



## SCHOOL OF INDUSTRIAL TECHNOLOGY

INSTRUCTIONAL PLAN (IP)

**Course:** IMG 222 FOOD MICROBIOLOGY 2  
**Semester:** SEMESTER II, ACADEMIC SESSION 2020/2021

**Note:** Due to the Conditional Movement Control Order in 2020 issued by the Malaysian Government, teaching and learning have been moved online, and the final examination ("Peperiksaan Akhir" or PA) has been replaced with coursework assessment.

<b>Lecture time</b>	Thursday 11:00 AM – 1:00 PM
<b>Laboratory time</b>	Tuesday 2:00 PM – 5:00 PM (Replace with lectures)
<b>Tutorial time</b>	-

No.	Lecturer	Email address	Teaching load
1	Dr. Norlia Mahrer	norlia.mahrer@usm.my	1.5
2	Dr. Effarizah Mohd Esah	effarizah@usm.my	1.5

No.	Course Learning Outcomes (CLO)	* PO	<sup>1</sup> LT	<sup>2</sup> SS	Assessment Method
1.	Mengenalpasti mikroorganisma bermanfaat, perosak dan patogen dalam makanan dan keadaan yang sesuai untuk pertumbuhan.	PO1	C1	-	PA, 13
2.	Membincangkan interaksi, faktor intrinsik dan ekstrinsik yang berkaitan dengan kerosakan makanan oleh mikroorganisma.	PO1	C2	-	PA, 13
3.	** Melaksanakan kaedah pengkulturan, isolasi dan pengenalpastian kehadiran mikroorganisma perosak dan patogen dalam makanan.	PO2	P3	-	26
		**PO3	**C3	**CTPS2	26***
4.	Menerangkan kesan pelbagai kaedah fizikal, kimia dan biologi yang digunakan untuk memproses makanan ke atas mikroorganisma perosak dan patogen.	PO3	C2	CTPS2	PA, 13
5.	Menghuraikan secara lisan dan bertulis konsep, prinsip, dan kaedah mikrobiologi makanan	PO4	A2	CS1	03, 11, 53

\* Programme Outcome

<sup>1</sup> Learning Taxonomy

<sup>2</sup> Soft Skill

**\*\* PO2 on CLO3 is replaced with PO3 due to the inability to conduct lab because of Covid19.**

**\*\*\* Assessment method (26) is carried out cognitively**

**PA evaluation is void because 100% assignment assessment method has been opted.**

Instructional Plan (IP)

Week	Date	Lecturer	Topics	Delivery	Assessments	CLO
1.	13/10/2020	Dr. Norlia	Briefing: Overview of the course, course outcomes, course content, and course assessment.  Introduction to food contamination and spoilage	Online: Synchronous		CLO1
	15/10/2020	Dr. Norlia	Factors influencing the growth of microorganisms in food	Online: Synchronous		CLO 2
2.	20/10/2020	Dr. Effarizah	Indicator organisms	Online: Synchronous		CLO 1
	22/10/2020		Microbiology of milk	Online: Synchronous		CLO1, CLO 2
3.	27/10/2020	Dr. Effarizah	Microbiology of meat and meat products	Online: Synchronous		CLO1, CLO 2
	29/10/2020		Public Holiday (Maulidur Rasul)	-		-
4.	03/11/2020	Dr. Effarizah	Microbiology of poultry and poultry products	Online: Synchronous		CLO1, CLO 2
	05/11/2020		Microbiology of poultry and poultry products	Online: Synchronous		CLO1, CLO 2
5.	10/11/2020	Dr. Effarizah	Microbiology of fish and seafoods	Online: Synchronous		CLO1, CLO 2
	12/11/2020		Selection of spoilage organisms	Online: Synchronous		CLO1, CLO 2
6.	17/11/2020	Dr. Hayati	Guest lecture: Microbiology of canned foods	Online: Synchronous		CLO1, CLO 2
	19/11/2020	Dr. Effarizah	Microbiology of canned foods	Online: Synchronous		CLO1, CLO 2
7.	24/11/2020	Dr. Effarizah	Test 1	Online: Synchronous	Test (10%)	CLO1, CLO2,
			Assignment submission (EME)		Individual assignment (10%)	CLO1, CLO2,
	26/11/2020	Dr. Norlia	Microbiology of fruits and vegetables	Online: Synchronous		CLO1, CLO 2
8.		MID SEMESTER BREAK				
9.	08/12/2020	Dr. Norlia / Dr. Effarizah	LAB 1: Microbiological examination of milk	Online: Synchronous & Asynchronous		CLO 3
	10/12/2020	Dr. Norlia	Food preservation	Online: Synchronous		CLO 1, CLO 4
10.	15/12/2020	Dr. Norlia / Dr. Effarizah	LAB 2: Microbiological examination of meat	Online: Synchronous & Asynchronous		CLO 3
			Thermal resistance	Online: Synchronous		CLO 4
	17/12/2020	Dr. Norlia	Foodborne pathogens: Infection, intoxication, and toxico-infection  Foodborne pathogens: Gram-negative and Gram-positive pathogens	Online: Synchronous		CLO 1, CLO 2

11.	22/12/2020	Dr. Norlia / Dr. Effarizah	LAB 3: Isolation and identification of Salmonella from poultry carcass	Online: Synchronous & Asynchronous		CLO 3
			Microbiological criterion and sampling plan  Submission of slide presentation	Online: Synchronous		CLO 1
	24/12/2020		*Presentation	Online: Synchronous	*Presentation (10%)	CLO 5
12.	29/12/2020	Dr. Norlia / Dr. Effarizah	LAB 4: Isolation and identification of <i>Vibrio</i> <i>parahaemolyticus</i> and <i>Vibrio cholerae</i> from fish and shrimp	Online: Synchronous & Asynchronous		CLO 3
	31/12/2020		*Presentation	Online: Synchronous		CLO 5
13.	05/01/2021	Dr. Norlia / Dr. Effarizah	LAB 5: Isolation and identification of <i>Staphylococcus aureus</i> from ready-to-eat food	Online: Asynchronous		CLO 3
	07/01/2021	Dr. Norlia	Test 2	Online: Synchronous	Test (10%)	CLO 1, CLO2, CLO 4
14.	12/01/2021	Dr. Norlia / Dr. Effarizah	LAB 6: Isolation and identification of <i>Clostridium perfringens</i>	Online: Asynchronous		CLO 3
	14/01/2021		Assignment submission (NM)		Individual assignment (10%)	CLO 1, CLO2, CLO 4
15.	19/01/2021	Dr. Norlia / Dr. Effarizah	Practical test	Online: Synchronous	Test (10%)	CLO 3
	24/01/2021		Submission of lab report 1		Lab report 1 (10%)	CLO 3
16.		REVISION WEEK				
17.	02/02/2020 2021	Dr. Norlia / Dr. Effarizah	Test 3	Online: Synchronous	Test (20%)	CLO1, CLO2, CLO4
	07/02/2020 2021		Submission of lab report 2		Lab report 2 (10%)	CLO 3
18.	09/02/2020 2021					
	11/02/2020 2021					
19.	16/02/2020 2021					
	18/02/2020 2021					
20-23		SEMESTER BREAK				

\* Presentation (10%) will be carried out in 2 days (24/12 & 31/12/2020)

The highlighted components are the 40% coursework assessment converted from the 40% final exam. Please refer to Page 4 for the details.

**Final Examination (0%)**

Question No.	Topics	CLO	Lecturer
1	Not applicable		
2	Not applicable		
3	Not applicable		
4	Not applicable		
5	Not applicable		

**Coursework Assessment (100%)**




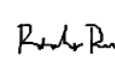
Note: The final examination has been replaced with coursework assessment only

	Jenis	Kod	%
(i)	Test	13	10 + 10 + 20
(ii)	Presentation	53	10
(iii)	Practical test	26	10

	Jenis	Kod	%
(iv)	Lab report	11	10 + 10
(v)	Assignment	03	10 + 10

\*\* The 40% final examination component has been converted to assignment as highlighted above (20% test, 10% lab report, and 10% assignment).

The non-highlighted component is the existing 60% coursework assessment.

Prepared by:	Endorsed by:	Approved by:	Archived by:
Course Coordinator	Program Chairman	Dean	Asst. Registrar
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Dr. Norlia Mahrar	Prof. Dr. Fazilah Ariffin	Prof. Dr. Norli Ismail	Pn. Rasslene Rass Rasalingam
Date: 13/11/2020	Date: 13/1/2021	Date: 13/1/2021	Date: 13/01/2021