University: South Valley University
Faculty of Veterinary Medicine,

Programme(s) on which the course is given: Bachelor degree of veterinary science
Major or Minor element of programmes: minor
Department offering the programme: Physics Department
Department offering the course: Physics Department
Academic year / Level: First year (2\textsuperscript{nd} semester)
Date of specification approval: 22/12/2009

A- Basic Information

Title: Biophysics
Code: 123
Credit Hours:

Lecture: 2 \hspace{1em} Practical: 2 \hspace{1em} Total: 4

B- Professional Information

1 – Overall Aims of Course
Graduates of veterinary medical program must acquire the following knowledge and understanding:
1- Structure of Matter
2- Radiation physics
3- X-Ray
4 - Interaction of Radiation with Matter
5- Radiation Biology
6- Radiation Protection

2 – Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding:
a1- basic knowledge about Structure of Matter.
a2- basic knowledge about Radiation physics.
a3- basic knowledge about X-Ray.
a4- basic knowledge about Interaction of Radiation with Matter
a5- basic knowledge about Radiation Biology
a6- basic knowledge about Radiation Protection
b- Intellectual Skills:

**Graduates must have the ability to:**
- b1 - Able to deal with different Structure of Matter.
- b2 - Able to deal with problems in Radiation physics.
- b3 - Able to deal with different characters of X-Ray.
- B4 - Able to deal with the basics of Interaction of Radiation with Matter.
- B5 - Able to deal with the basics of Radiation Biology and Radiation Protection.

c- Professional and Practical Skills:

**Graduates must be attain the capacity to:**
- c1 - Ability to carry out experiments in electricity circuits and heat principles.
- c2 - Ability to design experiments based on Radiation physics.
- c3 - Ability to avoid possible injuries from exposure to x-rays.

d- General and Transferable Skills

**Graduates must have the ability to:**
- 1 - Ability to write reports and essay on the different scientific items on physics.
- 2 - Reporting of the results of different experiments in printable sheets.
- 3 - Ability to work in groups and team.
- 4 - Ability to use computer and internet to extract information and knowledge.

3- Contents:

<table>
<thead>
<tr>
<th>Topic</th>
<th>No. of hours</th>
<th>Lecturer</th>
<th>Tutorial/Practical</th>
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<tbody>
<tr>
<td>Structure of Matter</td>
<td>1</td>
<td>Prof. dr. Gamal Atta</td>
<td>2</td>
</tr>
<tr>
<td>Introduction to Radiation physics</td>
<td>2</td>
<td>Prof. dr. Gamal Atta</td>
<td>2</td>
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<tr>
<td>X-Ray</td>
<td>1</td>
<td>Prof. dr. Gamal Atta</td>
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<tr>
<td>Interaction of Radiation with Matter</td>
<td>2</td>
<td>Prof. dr. Gamal Atta</td>
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<tr>
<td>Radiation Biology</td>
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<td>Prof. dr. Gamal Atta</td>
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<tr>
<td>Radiation Protection</td>
<td>2</td>
<td>Prof. dr. Gamal Atta</td>
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<tr>
<td>Total</td>
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</table>

4– Teaching and Learning Methods

4.1- Lecturing

4.2- Discussion sessions

5 – Teaching and Learning methods for Disables students

5.1- Office hours

6- Teaching and Learning Methods for Distinguished students

6.1- Assessment of writing review paper to gain skills of self learning and presentation

6.2- Research assignment

7- Student Assessment

7.1- Examination

Written exam (assay) to measure a1, a2, c1, c2, and c3
Multiple choice exam to measure b.1, b.2, and b.3

7.2- Time Schedule

Mid term (multiple choice questions) …. Week 8
Final exam ………………………… Week 16

7.3-Weighting of Assessments

<table>
<thead>
<tr>
<th>Assessment Type</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Mid-Term Examination</td>
<td>%</td>
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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>Semester Work</td>
<td>%</td>
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<tr>
<td>Other types of assessment</td>
<td>%</td>
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<tr>
<td>Total</td>
<td>3%</td>
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</table>

Total 100%
7.4- Tools:-

- Assignments which are:-
  1- Formulation of posters to illustrate certain items of the course.
  2- Formulation of essays on certain subjects of the course.
  3- Practical follow up of certain experimental work.

8- List of References

  8.1- Course Notes
  Department course notes (lectures and practical)

  8.2- Required Books (Text Books)

  8.3- Recommended Books
  8.3.1- Biophysical Science by J. L Oncley
  8.3.2- Progress in Biophysics by Butler, J. A. V & Huxley, H. E.
  8.4- Periodicals, Web Sites, … etc

9- Facilities Required for Teaching and Learning

- Appropriate teaching accommodation like teaching and assignments rooms.
- Teaching aids like overhead projectors, scientific posters.
- Suggest also the presences of data show which is essential for presenting the theoretical and practical courses.

Course Coordinator: prof. Dr. Gamal aldeen atta

Head of Department: prof. Dr. Gamal aldeen atta

Date: 1 / 10 / 2009