

COURSE INFORMATION

School/Faculty:	Razak Faculty of Technology and Informatics	Page:	1 of 4
Program name:	Executive Diploma in Occupational Safety and Health		
Course code:	FRSS 2183	Academic Session/Semester:	2021/2022-1
Course name:	Industrial Ergonomics	Pre/co requisite (course name and code, if applicable):	Nil
Credit hours:	3		

Course synopsis	This course describes the use of ergonomics which is a subject that focuses on fitting the workplace to the human. It provides the basic philosophy of ergonomics by introducing systems logic and methodology for assessing the potential impact of work environments on the health and safety of workers. The purpose is to improve the productivity of the employees without causing any discomfort to them. Ergonomics is the application of scientific information concerning humans to the design of work stations, tools, work methods and environment.			
Course coordinator (if applicable)	PM Sallehuddin bin Muhamad			
Course lecturer(s)	Name	Office	Contact no.	E-mail
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	Dr. Sa'ardin Bin Abdul Aziz	14-15-01 Menara Razak	03-2615 4802	saa.kl@utm.my
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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 (Code)	Taxonomies and generic skills	T&L methods	Assessment methods
CLO1	Explain the basic concept of industrial ergonomics	PLO1 (KW)	C3	Lecture, active learning	Test 1- 15% PMA – 10%
CLO2	Describe the importance and concepts of ergonomics at the workplace	PLO2 (PS) PLO3 (CTPS)	P2 P3 CTPS3	Project-based learning	Test 2 – 15% PMA – 10%
CLO3	Identify areas for ergonomics improvements related to tools, work methods, workstation	PLO3 (CTPS)	P3 CTPS3	Lecture, active learning	Case Study Report – 10% Presentation – 10%
CLO4	Apply the principles of ergonomics in order to increase productivity, safety and comfort	PLO3 (CTPS)	P3 CTPS3	Lecture, active learning	PMA – 20%

Prepared by:	Certified by:
Name: PM Sallehuddin bin Muhamad	Name:
Signature: Sallehuddin	Signature:
Date: 15 th Sept 2020	Date:

School/Faculty:	Razak Faculty of Technology and Informatics	Page:	2 of 4
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PMA – Post Module Assessment.

Details on Innovative T&L practices:

No.	Type	Implementation
1.	Active learning	Conducted through in-class activities

Weekly Schedule:

Week 1	Introduction Introduction of ergonomics
Week 2	History of ergonomics
Week 3	Principles and Importance of Ergonomics Range of Ergonomics
Week 4	Applied Ergonomics
Week 5	Anthropometry Terminology, Human and Measuring human in designing products
Week 6	Manual Material Handling (MMH) Examples of MMH, Maximum permission loads in countries (kg), Weights of school bags for children
Week 7	Manual handling at work, How to prevent or reduce back ache, Cause of back ache
Week 8	Mid-Semester Break
Week 9	Test 1 Risk factors involved in MMH and Control of risk
Week 10	Hand Tools, Jigs And Fixtures Main purpose of a hand tool, Expected nature of hand tools, Requirements of a hand tool, Transfer of force
Week 11	Stress vector on human Tool interface, Disease (pain) result of using hand tools, Tenosynovitis
Week 12	Workplace Design Standing and seating at work, work posture
Week 13	Environment Illumination, heat stress, noise, vibration
Week 14	Test 2 Mitigation Strategy
Week 15	Case Study, Presentation, PMA Discussion and analysis

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

Critical Thinking and Problem Solving

Student learning time (SLT) details:

Distribution of student Learning	Teaching and Learning Activities			TOTAL SLT
	Guided Learning	Guided Learning	Independent Learning	

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Time (SLT) Course content outline	(Face to Face)				Non-Face to Face	Non-Face to face	
CLO	L	T	P	O			
CLO 1	8h			11h	9h	9h	37h
CLO 2	8h			12h	9h	9h	38h
CLO 3			3h		10h	5h	18h
CLO 4					7h	7h	14h
Total SLT	16h		3h	23h	35h	30h	107

Continuous Assessment		PLO (Code)	Percentage	Total SLT
1	Test 1	PLO1	15	1h
2	Test 2	PLO2 PLO3	15	1h
3	Case Study Report	PLO3	10	As in CLO 2 (2h)
4	Presentation	PLO3	10	1h
Final Assessment			Percentage	Total SLT
1	Post Module Assessment (PMA)	PLO1 PLO2 PLO3	40	10h
Grand Total			100	120h

L: Lecture, T: Tutorial, P: Practical, O: Others

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

Learning resources:

Text book (if applicable)

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Main references

Bridger R., Introduction to ergonomics. CRC Press, 2008.

Additional references

William S. Marras and Karwowski W., Occupational ergonomics the occupational ergonomics handbook: Interventions, controls, and applications in occupational ergonomics. IOI Press, 2007.

Jacobs K., Ergonomics for therapists. Elsevier Health Sciences, 2008.

Academic honesty and plagiarism: (Below is just a sample)

Assignments are individual tasks and NOT group activities (UNLESS EXPLICITLY INDICATED AS GROUP ACTIVITIES)

School/Faculty:	Razak Faculty of Technology and Informatics	Page:	4 of 4
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Other additional information (Course policy, any specific instruction etc.):

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