Course Specifications
SYSTEMIC BACTERIOLOGY

• Program on which the course is given: Bachelor of Veterinary Medical sciences
• Department offering the course: Bacteriology, Immunology and Mycology
• Academic year / Level: 3\textsuperscript{rd} Year, 2\textsuperscript{nd} semester

A- Basic Information

Title: Systemic Bacteriology. Code: Vet 00632a
Lecture: 2 hours/ week
Practical: 3 hours/ week
Total: 5 hours

B- Professional Information

1 – Overall Aims of Course:

• Provide all the needed information on bacteria as causative agents of animal diseases, toxicity and/or allergy.

• Provide skills for accurate diagnosis of bacterial infections.

• Give recent information on the recent techniques used in the diagnosis of microbial infections and to familiarize students with basic principals of molecular biology and biotechnology methods.

2 – Intended Learning Outcomes of Course (ILOs)

a-Knowledge and Understanding:

By the end of this course, students will be able to:

After successful completion of the course the students should be able to:
a1- Define and classify bacteria involved in causing diseases and important infections.
a2- Tabulate and classify bacteria causing economic losses in farm animals.
a3- Describe host-parasite relationship and microbial pathogenesis.
a4- Mention different measures of prevention and control including chemotherapeutic agents as well as treatment and vaccination of bacterial and fungal pathogens.
b- Intellectual Skills

By the end of this course, students will be able to:

b1- Illustrate a systematic approach for laboratory diagnosis of common infections and clinical conditions and select the most appropriate and cost-effective tool leading to the identification of the causative agent.
b2- Interpret results of microbiological, serological and molecular tests.
b3- Use the scientific approach for prevention, control and suggestion of treatment for microbial infections.

c- Professional and Practical Skills

By the end of this course, students will be able to:

c1- Practice on sample collection for isolation of bacteria and fungi.
c2- Choose suitable media for trials of isolation of different organisms.
c3- Use the equipments and chemicals in the microbiology laboratory.
c4- Perform different methods for identification of bacteria and fungi.
c5- Solve problems during isolation.
c6- Apply recent techniques used for identification of bacteria and fungi.

d-General and Transferable Skills

On successful completion of this course, students will be able to:

d1- Using power point presentation in seminars.
d2- Using internet for getting more information.
d3- Communicate with others for improving quality of learning.
d4- Retrieve information from different sources independently.
d5- Coordinate for conference, workshop.
3- Contents

<table>
<thead>
<tr>
<th>Topic</th>
<th>No. of hours</th>
<th>Lecture</th>
<th>Practical</th>
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<tbody>
<tr>
<td>Different Bacteria of Medical Importance</td>
<td>30</td>
<td>30</td>
<td>-</td>
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<tr>
<td>Methods for diagnosis of bacterial and fungal diseases and different techniques for isolation and identification.</td>
<td></td>
<td>-</td>
<td>45</td>
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<tr>
<td>Total</td>
<td>75</td>
<td>30</td>
<td>45</td>
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4- content-ILOs matrix

<table>
<thead>
<tr>
<th>Content</th>
<th>ILOs</th>
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<tbody>
<tr>
<td>Knowledge and understanding</td>
<td>Intellectual and practical</td>
</tr>
<tr>
<td>1. Different Bacteria of Medical Importance</td>
<td>a1, a2, a3, a4</td>
</tr>
<tr>
<td>2. Methods for diagnosis of bacterial and fungal diseases and different techniques for isolation and identification.</td>
<td>a1, a2, a3, a4</td>
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5- Assessment-ILOs matrix

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Knowledge and understanding</th>
<th>Intellectual and practical</th>
<th>General and transferable</th>
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<tbody>
<tr>
<td>Mid – Term exam</td>
<td>a2, a3, a4</td>
<td>b1, b2</td>
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<tr>
<td>Practical exam</td>
<td>a1</td>
<td>b1, b2, b3, c1, c2, c3, c4, c5</td>
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<tr>
<td>Oral exam</td>
<td>a1, a2, a3, a4, a5</td>
<td>b1, b2, b3</td>
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<tr>
<td>Final term exam</td>
<td>a2, a3, a4</td>
<td>b1, b2, b3, c1, c2, c3</td>
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<tr>
<td>Assignments and research</td>
<td>a4</td>
<td>b1</td>
<td></td>
</tr>
</tbody>
</table>
6- Teaching and Learning Methods

4.1- Lecture notes and textbooks
4.2- Lectures prepared on multimedia as PowerPoint presentations.
4.3- Training and for all laboratory tools and equipments.

7- Student Assessment Methods

5.1 Mid-term examination
5.2 Final-term exam
5.3 Oral exam
5.4 Practical exam
5.5 Assignment and research

Assessment Schedule

Assessment 1: Mid-term exam Week 8
Assessment 1: Final-term exam Week 15
Assessment 2: Oral exam. Week 15
Assessment 3: Practical exam. Week 14
Assessment 4: assignment and research Monthly

Weighting of Assessments

<table>
<thead>
<tr>
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<th>Weight</th>
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<tr>
<td>Final-term Examination</td>
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<tr>
<td>Oral Examination</td>
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<tr>
<td>Practical Examination</td>
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<tr>
<td>Assignment and research</td>
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</tr>
<tr>
<td>Total</td>
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</table>

8- List of References

8.1- Course Notes
General bacteriology, Immunology and Mycology: summarized integrated course for 3rd grade students.

8.2- Essential Books (Text Books)
- Merchant and Packer. Veterinary Bacteriology and Virology.
- Topley and Wilson. Textbook of Microbiology and Microbial infections.
- Wight, Hirsh, Maclachlan and Walker. Veterinary Microbiology.
- Quinn, Carter, Carter and Markey. Clinical Veterinary Microbiology.
8.3- Periodicals, Web Sites, ... etc

Periodicals:
- Journal of Veterinary Microbiology.

Web sites:
- http://www.microbe.org/microbes/virus_or_bacterium.asp
- http://www.bact.wisc.edu/Bact330/330Lecturetopics
- http://www.microbelibrary.org/
- http://www.mic.ki.se/Diseases/c2.html

9- Facilities Required for Teaching and Learning

- A laboratory of microbiology.
- Multimedia projector, CDs and a computer.
- Instruments and media for bacteriological isolation and identification.

Course Coordinators:
Prof. Dr. Adel M. Ad El-Megeed Khalid
Prof. Dr. Ashraf Awad Abd El-Tawab

Department head: Signature: ..............................................................

Date: 09-01-2011