
National Commission for Academic Accreditation & Assessment

COURSE REPORT

Petroleum Microbiology and Bioremediation

401475-3

To be completed by course instructors at the end of each course and given to program coordinator.

If the course is taught in more than one location the course report should be prepared for each location by the course instructors responsible for the course in each location. A combined report should be prepared by the course coordinator and the separate location reports attached.

Course Report

For guidance on the completion of this template, refer to Section 2.5 of Chapter 2 in Part 2 in this Handbook

Institution: Umm Al-Qura University
College/ Department: Faculty of Applied Science / Department of Biology

A Course Identification and General Information

1. Course title and code. Petroleum Microbiology and Bioremediation (401475-3)
2. If course is taught in more than one section indicate the section to which this report applies N/A
3. Year and semester to which this report applies. First semester – 1437/1438 (371) / Fall 2016
4 Location (if not on main campus): Main Campus (Makkah)

B- Course Delivery

1 Coverage of Planned Program			
Topics	Planned Contact Hours	Actual Contact Hours	Reason for Variations if there is a difference of more than 25% of the hours planned
❖ General Introduction: - General introduction about petroleum Microbiology -An overview about composition and nature of crude oil around the world. - Origins and distribution of petroleum	2	2	
❖ Biological origin and accumulation of petroleum from microfossils and sedimentary basis.	2	2	

- Microbial aspects of oil prospecting			
❖ Microbial metabolism of aliphatic hydrocarbons (straight and branched chains) under aerobic and anaerobic conditions	4	4	
❖ Microbial metabolism of hydrocarbons aliphatic and cyclic aromatic hydrocarbons under anaerobic and aerobic conditions	6	6	
❖ Methane-utilizing bacteria (methanotrophs) microbial metabolism of methane	2	2	
❖ Taxonomy of methane producing bacteria Identification, Nomenclature, classification of methane producing bacteria	2	2	
❖ Biotechnology and crude oil recovery - Microbial enhanced crude oil recovery ❖ Sulphate reducing bacteria and its role in crude oil recovery process .	2	2	
❖ Biodegradation of crude oil -Microbial degradation of petroleum products and use of microorganisms in oil clean-up operations; oil spillage. - Isolation of methane producing bacteria -Identification and characterization (phenotypic and genotypic characterization -Growth of crude oil degrading bacteria on the monomer of petroleum compounds. -Determination of crude oil degradation products by GC Mass	4	4	
❖ Role of microorganisms in corrosion of oil field Equipment Hydrocarbonoclastic bacteria;	2	2	

Metallomonas bacteria that cause rusting of oil pipes;			
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<p>2. Consequences of Non Coverage of Topics</p> <p>For any topics where significantly less time was spent than was intended in the course specification, or where the topic was not taught at all, comment on how significant you believe the lack of coverage is for the program objectives or for later courses in the program, and suggest possible compensating action if you believe it is needed.</p>				
Topics (if any) not Fully Covered	Significance of Lack of Coverage	Possible Compensating Action Elsewhere in the Program		
N/A	N/A	N/A		
N/A	N/A	N/A		
N/A	N/A	N/A		
N/A	N/A	N/A		
<p>3. Effectiveness of Planned Teaching Strategies for Intended Learning Outcomes set out in the Course Specification. (Refer to planned teaching strategies in Course Specification and description of Domains of Learning Outcomes in the National Qualifications Framework)</p>				
Domains	List Teaching Strategies set out in Course Specification	Were these Effective?		Difficulties Experienced (if any) in Using the Strategy and Suggested Action to Deal with Those Difficulties .
		No	Yes	
a. Knowledge	<p>-Combination of lectures by the lecturer, seminar presentation by the students and web-interactions.</p> <p>-Using images and related video clips</p>		✓	
b. Cognitive Skills	<p>-Lectures</p> <p>-Brain Storming</p> <p>-Discussions</p>		✓	

c. Interpersonal Skills and Responsibility	-Laboratory practical session -Group discussion		✓	
d. Numerical and Communication Skills	-Home work / Essays -Seminar presentation		✓	
e Psychomotor Skills (if applicable)	Follow up students the students in lab and during carryout all the laboratory experiments		✓	

4. Summarize any actions you recommend for improving teaching strategies as a result of evaluations in table 3 above.

C. Results

1 Number of students starting the course: **8 Students**

2 Number of students completing the course: **7 students**

3 Distribution of Grades (If percentage marks are given indicate numbers in each 5 percentile group)

	No		%	No	%	No
A	0	OR	95-100	0	70-74	0
B	4		90-94	0	65-69	0
C	1		85-89	0	60-64	0
D	0		80-84	4	< 60	2
F	2		75-79	1		
Denied Entry	1		Denied Entry			1
In Progress	0		In Progress			0
Incomplete	0		Incomplete			0
Pass	5		Pass			5
Fail	2		Fail			1
Withdrawn	0		Withdrawn			0

4 Result Summary:

Passed:	No	5	Percent	62.5%	Failed	No	2	Percent	25%
Did not complete	No	0	Percent	0%	Denied Entry	No	1	Percent	12.5%

5 Special factors (if any) affecting the results

None

6. Variations from planned student assessment processes (if any) (See items C 4 and 5 in the Course Specification.)

a. Variations (if any) from planned assessment schedule (C5 in Course Specification)

Variation	Reason
N/A	N/A
N/A	N/A
N/A	N/A

b. Variations (if any) from planned assessment processes in Domains of Learning (C4 in Course Specification)	
Variation	Reason
N/A	N/A
N/A	N/A
N/A	N/A

7 Verification of Standards of Achievement (Eg. check marking of a sample of papers by others in the department. See G4 in Course Specification) (Where independent report is provided a copy should be attached.)	
Method(s) of Verification	Conclusion
check marking of a sample of papers by others in the department	See the attached report

D Resources and Facilities

1. Difficulties in access to resources or facilities (if any) None	2. Consequences of any difficulties experienced for student learning in the course. None
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E. Administrative Issues

1 Organizational or administrative difficulties encountered (if any) None	2. Consequences of any difficulties experienced for student learning in the course. None
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F Course Evaluation

1 Student evaluation of the course: (Attach Survey Results if available)
a List the most important criticisms and strengths (A)- Strengths: (1) Course content very useful.

<p>(2)- Course was helpful to improve critical thinking and problem solving rather than memorizing. (3)- Teaching methods were helpful to clarify all scientific facts. (4)- I was encouraged to give the best of my intellectual capacity. (5)- Connection between this course and other courses within this major was clear. (6)- The assessments of my exams, homework, practical session was fair and very clear. (7)- All course content was up to date (8)- Teaching staff member was enthusiastic to what he was doing throughout this course.</p> <p>(B)- Criticisms: (1)- Power point presentation that include slides and pictures was not used in teaching this course</p>	
<p>b Response of instructor or course team to this evaluation</p> <p>Response to criticisms:</p> <p>(1)- Throughout the years, teaching this course using power point presentation particularly in explaining the metabolic pathways was not effective and made it difficult for students to understand these pathways. This was also confirmed by students attending this course in their evaluation, that the teaching method used to explain the metabolic pathways was very helpful and effective to understand the course</p>	
<p>2. Other Evaluation -- What evaluations were received? Specify and attach reports where available. (eg. By head of department, peer observations, accreditation review, other stakeholders etc):</p> <p>None</p>	
<p>a List the most important criticisms and strengths</p> <p>None</p>	
<p>b Response of instructor or course team to this evaluation</p> <p>None</p>	

G Planning for Improvement

<p>1. Progress on actions proposed for improving the course in previous course reports:</p>	
<p>Actions proposed in the most recent previous course report(s)</p> <p>None</p>	<p>State whether each action was undertaken, the impact, and if the proposed action was not undertaken or completed, give reasons.</p>
<p>2. Other action taken to improve the course this semester/year</p>	

Provide a brief summary of any other action taken to improve the course and the results achieved. (For example, professional development for faculty, modifications to the course, new equipment, new teaching techniques etc.)

None

3. Action Plan for Next Semester/Year

Actions Required	Completion Date	Person Responsible

4. Recommendations to Program Coordinator (if Required)

(Recommendations by the instructor to the program coordinator if any proposed action to improve the course would require approval at program, department or institutional level or that might affect other courses in the program.)

Name of Course Instructor: **Dr Hussein H. Abulreesh**

Signature: **H. H. Abulreesh** Date Report Completed: **22/04/1438 H (20/01/2017)**

Received by Program Coordinator: **H. H. Abulreesh** Date: **22/04/1438 H (20/01/2017)**