

COURSE INFORMATION

Department/ Faculty:	Pusat Kursus Kokurikulum dan Pembelajaran Servis (CCSL), Universiti Teknologi Malaysia	Page:	1 of 6
Course code:	UKQA 2132	Academic Session/Semester:	201718/1
Course name:	Teknologi Dron	Pre/co requisite (course name and code, if applicable):	Null
Credit hours:	2		

Course synopsis	<p>Seiring dengan perkembangan revolusi industri 4.0 dan cabaran-cabaran yang bakal dihadapi oleh negara kita, maka kursus ini bertujuan untuk mempersiapkan para mahasiswa UTM dengan pemahaman dan kemahiran berkaitan dron. Pelajar akan didedahkan secara teknikal kepada teknologi dron dan penggunaannya dalam membantu menyelesaikan masalah dalam masyarakat. Kursus ini secara khususnya adalah untuk membina kemahiran bekerja secara berkumpulan dan kepimpinan, kemahiran <i>adaptability</i>, pembelajaran sepanjang hayat dan kemahiran beretika. Kesemua kemahiran ini akan dibina melalui tugas dan aktiviti-aktiviti yang ditetapkan di dalam kursus ini.</p> <p>Kemahiran bekerja secara berkumpulan, kepimpinan dan kesarjanaan diukur melalui projek <i>hands-on</i> dalam pembinaan dan pengaturcaraan dron di mana pelajar perlu memasang dan membina sebuah dron yang dapat berfungsi dengan baik. Kursus ini juga menerapkan <i>experiential learning</i> melalui program pembelajaran servis. Pelajar akan memindahkan ilmu yang telah dipelajari kepada komuniti melalui aktiviti yang dijalankan. Semua ini akan dilakukan dengan mengikuti peraturan dan etika professional yang perlu diamalkan ketika mengendalikan pembelajaran servis dan dron bagi memastikan aspek keselamatan terjaga.</p>			
Course coordinator (if applicable)	Null			
Course lecturer(s)	Name	Office	Contact no.	E-mail
	Dr Jaysuman Bin Pusppanathan		5	jaysuman@utm.my
Lecturer Assistant				

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Name: Dr Jaysuman Bin Pusppanathan	Name: PM Dr Mohd Shafry bin Rahim
Signature:	Signature:
Date:	Date:

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Mapping of the Course Learning Outcomes (CLO) to the Programme Learning Outcomes (PLO), Teaching & Learning (T&L) methods and Assessment methods:

No.	CLO	PLO (ICGPA CODE)	Weight (%)	*Taxonomies and **generic skills	T&L methods	***Assessment methods
CLO1	Mengaitkan ilmu, aplikasi dan tren terkini dalam teknologi dron kepada keperluan masyarakat.	SC	20	C6 SC1,SC2,SC3	Kuliah dan Pembelajaran Aktif	Rubrik SC dalam penghasilan Laporan Projek
CLO2	Menghasilkan satu dron yang telah diprogramkan secara berkumpulan.	TW AD	20	P5, A3 TW1, TW3 AD1	Pemasangan dron	Rubrik TW dan AD dalam pemasangan dron
CLO3	Menganalisis maklumat secara beretika, menghormati ahli kumpulan dan mampu mengambil tindakan yang melibatkan orang lain melalui aktiviti pembelajaran servis.	TW AD GC	60	P6, A5 TW1, TW2, TW3, TW4 AD1, AD3, AD5 GC3, GC4, GC5	Pembelajaran servis	Rubrik TW, AD dan GC semasa proses pembelajaran servis, pelaporan dan refleksi pembelajaran servis

Refer *Taxonomies of Learning and **UTM's Graduate Attributes, where applicable for measurement of outcomes achievement

***T – Test; Q – Quiz; HW – Homework; PR – Project; Pr – Presentation; F – Final Exam etc.

Details on Innovative T&L practices:

No.	Type	Implementation
1.	Pembelajaran Aktif	Dilaksanakan semasa kuliah seperti perbincangan dan pencarian maklumat
2.	Projek	Projek pembinaan dron yang dilakukan secara berkumpulan
3	Pembelajaran servis	Program pembelajaran servis melalui pemindahan ilmu kepada masyarakat

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Weekly Schedule:

MINGGU		KANDUNGAN
1	:	Pengenalan kepada revolusi industry 4.0 & teknologi dron Pengenalan kepada Projek pembelajaran servis
2		Peraturan & keselamatan penerbangan dron Perancangan Projek pembelajaran servis
3	:	Komponen, perisian dan program dron Persediaan Perlaksanaan Projek.
4 - 7	:	Pembinaan, pemasangan dan pengujian dron Perbincangan Kumpulan Penyediaan kertas cadangan Projek pembelajaran servis Pencarian penajaan
8 - 10	:	Operasi & simulasi penerbangan dron Pembentangan Kertas Cadangan bagi Projek pembelajaran servis
11 - 13	:	Persediaan Perlaksanaan Projek Perlaksanaan Projek pembelajaran servis Penyediaan Laporan
14	:	Pembentangan Hasil Projek Penyerahan Laporan Penilaian dan refleksi Projek pembelajaran servis

Transferable skills (generic skills learned in course of study which can be useful and utilised in other settings):

Kemahiran mengorganisasi maklumat
Kemahiran kepimpinan dan bekerja dalam kumpulan
Kemahiran Adaptabiliti
Kemahiran beretika

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Student learning time (SLT) details:

Distribution of student Learning Time (SLT) Course content outline					Teaching and Learning Activities		TOTAL SLT
	Guided Learning (Face to Face)				Guided Learning Non-Face to Face	Independent Learning Non-Face to face	
CLO	L	T	P	O			
CLO 1	6h					10h	16h
CLO 2			16h				16h
CLO3	2h		6h		20h	20h	48h
Total SLT							80h

Continuous Assessment		PLO	CLO	Percentage	Total SLT
1	Laporan Projek Dron	KW	1	20	Termasuk dalam CLO 1
2	Projek Berkumpulan	TW AD	2	10 10	Termasuk dalam CLO 2
3	Projek Pembelajaran servis	TW AD GC	3	10 10 10	Termasuk dalam CLO 3
4	Laporan Pembelajaran servis	TW AD	3	10 10	Termasuk dalam CLO 3
5	Pembentangan Projek pembelajaran servis	GC	3	10	Termasuk dalam CLO 3
Final Assessment				Percentage10	Total SLT
1	Tiada				
Grand Total SLT					80h

Special requirement to deliver the course (e.g: software, nursery, computer lab, simulation room):

Ruang terbuka (tanah lapang) untuk menguji dron Bengkel pertukangan (soldering tools, powerpoints, alat pertukangan, ...) Laptop / komputer untuk pengaturcaraan (Makmal computer) Dron set (body, battery, remote control, propeller, etc.) 3D printer dan cartridge

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Learning resources:

Text book (if applicable)

None

Main references

1. Barnhart, Richard K. (2012) "Introduction to unmanned aircraft systems" Boca Raton, F.L. : CRC Press
2. Mark LaFay (2015) "Drones for Dummies" John Wiley & Sons Inc
3. Mark D Smith (2015) "Quadcopters and Drones : A Beginner's Guide to Successfully Flying and Choosing the Right Drone" Createspace Independent Publishing Platform
4. Craig S Issod (2013) "Getting Started with Hobby Quadcopters and Drones : Learn About, Buy and Fly These Amazing Aerial Vehicles" Createspace Independent Publishing Platform

Additional references

Please refer in e-Learning

Online

<http://elearning.utm.my>

Academic honesty and plagiarism:

Copying of work (texts, simulation results etc.) from other students/groups or from other sources is not allowed. Brief quotations are allowed and then only if indicated as such. Existing texts should be reformulated with your own words used to explain what you have read. It is not acceptable to retype existing texts and just acknowledge the source as a reference. Be warned: students who submit copied work will obtain a mark of **zero** for the assignment and disciplinary steps may be taken by the Faculty. It is also unacceptable to do somebody else's work, to lend your work to them or to make your work available to them to copy.

Other additional information (Course policy, any specific instruction etc.):

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Disclaimer:

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