



UNIVERSITI TEKNOLOGI MARA

MUT165: MUSICAL ACOUSTICS

Course Name (English)	MUSICAL ACOUSTICS APPROVED
Course Code	MUT165
MQF Credit	2
Course Description	This course provides students with principle knowledge and application of musical acoustics in digital audio music production including acoustics environment design. Students will be assessed through case study and inquiry-based learning which emphasizes on information retrieval and management skills (MQA LOD7) including knowledge (MQA LOD1) and application (MQA LOD2) skills. At the end of the course students are able to retrieve necessary information which will be applied in their task, describe musical acoustics terminologies and apply musical acoustics knowledge in live and studio production venues based on the musical aesthetic demand.
Transferable Skills	Problem Solving Analytical Reasoning Critical Thinking Leadership Adaptability Teamwork Communication Writing
Teaching Methodologies	Lectures, Blended Learning, Inquiry-based Learning, Demonstrations, Tutorial, Web Based Learning, Simulation Activity, Presentation, Workshop, Small Group Sessions , Directed Self-learning , Computer Aided Learning, Industrial Talk
CLO	CLO1 Describe the music instruments sound properties and its sound production mechanism. (C2) CLO2 Calculate basic acoustics parameters in a musical production environment. (C3) CLO3 Explain musical aesthetic values of musical acoustics in digital audio production. (A4)
Pre-Requisite Courses	No course recommendations
Topics	
1. Course Introduction 1.1) N/A	
2. Sound and Human Hearing 2.1) N/A	
3. Human Hearing Perceptions and Musical Tunings 3.1) N/A	
4. Percussion Instruments: Membranophone 4.1) N/A	
5. Percussion Instruments: Idiophone 5.1) N/A	
6. String Instruments: Chordophone 6.1) N/A	
7. Wind Instruments: Aerophone 7.1) N/A	
8. Electronic Instruments: Electrophone 8.1) N/A	

9. Psychoacoustics: Field Image and Loudness 9.1) N/A
10. Music Venues: Sound Reflection and Reverberation Time 10.1) N/A
11. Music Venues: Sound Absorption 11.1) N/A
12. Music Venues: Sound Diffusion 12.1) N/A
13. Music Venues: Sound Isolation and Directed Projection 13.1) N/A
14. Final Project Presentation 14.1) N/A

Assessment Breakdown		%		
Continuous Assessment		100.00%		
Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Assignment	n/a	10%	CLO1
	Final Project	n/a	40%	CLO3
	Lab Exercise	n/a	50%	CLO2
Reading List	Recommended Text	<ul style="list-style-type: none"> William M. Hartmann 2013, <i>Principles of Musical Acoustics</i>, Springer [ISBN: 9781461467854] 		
	Reference Book Resources	<ul style="list-style-type: none"> Donald E. Hall 2002, <i>Musical Acoustics</i>, Cengage Learning [ISBN: 9780534377281] R. J. Peters (Ph. D.), Brian John Smith, Margaret Hollins 2011, <i>Acoustics and Noise Control</i>, Prentice Hall [ISBN: 9780273724681] Harvey E. White, Donald H. White 2014, <i>Physics and Music</i>, Courier Corporation [ISBN: 9780486779348] Arthur H. Benade 1990, <i>Fundamentals of Musical Acoustics</i>, Courier Corporation [ISBN: 9780486264844] 		
Article/Paper List	This Course does not have any article/paper resources			
Other References	This Course does not have any other resources			