Course Specifications

General Information

Course name	Practical Microbiology
Course number	BIOL2159
Faculty	
Department	
Course type	Major Needs
Course level	2
Credit hours (theoretical)	0
Credit hours (practical)	1
Course Prerequisites	

Course Objectives

1 - Safety in lab
2 - Students will learn bacterial science and practical examination methods
3 - Knowing tools and used equipment
4 - Understanding sterilization methods
5 - Methodology of preparing and using media of several bacteria
6 - Learning students with required skills for process preparation
7 - Organization of works in laboratory
8 - Identification diagnostic some genus of bacteria

Intended Learning Outcomes

Knowledge and Understanding	* Distribution of students in groups
	* Identification and usage of tools and equipment with right methodologies
	* Knowing microorganisms and methods of detection
	* Risks resulted from dealing with microorganisms in the lab
	* Discipline at work, accuracy of applying tests, and applying experiments standards
	* Analysis and discussion of results using sample description and microscopic examination
Intellectual Skills	* Selection proper tools for each test
	* Preparation required tools and equipment for each test
	* Reading and analysis results correctly
	* Caution from any contamination due to experiments
	* Consider aseptic technique
Professional Skills	* Operation of devices and experiment conducting
	* Understanding and analysis of results
	* Using tools in microbiological ways
	* Usage of light microscope
	* Caution from microorganism
General Skill	* Scientific thinking of applying tests
	* Analysis and discussion of results
	* Systematic scientific thinking to study in the laboratory
	* Presentation and analysis of results

Course Contents

1 - Safety in laboratory
2 - Recognition of tools, equipment used in lab
3 - Methods of bacteria destruction (sterilization)
4 - Methods of bacteria isolation (types of culture media)
5 - Methods of bacteria isolation and inoculation
6 - Methods of bacteria identification (Morphology of colony)
7 - Microscopic examination (motility and types of stains)
8 - Experiments of biochemical reactions
9 - Antibiotic sensitivity tests
10 - Experiments about biochemical reaction for diagnostic different types of bachteria
11 - Experiments about growth curve

Teaching and Learning Methods

1 - Theoretical explanation of experiments
2 - Conducting experiments practically
3 - Reading and analysis of results
4 - Report writing for experiments
5 - Discussion of results
6 - Distribution of students to groups

Students Assessment

Assessment Method	TIME	MARKS
Mid-term exam	1Hour	30
Attendance and reports		20
Final exam	1Hour	50

Books and References

Course note	Practical microbiology (bacteria) note
Other References (Periodical, web sites, ... etc.)	Webs related to microbiology (bacteria)