

1. Maklumat Kursus / Course Info

Nama Kursus: Course Name:	Astronomy / Astronomy		
Kod Kursus: Course Code:	SFU3073	Nilai Kredit: Credit Value:	3

2. Sinopsis / Synopsis

Kursus ini membincangkan tentang sistem suria, bintang, galaksi dan alam semesta. Kursus ini juga membincangkan topik khas seperti cuaca angkasa dan peralatan cerapan dalam astronomi

This course discusses the solar system, stars, galaxies and the universe. The course also discusses special topics such as space weather and observational equipment in astronomy

3. Nama Staff Akademik / Name(s) of Academic Staff

1. Encik Wan Zul Adli bin Wan Mokhtar

4. Semester dan Tahun / Semester and Year Offered

Semester: Semester:	1	Tahun: Year:	1
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5. Prasyarat (jika ada) / Prerequisite (if any)

Tiada / None

6. Hasil Pembelajaran Kursus / Course Learning Outcomes (CLO)

CLO1	Menerangkan objek-objek di alam semesta, cuaca angkasa, astronomi radio serta teknologi berkaitan astronomi. (C2, PLO1) <i>Explain objects in the universe, space weather, radio astronomy and technology related to astronomy. (C2, PLO1)</i>	C2
CLO2	Mengendalikan instrumen astronomi untuk memerhati fenomena astronomi. (P3, PLO3) <i>Operate astronomical instruments to observe astronomical phenomena (P3, PLO3)</i>	P3
CLO3	Berkomunikasi dengan yakin dan jelas semasa sesi pembentangan (A2, PLO4) <i>Communicate confidently and clearly during presentation sessions (A2, PLO4)</i>	A2
CLO4	Mengurus maklumat yang relevan daripada pelbagai sumber media dan teknologi digital (A3, PLO6) <i>Manage relevant information from various media sources and digital technology (A3, PLO6)</i>	A3

7. Pemetaan Hasil Pembelajaran Kursus kepada Hasil Pembelajaran Program / Mapping of the Course to the Programme Learning Outcomes

CLO	Program Learning Outcomes (PLO)											Teaching Methods	Assessment
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11		
CLO1	✓											• Perbincangan / Discussion • Kuliah / Lecture	• Peperiksaan Akhir / Final Examination
CLO2			✓									• Kuliah / Lecture • Kerja Lapangan / Field Work	• Tugas (Berkumpulan) / Assignment (Group)
CLO3				✓								• Kuliah / Lecture	• Persembahan / Presentation
CLO4						✓						• Perbincangan / Discussion • Kuliah / Lecture	• Tugas (Berkumpulan) / Assignment (Group)

(Deskripsi ini mesti dibaca bersama dengan Standard 2.1.2, 2.2.1 dan 2.2.2 di Area 2 - muka surat 16 & 18 / This description must be read together with Standards 2.1.2, 2.2.1 and 2.2.2 in Area 2 - pages 16 & 18)

Hasil Pembelajaran Program / Programme Learning Outcomes

PLO1	Menerangkan pengetahuan teoretikal dan teknikal dalam bidang pendidikan dan fizik. [MQF1] <i>Describe theoretical and technical knowledge in education and physics [MQF1]</i>
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PL02	Mempamerkan keupayaan intelektual melalui aplikasi kemahiran berfikir berkaitan bidang pendidikan dan fizik. [MQF2] <i>Demonstrate intellectual ability through the application of thinking skills related to the field of education and physics . [MQF2]</i>
PL03	Mengaplikasikan kaedah dan kemahiran praktikal yang sesuai bagi pelaksanaan tugas dalam bidang pendidikan dan fizik. [MQF3A] <i>Apply appropriate methods and practical skills for the implementation of tasks in the field of education and physics . [MQF3A]</i>
PL04	Berinteraksi secara efektif dengan menggunakan kemahiran interpersonal yang berkesan. [MQF3B] <i>Interact effectively using effective interpersonal skills. [MQF3B]</i>
PL05	Berkomunikasi secara bertulis dan lisan melalui pelbagai media penyampaian. [MQF3C] <i>Communicate in writing and orally through a variety of delivery media. [MQF3C]</i>
PL06	Mengintegrasikan pelbagai sumber media dan teknologi digital bagi menyelesaikan tugas. [MQF3D] <i>Integrate various media sources and digital technologies to complete tasks. [MQF3D]</i>
PL07	Mengaplikasikan kemahiran numerasi dalam penyelesaian masalah. [MQF3E] <i>Apply numeracy skills in problem solving. [MQF3E]</i>
PL08	Menunjukkan kepimpinan, sikap berautonomi dan kebertanggungjawaban pada pelbagai peringkat pengurusan. [MQF3F] <i>Demonstrates leadership, autonomy and accountability at various levels of management. [MQF3F]</i>
PL09	Mempamerkan kemajuan diri menerusi pembelajaran berterusan dan pembangunan profesional secara proaktif. [MQF4A] <i>Demonstrate self-improvement through continuous learning and professional development proactively. [MQF4A]</i>
PL010	Mempamerkan pemikiran dan kemahiran keusahawanan dalam pengurusan projek. [MQF4B] <i>Demonstrate entrepreneurial thinking and skills in project management. [MQF4B]</i>
PL011	Mematuhi kod etika dalam persekitaran sosial dan amalan profesional. [MQF5] <i>Adhere to a code of ethics in social environment and professional practice. [MQF5]</i>

8. Kemahiran yang boleh dipindahkan (jika berkaitan) / Transferable Skills (if applicable)

1	Kemahiran menggunakan teleskop <i>Ability to use telescope</i>
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9. Pengagihan Jam Pembelajaran Pelajar / Distribution of Student Learning Time (SLT)

Week	Course Content Outline	CLO				Conventional						Online				SLT
						Guided Learning (F2F)				Guided Learning (NF2F)	Independent Learning (NF2F)	Learning Material		Activities		
		CLO1	CLO2	CLO3	CLO4	L	T	P	O			Guided	Non Guided	Guided	Non Guided	

1	Pengenalan Kepada Astronomi Pengenalan Model Bumi Purba Skala alam semesta Introduction to Astronomy Introduction Ancient world model The scale of the universe	✓				0	0	0	0	1	3	2	0	0	0	6
2-3	Langit Pengenalan Galaksi Galaksi Kluster Buruj Kecerahan bintang The Sky Introduction Galaxy Galaxy cluster Constellation Star brightness	✓	✓	✓	✓	0	0	1	0	3	6	2	0	0	0	12
4-5	Sistem Suria Kitaran matahari Iklim bumi Kitaran bulan Solar system Cycles of the Sun Earth climate Cycles of the Moon		✓	✓	✓	2	0	0	0	3	6	1	0	0	0	12
6-7	Pengukuran Jarak Radar Paralaks Distance Measurement Radar Parallax	✓	✓	✓		3	0	0	1	2	6					12

8-9	Mekanik orbit Hukum Kepler Hukum Newton Orbit elips Pemindahan orbit Hohmann <u>Orbital mechanics</u> <i>Kepler's Law</i> <i>Newton's Law</i> <i>Elliptical orbit</i> <i>Hohmann transfer orbit</i>	✓				4	0	0	2	0	6					12
10-11	Atom, cahaya bintang dan gelombang elektromagnetik Atom Gelombang elektromagnetik Interaksi antara cahaya dan jirim Spektrum cahaya Radiasi jasad hitam <u>Atom, Starlight and Electromagnetic Wave</u> <i>Atom</i> <i>Electromagnetic wave</i> <i>Interaction light and matter</i> <i>Light spectrum</i> <i>Blackbody radiation</i>	✓	✓	✓	✓	3	0	0	1	2	6					12
12-13	Teleskop dan peralatan astronomi Teleskop optik Teleskop radio <u>Telescopes and astronomical instruments</u> <i>Optical telescope</i> <i>Radio telescope</i>	✓	✓			3	0	2	0	1	6					12

14	Cuaca angkasa Pengenalan Peranan matahari dalam cuaca angkasa Kesan cuaca angkasa pada bumi				✓	2	0	0	0	1	3					6
	Space weather Introduction The role of sun in space weather The impact of space weather to the earth															
	TOTAL					17	0	3	4	13	42	5	0	0	0	84
Continuous Assessment									Percentage (%)		Conventional		Online	SLT		
											F2F	NF2F				
1	Tugasan (Berkumpulan) (Assignment (Group))								20		2	6	0	8		
2	Persembahan (Presentation)								20		1	7	0	8		
3	Tugasan (Berkumpulan) (Assignment (Group))								20		2	6	0	8		
TOTAL									60		5	19	0	24		
Final Assessment									Percentage (%)		Conventional		Online	SLT		
											F2F	NF2F				
1	Peperiksaan Akhir (Final Examination)								40		2	10	0	12		
TOTAL									40		2	10	0	12		
GRAND TOTAL														120		

10. Keperluan Khas / Special Requirement

Tiada

none

11. Rujukan / Reference

Seeds, M. A. & Backman, D. (2013) Universe: Solar systems, star, and galaxies. (8th ed). Boston: Cengage Learning.
Seeds, M. A. (2018) The Solar System (10th Ed.). Boston: Cengage Learning.
Simon, S. (2007). Our solar system. New York: William Morrow and Company Inc.

12. Maklumat Tambahan Lain / Others Additional Information

Tiada / None

13. Pengesahan / Verification

	Disediakan/ Dikemaskini oleh: Prepared/ Updated by:	Disemak oleh: Checked by:
Nama: Name:	ENCIK WAN ZUL ADLI BIN WAN MOKHTAR	DR. MOHD FAUDZI BIN UMAR
Jawatan: Designation:	Penyelaras Kursus Course Coordinator	KETUA JABATAN
Tarikh: Date:	22 MARCH 2024	22 MARCH 2024

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