Course Specification of Pharmaceutical Microbiology II

I. Course Identification and General Information:

1	**Course Title**	Pharmaceutical Microbiology II				
2	**Course Number & Code:**	Ph642				
3	**Credit hours:**	**C.H**				**Total**
		Th.	**Pr.**	**Tr.**	**Seminar.**	
		2	**2**			**3**
4	**Study level/ semester at which this course is offered:**	2th level /2th semester				
5	**Pre –requisite (if any):**					
6	**Co –requisite (if any):**					
7	**Program (s) in which the course is offered:**	Bachelor of pharmacy				
8	**Language of teaching the course:**	English				
9	**Location of teaching the course:**	Faculty of Pharmacy- Sana`a university				
10	**Prepared by:**	**Prof Hassan Al-Shamahy**				
11	**Date of approval:**					

II. Course description:

The course is designed to learn the students the basic features of general bacteriology. The course is designed to learn the students the basic features of bacteriology. Theoretical part will be taught, in addition to common infections and general and oral diseases of medical importance, and different laboratory steps for method of diagnosis.

III. Intended learning outcomes (ILOs) of the course:

At the end of this course the students should be able to:

1. Mention general concept about bacteriology**,** including classification and structure.
2. Identify the host parasite relationship and microbial pathogens
3. Describe the morphology, culture and antigenic structure of microorganisms of medical importance
4. Describe briefly methods of diagnosis of infections including; specimen selection, handling and processing
5. Mention the most important infectious clinical conditions and outline the diagnosis, treatment, prevention and control of the most likely.
6. Describe the most important methods of decontamination and principles of infection control.
7. Describe the basics of Describe the basics of antimicrobial uses
8. Comprehend microbiological and immunological
9. Categorize a microorganism as a bacterium according to standard taxonomy.
10. Correlate according to evidence the causal relationship of microbes and diseases
11. Predict the danger of handling and use of infectious agents on community and environment as a part of their ethical heritage
12. Carry out examination of important bacteria
13. Perform a Gram stain and Ziehl- Neelsen stain and identify microorganism according to morphology and characteristics, stained preparations
14. Examine culture media commonly used for bacterial identification and distinguish positive and negative results
15. Perform hand wash and control of steam sterilization
16. Display the facts using printable sheets in the field of bacteriology and immunology
17. Complete a full scientific reports in the field of bacteriology and immunology
18. Communicate in groups and team in laboratory experiments
19. Follow the computer-based tools and internet to extract information and knowledge

IV. Intended learning outcomes (ILOs) of the course:

(A) Knowledge and Understanding:

Alignment Course Intended Learning Outcomes (CILOs) to Program Intended Learning Outcomes (PILOs) in: Knowledge and Understanding.

Program Intended Learning Outcomes (Sub-PILOs) in:	Course Intended Learning Outcomes (CILOs) in:

Knowledge and Understanding		Knowledge and Understanding	
After completing this program, students would be able to:		After participating in the course, students would be able to:	
A1-	Recognize the principles of physical, chemical, clinical, social, behavioral, health and pharmaceutical sciences.	a1-	Mention general concept about bacteriology, including classification and structure.
A3-	Describe the general cellular, biochemical and physiological aspects of human body and recognize the pharmacokinetics, pharmacodynamics, disease pathophysiology, and pharmacogenetic of therapeutic agents to provide pharmaceutical care and facilitate management of patient's medication, rationalize drug use and overall health needs.	a2-	Identify the host parasite relationship and microbial pathogens
		a3-	Describe the morphology, culture and antigenic structure of microorganisms of medical importance.
		a4-	Describe briefly methods of diagnosis of infections including; specimen selection, handling and processing.
		a5-	Mention the most important infectious clinical conditions and outline the diagnosis, treatment,, prevention and control of the most likely organisms causing such diseases
		a6-	Describe the most important methods of decontamination and principles of infection control.
		a7-	Describe the basics of Describe the basics of antimicrobial uses

Teaching And Assessment Methods For Achieving Learning Outcomes:

Alignment Learning Outcomes of Knowledge and Understanding to Teaching and Assessment Methods:

Course Intended Learning Outcomes (CILOs) in Knowledge and Understanding After participating in the course, students would be able to:	Teaching strategies/methods to be used	Methods of assessment

a1-	Mention general concept about bacteriology, including classification and structure.	Lecture Lab	Written Mid &final theoretical exams
a2-	Identify the host parasite relationship and microbial pathogens	seminar	Mid & final practical exams Quizzes Practical work assignment Attendance
a3-	Describe the morphology, culture and antigenic structure of microorganisms of medical importance.		
a4-	Describe briefly methods of diagnosis of infections including; specimen selection, handling and processing.		
a5-	Mention the most important infectious clinical conditions and outline the diagnosis, treatment, and prevention and control of the most likely organisms causing such diseases		
a6-	Describe the most important methods of decontamination and principles of infection control.		
a7-	Describe the basics of antimicrobial uses		

(B) Intellectual Skills:

Alignment Course Intended Learning Outcomes (CILOs) to Program Intended Learning Outcomes (PILOs) in: Intellectual skills

Program Intended Learning Outcomes (Sub-PILOs) in Intellectual skills	Course Intended Learning Outcomes (CILOs) of Intellectual Skills
After completing this program, students would be able to:	**After participating in the course, students would be able to:**

B1-	Consolidate the chemical, biochemical and physiological principles to construct the pharmacophores of the structure and their effect on the stability, pharmacokinetic and pharmacodynamic profiles of the drug	**b1-**	Comprehend microbiological and immunological
B5-	Interpret the prescriptions, patient and	**b2-**	Categorize a microorganism as a bacterium according to standard taxonomy.
	clinical data, Analysis all the encountered pharmaceutical problems and plan the strategies for their solution, to develop the health care.	**b3-**	Correlate according to evidence the causal relationship of microbes and diseases
		b4-	Predict the danger of handling and use of infectious agents on community and environment as a part of their ethical heritage

Teaching And Assessment Methods For Achieving Learning Outcomes:

Alignment Learning Outcomes of Intellectual Skills to Teaching Methods and Assessment Methods:

*Course Intended Learning Outcomes (***CILOs***) in* **Intellectual Skills.** **After participating in the course, students would be able to:**		**Teaching strategies/methods to be used.**	***Methods of assessment***
b1-	Comprehend microbiological and immunological	Lecture Lab seminar	Written Mid &final theoretical exams Mid & final practical exams Quizzes Practical work assignment Attendance
b2-	Categorize a microorganism as a bacterium, according to standard taxonomy.		
b3-	Correlate according to evidence the causal relationship of microbes and diseases		
b4-	Predict the danger of handling and use of infectious agents on community and environment as a part of their ethical heritage		

(C) Professional and Practical Skills.

Alignment Course Intended Learning Outcomes (CILOs) to Program Intended Learning Outcomes (PILOs) in: Professional and Practical Skills

Program Intended Learning Outcomes (Sub- PILOs) in Professional and Practical Skills		Course Intended Learning Outcomes (CILOs) in Professional and Practical Skills	
After completing this program, students would be able to:		**After participating in the course, students would be able to:**	
C2-	Handle and dispose chemicals and pharmaceutical preparations including radiopharmaceuticals safely and effectively.	**c1-**	Carry out examination of important bacteria
C5-	Conduct research studies and utilize the results in different pharmaceutical fields.	**c2-**	Perform a Gram stain and Ziehl- Neelsen stain and identify microorganism according to morphology and characteristics, stained preparations
		c3-	Examine culture media commonly used for bacterial identification and distinguish positive and negative results.
		c4-	Perform hand wash and control of steam sterilization.

Teaching And Assessment Methods For Achieving Learning Outcomes:

Alignment Learning Outcomes of Professional and Practical Skills to Teaching and Assessment Methods:

Course Intended Learning Outcomes (CILOs) in Professional and Practical Skills After participating in the course, students would be able to:		Teaching strategies/methods to be used	Methods of assessment
c1-	Carry out examination of important bacteria	Lecture Lab seminar	Written Mid &final theoretical exams Mid & final practical exams Quizzes Practical work assignment Attendance
c2-	Perform a Gram stain and Ziehl- Neelsen stain and identify microorganism according to morphology and characteristics, stained preparations		
c3-	Examine culture media commonly used for bacterial identification and distinguish positive and negative results.		

c4-	Perform hand wash and control of steam sterilization.		

(D) General / Transferable Skills:

Alignment Course Intended Learning Outcomes (CILOs) to Program Intended Learning Outcomes (PILOs) in: General and Transferable skills

Program Intended Learning Outcomes (PILOs) in		Course Intended Learning Outcomes	
General / Transferable skills		**(CILOs) in General / Transferable skills**	
After completing this program, students would be able to:		**After participating in the course, students would be able to:**	
D2-	Employ proper documentation and filing systems in different pharmaceutical fields	**d1-**	Display the facts using printable sheets in the field of bacteriology and immunology
D5-	Apply information and communication technology and working effectively in a team.	**d2-**	Complete a full scientific reports in the field of bacteriology and immunology.
		d3-	Communicate in groups and team in laboratory experiments.
		d4-	Follow the computer-based tools and internet to extract information and knowledge

Teaching And Assessment Methods For Achieving Learning Outcomes:

Alignment Learning Outcomes of General and Transferable skills to Teaching and Assessment Methods.

Course Intended Learning Outcomes (CILOs) in General and Transferable Skills **After participating in the course, students would be able to:**		Teaching strategies/methods to be used.	Methods of assessment
d1-	Display the facts using printable sheets in the field of bacteriology and immunology	Lecture Lab seminar	Written Mid &final theoretical exams Mid & final practical exams Quizzes
d2-	Complete a full scientific reports in the field of bacteriology and immunology.		

d3-	Communicate in groups and team in laboratory experiments.		Practical work assignment Attendance
d4-	Follow the computer-based tools and internet to extract information and knowledge		

V. Course Content:

1 – Course Topics/Items:

a – Theoretical Aspect

Order	Topic List / Units	CILOs (symbols)	Sub-topic List	Number of weeks	Contact hours
1.	Bacteriology	a1, b1, b2, b3, d1,d2	Introduction, Morphology, Cell Structure and classification of bacteria, Growth and death of bacteria	1	2
2.	Bacteriology	a1-7, b1, b1-4, d1-4	Introduction, Bacterial genetics and Brief account of Culture media and Culture techniques.	1	2
3.	Bacteriology	a1-7, b1, b1-4, d1-4	Basic knowledge of selection, collection, transport, processing of clinical, Specimens and identification of bacteria, Control of microorganisms by sterilization and disinfection and Antimicrobial Agents	1	2

4.	Bacteriology	a1-7, b1, b1-4, d1-4	Gram- Positive Cocci (brief account of each coccus - detailed account of mode of spread, laboratory diagnosis) and Gram– Negative Cocci (Neisseria, Moraxella)	1	2
5.	Bacteriology	a1-7, b1, b1-4, d1-4	Gram- Positive Bacilli (Bacillus, Corynebacteria; mode of spread, important clinical feature, Laboratory diagnosis) and Gram– Negative Bacilli – Enteric Bacteria, Gram–Negative Bacilli -Nonfermenting	1	2
			Organisms		
6.	Bacteriology	a1-7, b1, b1-4, d1-4	Gram–Negative Bacilli Nonfermenting Organisms (Pseudomonas spp, Acinetobacter spp. Aeromonas spp., Vibrio chloerae) and Gram-	1	2
7.	**Mid Exam**	a1-7, b1, b1-4, d1-4		1	2
8.	Bacteriology	a1-7, b1, b1-4, d1-4	Gram- Positive Bacilli (Bacillus, Corynebacteria; mode of spread, important clinical feature, Laboratory diagnosis) and Gram– Negative Bacilli – Enteric Bacteria, Gram–Negative Bacilli -Nonfermenting Organisms	1	2

9.	Bacteriology	a1-7, b1, b1-4, d1-4	Gram–Negative Bacilli Nonfermenting Organisms (Pseudomonas spp, Acinetobacter spp. Aeromonas spp., Vibrio chloerae) and Gram-	1	2
10.	Bacteriology	a1-7, b1, b1-4, d1-4	Non-sporing Anaerobes - in brief about classification and morphology, in detail about pathogens - mechanism of disease production and prevention.	1	2
11.	Bacteriology	a1-7, b1, b1-4, d1-4	Mycobacteria - Tuberculosis and Leprosy,	1	2
12.	Bacteriology	a1-7, b1, b1-4, d1-4	Spirochetes(Treponema pallidum - detailed account of Oral Lesions of syphilis, Borrelia, vincentii.), Chlamydia, Mycoplasma,	1	2
			Legionella & Rickettsiae.		
13.	Bacteriology	a1-7, b1, b1-4, d1-4	Bacterial drug resistance	1	2
14.	Review	a1-7, b1, b1-4, d1-4		2	4
15.	**Final Exam**	a1-7, b1, b1-4		1	2
Number of Weeks /and Units Per Semester				**16**	**32**

b - Practical Aspect

Order	Tasks/ Experiments	CILOs (symbols)	Number of Weeks	Contact Hours
1)	Introduction to Microbiology laboratory techniques and safety rules	c1-4	2	4

2)	And Introduction to Microscopy Types of Microscopes.	c1-4	2	4
3)	Examination of Stained Smear and Wet Preparation.	c1-4	2	4
4)	Mid-Exam	c1-4	1	2
5)	Microscopic examination of Eukaryotic microorganisms.	c1-4	2	4
6)	Staining of Bacterial Cells (simple staining)	c1-4	2	4
7)	Bacterial Culture Techniques	c1-4	2	4
8)	Review	c1-4	2	4
9)	Final Exam	c1-4	1	2
Number of Weeks /and Units Per Semest :r			**16**	**32**

VI. Teaching strategies of the course:

Lecture, Lab seminar

I. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes (CILOs symbols)
1.	**Attendance, Participation and quizzes**	**All Weeks**	10	7%	a1-7,b1-b4
2.	**Oral Tests and Homeworkassignments**	Sporadic through the semester	10	7%	a1,a3, a5, b1-4
3.	**Attendance, Practical Reports**	**All Weeks**	15	10%	c1-4

4.	**Practical mid-semester exam**	7th	15	10%	c1-4
5.	**Theoretical mid-semester exam**	7th	30	20%	a1-7, b1-4
6.	**Final Exam (theoretical)**	**16th**	50	33%	a1-7, b1-4
7.	**Final Exam (practical)**	**16th**	20	13%	c1-4
	Total		**150**	**100%**	

II. Students' Support:

Office Hours/week	Other Procedures (if any)
Two contact hours per week	None

III. Learning Resources:

1- Required Textbook(s) (maximum two).

o

There is a long list of anatomy books present in the faculty library for the student to choose from. Course notes done by teaching staff.

2- Recommended Books and Reference Materials.

Course notes of Department theoretical books and practical manual (lectures and practical) a.
Essentials of microbiology . Oxford Press. By J.Bagg
b. Microbiology at a Glance
c. Immunology at Glance
d. Notes in Medical virology Practical book :

District Laboratory Practice in Tropical Countries Monica Cheesbrough

3- Electronic Materials and Web Sites *etc*.

als and web sites of Microbiology and Immunology http://www.med-ed-online.org/, midline Pubmed & Go

I. Course Policies (To be determined by Faculty Deanship)

Based on university regulations, the following aspects should be figured out:

1.	(Class Attendance) :Class Attendance: - Attendance of students is taken at beginning of lecture time. - The allowed absence percentage is 20% without excuse and 30% with acceptable excuse, - When student has been absent for more than 30% of course lectures without acceptable excuse, the student will be prohibited from entering subject the final exam.
2.	(Tardy) :If the student came late to class for 15 minutes, he/she is registered absent but he/she allowed to enter the hall to listen lecture presentation.
3.	(Exam Attendance/Punctuality) :According to examination roles or policies: - If the student is absent in the year works exams, the decision is referred to the teacher whether to allow or to reject according to the offered excuse. - If the student is absent in the final exam with an acceptable excuse, the student would be attended the re-sit exam as 1st trial. - If the student is absent in the final exam without an acceptable excuse, the student would be attended re-sit exam as 2nd trial.
4.	(Assignments & Projects) :According to examination roles or policies: - The student should be attended the final exam at certain time and according to the accredited exam table. - If the student came late after 15 minutes from the exam beginning, the student would be to attend the exam with oral monition of never repeat. - In case of the repeat, the student prevented from entrance and considered absent.

5.	(Cheating) :According to examination roles or policies: - If the student cheated in the year works exams of the course, the student prohibited from entrance the final exam and given zero degree with prevented him from entrance the re-sit exam of this course. - If the student cheated in the final exam of the course, the student prohibited from the cheated course and the followed course and given zero degree in both courses, and prevented him from entrance the re-sit exams of them. - If the cheated course is the last at the exam table, the student prohibited from the cheated course and the past course and given zero degree in both courses, and prevented him from entrance the re-sit exams of them. - If the cheating is discovered in subsequent time, the cheated student didn't escape from payment and ordinance is referred to precision committee and the final decision is referred to the collage council. - If the cheating is discovered during the correcting the answered books, the corrector has written a report to the chairman of concerned department for taking available procedure. - The faculty council is able to segregate the student for one academic year in 2nd cheating trial and final segregation from the university after accreditation of university council in 3rd cheating trial.
6.	(Plagiarism) :According to examination roles or policies: Plagiarism means a student plagiarizes the personality of another student. Plagiarism for exam purpose: 1- Both students are prohibited from the plagiarized academic year and all results of them are rejected with prohibition of them from entrance the resit exam. 2- If the plagiarized student is from outside the university, the student is referred to the university police. -Plagiarism for other purposes: 1- Both students are warned as segregation. 2- If the plagiarized student is from outside the university, the student is referred to the university police.
7.	(Other policies) :-The student should be followed the instructions for the exam entrance. - The student should be followed all systems & laws of the university.

Course Plan of Pharmaceutical Microbiology II

I. - Information about Faculty Member Responsible for the Course:							
Name of Faculty Member	Prof Hassan AlShamahy	Office Hours					
Location & Telephone No.		SAT	SUN	MON	TUE	WED	THU
E-mail							

II. Course Identification and General Information:							
1-	Course Title:	Pharmaceutical Microbiology II					
2-	Course Number & Code:	Ph642					
3-	Credit hours: 1hrs	C.H				Total	
		Th.	Seminar	Pr.	F. Tr.		
		2	-	2		3	
4-	Study level/year at which this course is offered:	2th level /2th semester					
5-	Pre –requisite (if any):						
6-	Co –requisite (if any):						
7-	Program (s) in which the course is offered	Bachelor of Pharmacy					
8-	Language of teaching the course:	English					
9-	System of Study:	Semesters					
10-	Mode of delivery:	Regular					
11-	Location of teaching the course:	Faculty of Pharmacy-Sana'a University					

III. Course description:

The course is designed to learn the students the basic features of general bacteriology. The course is designed to learn the students the basic features of bacteriology. Theoretical part will be taught, in addition to common infections and general and oral diseases of medical importance, and different laboratory steps for method of diagnosis.

IV. Intended learning outcomes (ILOs) of the course:

At the end of this course the students should be able to:

1. Mention general concept about bacteriology**,** including classification and structure.
2. Identify the host parasite relationship and microbial pathogens
3. Describe the morphology, culture and antigenic structure of microorganisms of medical importance
4. Describe briefly methods of diagnosis of infections including; specimen selection, handling and processing
5. Mention the most important infectious clinical conditions and outline the diagnosis, treatment, prevention and control of the most likely.
6. Describe the most important methods of decontamination and principles of infection control.
7. Describe the basics of Describe the basics of antimicrobial uses
8. Comprehend microbiological and immunological
9. Categorize a microorganism as a bacterium according to standard taxonomy.
10. Correlate according to evidence the causal relationship of microbes and diseases
11. Predict the danger of handling and use of infectious agents on community and environment as a part of their ethical heritage
12. Carry out examination of important bacteria
13. Perform a Gram stain and Ziehl- Neelsen stain and identify microorganism according to morphology and characteristics, stained preparations
14. Examine culture media commonly used for bacterial identification and distinguish positive and negative results
15. Perform hand wash and control of steam sterilization
16. Display the facts using printable sheets in the field of bacteriology and immunology
17. Complete a full scientific reports in the field of bacteriology and immunology
18. Communicate in groups and team in laboratory experiments
19. Follow the computer-based tools and internet to extract information and knowledge

V. Course Content:

1 – Course Topics/Items:

a – Theoretical Aspect

Order	Topic List / Units	CILOs (symbols)	Sub-topic List	Week Due	Contact hours
16.	Bacteriology	a1, b1, b2, b3, d1,d2	Introduction, Morphology, Cell Structure and classification of bacteria, Growth and death of bacteria	1	2
17.	Bacteriology	a1-7, b1, b1-4, d1-4	Introduction, Bacterial genetics and Brief account of Culture media and Culture techniques.	2	2
18.	Bacteriology	a1-7, b1, b1-4, d1-4	Basic knowledge of selection, collection, transport, processing of clinical, Specimens and identification of bacteria, Control of microorganisms by sterilization and disinfection and Antimicrobial Agents	3	2
19.	Bacteriology	a1-7, b1, b1-4, d1-4	Gram- Positive Cocci (brief account of each coccus - detailed account of mode of spread, laboratory diagnosis) and Gram– Negative Cocci (Neisseria, Moraxella)	4	2
20.	Bacteriology	a1-7, b1, b1-4, d1-4	Gram- Positive Bacilli (Bacillus, Corynebacteria;	5	2

			mode of spread, important clinical feature, Laboratory diagnosis) and Gram– Negative Bacilli – Enteric Bacteria, Gram–Negative Bacilli -Nonfermenting Organisms		
21.	Bacteriology	a1-7, b1, b1-4, d1-4	Gram–Negative Bacilli Nonfermenting Organisms (Pseudomonas spp, Acinetobacter spp. Aeromonas spp., Vibrio chloerae) and Gram-	6	2
22.	**Mid Exam**	a1-7, b1, b1-4, d1-4		7	2
23.	Bacteriology	a1-7, b1, b1-4, d1-4	Gram- Positive Bacilli (Bacillus, Corynebacteria; mode of spread, important clinical feature, Laboratory diagnosis) and Gram– Negative Bacilli – Enteric Bacteria, Gram–Negative Bacilli -Nonfermenting Organisms	8	2
24.	Bacteriology	a1-7, b1, b1-4, d1-4	Gram–Negative Bacilli Nonfermenting Organisms (Pseudomonas spp, Acinetobacter spp. Aeromonas spp., Vibrio chloerae) and Gram-	9	2
25.	Bacteriology	a1-7, b1, b1-4, d1-4	Non-sporing Anaerobes - in brief about classification and morphology, in detail about pathogens - mechanism of disease production and prevention.	10	2

26.	Bacteriology	a1-7, b1, b1-4, d1-4	Mycobacteria - Tuberculosis and Leprosy,	1`1	2
27.	Bacteriology	a1-7, b1, b1-4, d1-4	Spirochetes(Treponema pallidum - detailed account of Oral Lesions of syphilis, Borrelia, vincentii.), Chlamydia, Mycoplasma, Legionella & Rickettsiae.	12	2
28.	Bacteriology	a1-7, b1, b1-4, d1-4	Bacterial drug resistance	13	2
29.	Review	a1-7, b1, b1-4, d1-4		14,15	4
30.	**Final Exam**	a1-7, b1, b1-4		16	2
Number of Weeks /and Units Per Semester				**16**	**32**

b - Practical Aspect

Order	Tasks/ Experiments	CILOs (symbols)	Week Due	Contact Hours
10)	Introduction to Microbiology laboratory techniques and safety rules	c1-4	1,2	4
11)	And Introduction to Microscopy Types of Microscopes.	c1-4	3,4	4
12)	Examination of Stained Smear and Wet Preparation.	c1-4	5,6	4
13)	Mid-Exam	c1-4	7	2
14)	Microscopic examination of Eukaryotic microorganisms.	c1-4	8,9	4
15)	Staining of Bacterial Cells (simple staining)	c1-4	10,11	4
16)	Bacterial Culture Techniques	c1-4	12,13	4
17)	Review	c1-4	14,15	4
18)	Final Exam	c1-4	16	2
Number of Weeks /and Units Per Semest :r			**16**	**32**

VI. Teaching strategies of the course:
Lecture Lab seminar

IV. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes (CILOs symbols)
8.	**Attendance, Participation and quizzes**	**All Weeks**	10	7%	a1-7,b1-b4
9.	**Oral Tests and Homeworkassignments**	Sporadic through the semester	10	7%	a1,a3, a5, b1-4
10.	**Attendance, Practical Reports**	**All Weeks**	15	10%	c1-4
11.	**Practical mid-semester exam**	7th	15	10%	c1-4
12.	**Theoretical mid-semester exam**	7th	30	20%	a1-7, b1-4
13.	**Final Exam (theoretical)**	**16th**	50	33%	a1-7, b1-4
14.	**Final Exam (practical)**	**16th**	20	13%	c1-4
	Total		**150**	**100%**	

V. Students' Support:

Office Hours/week	Other Procedures (if any)
Two contact hours per week	None

VI. Learning Resources:

1- Required Textbook(s) (maximum two).

There is a long list of anatomy books present in the faculty library for the student to choose from.
Course notes done by teaching staff.

2- Recommended Books and Reference Materials.

Course notes of Department theoretical books and practical manual (lectures and practical) a.
Essentials of microbiology . Oxford Press. By J.Bagg
b. Microbiology at a Glance
c. Immunology at Glance
d. Notes in Medical virology Practical book :

District Laboratory Practice in Tropical Countries Monica Cheesbrough

o **3- Electronic Materials and Web Sites *etc*.**

als and web sites of Microbiology and Immunology http://www.med-ed-online.org/, midline Pubmed & Go

II. Course Policies (To be determined by Faculty Deanship)

Based on university regulations, the following aspects should be figured out:

8.	(Class Attendance) : Class Attendance: - Attendance of students is taken at beginning of lecture time. - The allowed absence percentage is 20% without excuse and 30% with acceptable excuse, - When student has been absent for more than 30% of course lectures without acceptable excuse, the student will be prohibited from entering subject the final exam.
9.	(Tardy) :If the student came late to class for 15 minutes, he/she is registered absent but he/she allowed to enter the hall to listen lecture presentation.
10.	(Exam Attendance/Punctuality) :According to examination roles or policies: - If the student is absent in the year works exams, the decision is referred to the teacher whether to allow or to reject according to the offered excuse. - If the student is absent in the final exam with an acceptable excuse, the student would be attended the re-sit exam as 1st trial. - If the student is absent in the final exam without an acceptable excuse, the student would be attended re-sit exam as 2nd trial.

11.	(Assignments & Projects) :According to examination roles or policies: - The student should be attended the final exam at certain time and according to the accredited exam table. - If the student came late after 15 minutes from the exam beginning, the student would be to attend the exam with oral monition of never repeat. - In case of the repeat, the student prevented from entrance and considered absent.
12.	(Cheating) :According to examination roles or policies: - If the student cheated in the year works exams of the course, the student prohibited from entrance the final exam and given zero degree with prevented him from entrance the re-sit exam of this course. - If the student cheated in the final exam of the course, the student prohibited from the cheated course and the followed course and given zero degree in both courses, and prevented him from entrance the re-sit exams of them. - If the cheated course is the last at the exam table, the student prohibited from the cheated course and the past course and given zero degree in both courses, and prevented him from entrance the re-sit exams of them. - If the cheating is discovered in subsequent time, the cheated student didn't escape from payment and ordinance is referred to precision committee and the final decision is referred to the collage council. - If the cheating is discovered during the correcting the answered books, the corrector has written a report to the chairman of concerned department for taking available procedure. - The faculty council is able to segregate the student for one academic year in 2nd cheating trial and final segregation from the university after accreditation of university council in 3rd cheating trial.
13.	(Plagiarism) :According to examination roles or policies: Plagiarism means a student plagiarizes the personality of another student. Plagiarism for exam purpose: 1- Both students are prohibited from the plagiarized academic year and all results of them are rejected with prohibition of them from entrance the resit exam. 2- If the plagiarized student is from outside the university, the student is referred to the university police. -Plagiarism for other purposes: 1- Both students are warned as segregation. 2- If the plagiarized student is from outside the university, the student is referred to the university police.
14.	(Other policies) :-The student should be followed the instructions for the exam entrance. - The student should be followed all systems & laws of the university.