ATTACHMENT 2 (e)

Course Specifications

Kingdom of Saudi Arabia

The National Commission for Academic Accreditation & Assessment

Course Specifications
(CS)

Course Specifications

Institution: University of Dammam Date: 15/7/1435
College/Department : College of Science in Dammam/Biology Department

A. Course Identification and General Information

1. **Course title and code:** Bacteria & viruses **BIOL 221N -**
2. **Credit hours:** 3(2Lecture +1 Practical)/week
3. Program(s) in which the course is offered: (B.Sc. in Biological Sciences) Biology Department Program
(If general elective available in many programs indicate this rather than list programs)
Bachelor of Science degree in Biology
4. Name of faculty member responsible for the course:
A specific team from the Biology Department
5. Level/year at which this course is offered: 4th level - 2nd semester year
6. Pre-requisites for this course (if any): 212 Biol
7. Co-requisites for this course (if any): No
8. Location if not on main campus: College of Science/University of Dammam
9. Mode of Instruction (mark all that apply)

a. traditional classroom	√	What percentage?	70 %
b. blended (traditional and online)	-	What percentage?	-
c. e-learning	√	What percentage?	%02
d. correspondence	-	What percentage?	-
f. other	-	What percentage?	-

Comments: 30 % practical studying in the lab .

B. Objectives

1. Summary of the main learning outcomes for students enrolled in the course:

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2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field):

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C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description: Bacteria & viruses 3 hr Lecture/week (13 weeks)

1. Topics to be Covered		
List of Topics	No. of Weeks	Contact hours
• Introduction –discovery and taxonomy of bacteria	1st week	2hr
• Principles and recent taxonomy of bacteria .	2nd+3 week	2hr
• Internal structures of bacterial cell + 1st exam .	3rd+4 week	2hr
• Bacteria growth , factors effecting	5th+6 week	2hr
• Sensitivity to antibiotics • Phylogeny and taxonomy according to molecular , biological techniques and DNA sequencing	7+8week	2hr
• Taxonomy of viruses • Immunity and resistance of viral diseases +2nd exam .	9+10)week	2hr
• Hepatitis viruses , types and clinical treatment + HID viruses + bacteriophages.	11th+12 week	2hr
List of Topics in practical course		
• Sterilization(autoclave – its use – filters – other methods of sterilizations •	1tst week	2hr
• Preparation of bacterial media – isolation •	2tn week	2hr
• Examinations of different bacterial colonies	3th+4 week	2hr

• Isolation using the pouring plates techniques. • Staining techniques + studying bacterial movement	5th week	2hr
• Caunter stain + year exam	6th week	
• Spore stain – flagellas stain –antiacid stain –physical factors affecting bacterial growth (O2 , temperature,…)	7th week	
• Negative stain – capsule stain – measurement of cell dimensions.	8th week	
• Effect of chemical & physical factors on growth – examples of bacteria.	9 th week	
• Bacteriophage isolation – artificial plant infection – symptoms of viral infection	10+11 th week	
REVISION and DISCUSSION	12 th week	

2. Course components (total contact hours and credits per semester):

	Lecture	Tutorial	Laboratory or Studio	Practical	Other:	Total
Contact Hours	2x 12hours	Non		1x11 hours		35
Credit	2			1		3

3. Additional private study/learning hours expected for students per week.

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

Development of Learning Outcomes in Domains of Learning For each of the domains of learning shown below indicate:

- A brief summary of the knowledge or skill the course is intended to develop;
- A description of the teaching strategies to be used in the course to develop that knowledge or skill;
- The methods of student assessment to be used in the course to evaluate learning outcomes in the domain concerned.

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code	NQF Learning Domains	Course Teaching	Course Assessment
1.0	**Knowledge**		
1.1	At the end of the course , students should I identify bacterial and viral specimen	Lectures to nourish the student's knowledge	Exam (practical 30% +theoretical 70%)
1.2	Enumerate the physical and chemical factors influencing growth	At the beginning of each lecture, all items are written	Oral exam
1.3	I identify the scientific terminologies of this branch	the purpose of each lecture is correlated to the previous one	discussion
	Know the taxonomic keys of bacteria and viruses.	Homework's and team work projects are proposed	
2.0	**Cognitive Skills**		
2.1	Estimate the bacterial numbers.	Designing experiment	Reviewing and correcting student activity
2.2	Apply experiments for studying properties of microorganisms	Reviewing the student experimental result	Marks of student activity are added to the
2.3	Apply in formations , she got to plan	Correcting the result	
3.0	**Interpersonal Skills & Responsibility**		
3.1	search database and collect information's related to the subject	Distribute tasks between students .	Evaluation of the student's reports and give marks
3.2	make presentation of the data by different ways.	Realizing and evaluating each task.	
	communicate with her team to distribute work	Criticize positively each	

		all groups.	
3.3	collaborate and sharing with collogues to represent data		
4.0	**Communication, Information Technology, Numerical**		
4.1	Searching using web sites.	Per posing the internet sites	
4.2	Search data base and collect information.	Suggesting key words to search evaluation of the student presentation and disc	
4.3	Find information individually		
5.0	**Psychomotor**		
5.1	Preparing microscopical slides.	Following the best way for research.	Evaluate microscopic slides and methods of using microscopy with
	Staining professionals .	Applying the methods of biosafety inside microbiological	
	Drawing in a scientific way.		
	Induce infection in the lab.		

5. Map course LOs with the program LOs. (Place course LO #s in the left column and program LO #s across the top.)

Course LOs #	**Program Learning Outcomes (Use Program LO Code #s provided in the Program**								
	1.1	**1.2**		**2.1**		**3.2**		**4.1**	
1.1									
2.1									

6. Schedule of Assessment Tasks for Students During the Semester			
	Assessment task (e.g. essay, test, group project, examination,	Week Due	Proportion of Total
1	Tow med term exams – projects, presentations, Queues, discussion, homework's	6-11	30 %
2	Monthly practical exam+ skills	9+ all weeks	10 %
3	Final practical exam	3-14	20 %
4	Final theoretical exam	16	40 %
5			

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

Office hours (At least 6 hours/ week/semester).

Providing advice and academic guidance by meeting 4 hrs weekly + communication through E-mail.

E. Learning Resources

1. List Required Textbooks 1 Text books in Curriculum plan of Science College
2. List Essential References Materials (Journals, Reports, etc.) 1. .scientific journals and reviews
2. List Recommended Textbooks and Reference Material (Journals, Reports, etc) 1
4. List Electronic Materials, Web Sites, Facebook, Twitter, etc. 1. Electronic sites and equipment (eg.CDs) 2. Sites of international university sites (Leeds , king saud and Abdul Aziz)
5. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

- Large laboratories should be enough to accommodate 50 students.
- Full-equipped Laboratories

2. Computing resources (AV, data show, Smart Board, software, etc.)

- Laptop computer.
- Projector system.
- Data show.
- Computer programs, Projectors and lectures

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

- No need

G. Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

By questioner, which is prepared to the students

2 Other Strategies for Evaluation of Teaching by the Instructor or by the Department

- . electron microscopy (scanning and transmission- Eliza technique isolation rooms

3 Processes for Improvement of Teaching

- .1-preparing evaluation form for students and analyzing of strength and weakness points.
- 2-open free discussion between students
- 3-Always visiting scientific sites on internet and using recent references

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- Verifying Standards of Student Achievement Measured by evaluation of student's levels.
- And by discussion with other instructor in the same field

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- Purchasing chemicals- establish laboratory preparations and equipment's