Subject Description Form

Subject Code	COMP3422
Subject Title	Creative Digital Media Design
Credit Value	3
Level	3
Pre-requisite / Co-requisite / Exclusion	**Pre-requisite**: COMP2011
Objectives	The objectives of this subject are to: • provide the foundation knowledge of multimedia computing, e.g. media characteristics, compression standards, multimedia representation, data formats, multimedia technology development; • provide intuitive experience of multimedia computing, multimedia system design and implementations; and • provide basic idea and training of creative media design and system implementation.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: *Professional/academic knowledge and skills* (a) understand the characteristics of different media; understand the representations of different multimedia data; understand different data formats; be able to take into considerations in multimedia system designs; (b) understand the characteristics of human information processing, including processing, perception and cognition, and to be able to take into considerations in multimedia techniques design and implementation; (c) understand different methods and techniques in storing, processing and analysing multimedia content and be able to design and develop multimedia systems according to the requirements of multimedia applications; (d) program multimedia data and be able to design and implement media applications; and (e) understand the basic idea and principle of creative media design and system implementation. *Attributes for all-roundedness* (f) learn independently and search for the information required in solving problems.

Subject Synopsis/ Indicative Syllabus	Topic
	1. Overview of Multimedia Computing Definitions, terms, terminologies, characteristics and requirements of different media; components of multimedia systems.
	2. Human Information Processing Characteristics and limitations of human visual, audio and haptic system, human perception and cognition.
	3. Multimedia Data Representation, Compression and Storage Representation of sound/audio, image and video; compression principles; entropy and hybrid coding; compression standards.
	4. Multimedia Coding, Analysis and Compression Coding requirements; speech generation, analysis and software; image analysis, display, and printing.
	5. Developments in Multimedia Technology Multimedia history, technology development, challenging problems, current research topics, multimedia industry.

Teaching/ Learning Methodology	A mix of lectures and lab sessions is used to deliver the various topics in this subject. Lectures are conducted to initiate students with the concepts and techniques of multimedia computing that are reinforced by in-class exercises and quizzes. Lab sessions will be used to illustrate the practical problems and to train multimedia design ability. Students are given the opportunity to gain hands-on experience on designing and implementing a multimedia application.

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
Continuous Assessment	**55%**	✓	✓	✓	✓	✓	✓
Examination	**45%**	✓	✓	✓		✓	✓
Total	100%						

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

Continuous assessments consist of project, quizzes and/or midterms, which are designed to facilitate students to achieve intended learning outcomes. The quizzes are designed to drive students to review how comprehensively and correctly they have understood the knowledge concepts, principles, and theories taught in the subject. The project is designed to enhance students' ability to acquire the understanding and using different multimedia computing principles, techniques, tools to solve a real problem.

	Examination will evaluate student's understanding and usage of multimedia computing knowledge, e.g. concepts, principles, techniques, and standards.	
Student Study Effort Expected	Class contact:	
	▪ Lecture	26 Hrs.
	▪ Tutorial/Lab	13 Hrs.
	Other student study effort:	
	▪ Prepare for Quizzes and Exam	30 Hrs.
	▪ Project Work	37 Hrs.
	Total student study effort	106 Hrs.
Reading List and References	**Textbook:** 1. Friedland, Gerald and Jain, Ramesh, *Multimedia Computing,* Cambridge University Press, 2014. **References:** 1. Proceedings of ACM Multimedia (ACMMM) 2. ACM Transactions on Multimedia Computing, Communications and Applications (ACM TOMM) 3. IEEE Transactions on Affective Computing (IEEE TAC) 4. Relevant articles from other conferences and/or journals	