

Subject Description Form

Subject Code	ABCT4633
Subject Title	Quality Management and Laboratory Accreditation
Credit Value	3
Level	4
Pre-requisite	Metrology and Calibration
Objectives	This subject aims at providing students with comprehensive knowledge of the fundamentals of quality management and its application to testing laboratory in developing a management system for quality, administrative and technical operations, as well as introducing the accreditation of laboratory management system in conformity with international standard.
Intended Learning Outcomes	<p>Upon completion of the subject, students will be able to:</p> <ol style="list-style-type: none"> a. demonstrate a thorough understanding of the fundamental principles of quality management and requirements of a quality management system in an organization; b. recognize the requirements for developing and maintaining a management system for quality, administrative and technical operations in a testing laboratory; c. understand the process of accreditation of the laboratory management system by the local authority; d. develop teamwork and communication skills.
Subject Synopsis/ Indicative Syllabus	<p><u>Quality Management System</u></p> <ul style="list-style-type: none"> • ISO 9001 international standard on quality management systems • Quality management principles • Management requirements <p><u>Laboratory Management System</u></p> <ul style="list-style-type: none"> • ISO/IEC 17025 international standard on laboratory management system • Management and technical requirements <p><u>Laboratory Accreditation</u></p> <ul style="list-style-type: none"> • International Laboratory Accreditation Cooperation (ILAC) and Hong Kong Laboratory Accreditation Scheme (HOKLAS) • HOKLAS general requirements and supplementary criteria • Laboratory accreditation process
Teaching/Learning Methodology	<p>Lectures will provide students with the basis of quality management and for operating a testing laboratory.</p> <p>Tutorials are designed to provide the forum for group discussion and problem based learning on the subject materials.</p> <p>Students will also be required to work on group projects on selected requirements of the international standards.</p>

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	
	1. Quiz	20	✓	✓	✓		
	2. Group project	40	✓	✓	✓	✓	
	3. Examination	40	✓	✓	✓		
Total	100 %						
	<p>Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:</p> <p>All assessment methods are used to assess the students' understanding of the subject materials, while group project is also used to assess teamwork and communication skills.</p>						
Student Study Effort Expected	Class contact:						
	▪ Lecture		33 Hrs.				
	▪ Tutorial		6 Hrs.				
	Other student study effort:						
	▪ Group project		20 Hrs.				
	▪ Self-study		48 Hrs.				
	Total student study effort		107 Hrs.				
Reading List and References	<p>ISO 9001:2015 Quality Management Systems-Requirements, 2015 ISO Tricker R., ISO 9001:2015 in brief, 4th ed., 2016 Routledge Tricker R., ISO 9001:2015 Audit Procedure, 4th ed., 2016 Routledge</p> <p>ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories, 2005 ISO</p> <p>Regulation for HKAS accreditation (HKAS 002), latest version, HKSAR HKAS Supplementary Criteria (SC 01 – SC 06), latest version, HKSAR HOKLAS General Document (HOKLAS 003:2015) and Supplementary criteria (HOKLAS SC-01, SC-05, SC-06, SC-08, SC-09, SC-20)</p>						