; execution of methods; results and data analysis; interpretation of results and conclusions	60	✓	✓	✓	✓		✓	
3. Written report (organization, style, clarity, fluency, effectiveness, grammar and spelling)	10	✓	✓	✓	✓		✓	
4. Oral presentation and response to questions	20	✓	✓	✓	✓		✓	
Total	100 %							
<p>Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:</p> <p>The performance of the student will be assessed during the course of the research project. The project is assessed by the approach of work, achievement of proposed objectives, planning and execution of work, quality of research results, interpretation and analysis of results and presentation of results. The student's ability to write research report and present results orally in an effective manner will be assessed based on the final written report and oral presentation.</p>								
Student Study Effort Expected	Class contact:							
	<ul style="list-style-type: none"> ▪ Guided Study 						10 Hrs.	
	Other student study effort:							

	<ul style="list-style-type: none"> ▪ Literature review 	20 Hrs.
	<ul style="list-style-type: none"> ▪ Independent Theoretical and/or Laboratory Investigation 	50 Hrs.
	<ul style="list-style-type: none"> ▪ Writing proposal and final report 	20 Hrs.
	<ul style="list-style-type: none"> ▪ Preparing presentation 	20 Hrs.
	<ul style="list-style-type: none"> ▪ Compulsory seminars (industry or academia) / Career talks and reflective writing about the programme study 	4 Hrs
	Total student study effort	124 Hrs.
Reading List and References	Related books, international standard methods and journal articles	