



Biophysics

Benha University:

Faculty: Veterinary Medicine

Program on which the course is given: **Bachelor of Veterinary Medical Science**

Department offering the course: Department of Physics, Faculty of science

Academic year/level: 1st year

Date of specification approval: Ministerial Decree No 921, on 15/9/1987

(Then approved in this recent template by department council on 24/10/2008).

A- Basic Information

Title: Biophysics

Code: Vet 00611

Lecture: 4 h/w

Practical: 2 h/w

Total: 6 h/w

B- Professional Information

1- Overall aims of course:

Aim of course is to provide the students with the principle knowledge about the muscular action potential, electricity of the bones, basic points for uses of the X rays and their interaction with the other matters and basis of the Electrocardiograph, also this course will provide the students by the valuable information about the specific gravity of the different liquids and solid materials and melting point of different solid material that will enable them to gain the skills in the field of experimental physics and so push them for constructing and developing a simple tools depending on that basic knowledge.

2- Intended learning outcomes of course (ILOS):

a- Knowledge and understanding :

After successful completion of this course the students should be able to:

- a.1. Know the action potential in muscles.
- a.2. Know the electricity of bone and the principles of the Electrocardiograph.
- a.3. Know about X-ray and their interaction with the other matters.



b- Intellectual skills:

After successful completion of that course the students should be able to:

- b.1. Determine the specific gravity of liquid and solids .
- b.2. Determine the melting point of solids.
- b.2. Determine the power of concave mirrors .

c- Professional and practical skills :

After successful completion of that course the students should be able to:

- c.1. Construct any experiments for determination of any physical phenomena depending on the view of the physics department .
- c.2. Determine the specific gravity of different liquid and solid.

d- General and transferable skills :

After successful completion of that course the students should be able to:

- d.1. Be a successful member of biophysics.
- d.2. Illustrate a scientific study in the biophysics laboratories .
- d.3. Set the basis of the scientific biophysics terms.

3- Contents:

Topic	No. of hours	Lecture	Practical
Determination of specific gravity	20	13	7
Determination of specific heat of liquid	20	13	7
Determination of electrical chemical equivalent	20	13	7
Determination of refractive index	16	11	5
Determination of electrical chemical equivalent	14	10	4
Total	90	60	30

4- Teaching and learning methods:

- 4.1. Lectures
- 4.2. Clinical and small group sessions

5- Student assessment methods:

- 5.1. Written to assess knowledge and information.
- 5.2. Practical to assess professional and practical skills.



Assessment schedule:

Assessment 1: Practical examination	week 13
Assessment 2: Written examination	week 15

Weighing of assessments:

Practical examination	50	%
Written examination	50	%
Other types of assessment	0	%
Total	100	%

6- List of references:

6.1. Course notes: Department books

7- Facilities required for teaching and learning:

Biophysics lab.

Course Coordinators:

Prof. Dr. Hassan Omar Nafaa

Prof. Dr. Nabil Mohamed El-Nagar

Date:



Physical & Organic Chemistry

Benha University

Faculty: Veterinary Medicine

Program on which the course is given: **Bachelor of Veterinary Medical Science**

Department offering the course: **Department of Chemistry, Faculty of science**

Academic year/level:

Date of specification approval: Ministerial Decree No 921, on 15/9/1987.

(Then approved in this recent template by department council on 16/10/2008).

A- Basic Information

Title: Physical & organic chemistry

Lecture: 4 h / W

Code: Vet 00612

Practical: 4 h / W

Total: 8 h /W

B- Professional Information

1- Overall aims of course:

Aim of the course is to provide the students with:

- The basic information about the gas laws and thermochemistry.
- The basic principles of organic chemistry.
- The basic principles of electrochemistry.

2- Intended learning outcomes of course (ILOS):

a-Knowledge and understanding :

After successful completion of this course the students should have:

- a.1. Basic knowledges about the ideal and real gas laws .
- a.2. Basic information about the different types of organic chemical reactions.
- a.3. Basic knowledges about the chemistry of Alkane, Aliphatic, aromatic and carbohydrates .

b-Intellectual skills :

After successful completion of that course the students should be able to:

- b.1. Identify the different simple organic compounds .



b.2. Apply qualitative analysis of anions and cations and their mixtures.

c-Professional and practical skills :

After successful completion of that course the students should be able to:

- c.1. Use diazonium salts .
- c.2. Apply electrophilic substitution reactions .
- c.3. Interpret the physical & organic reactions .

d-General and transferable skills :

After successful completion of that course the students should be able to:

- d.1. Be a successful chemists.
- d.2. Illustrate a scientific study in the organic chemistry laboratories .
- d.3. Set the basis of the scientific chemists terms.
- d.4. Identify, make final and accurate judgment on many of organic & physical reactions.

3- Contents:

Topic	No. of hours	Lecture	Practical
Introduction to organic chemistry	9	3	6
Alkanes	10	4	6
Alkenes	12	6	6
Alcohols	12	6	6
Amines	12	6	6
Simple organic compounds	12	6	6
Ether	12	6	6
Aromatic compounds	10	4	6
Carbohydrates & Ketones	14	8	6
Qualitative analysis of anions & cations and their mixture	17	11	6
Total	120	60	60

4- Teaching and learning methods:

- 4.1. Lectures hall.
- 4.2. Small group classes.



5- Student assessment methods:

5.1. Practical to assess knowledge & understanding of the practical course

5.2. Written to assess knowledge & understanding

Assessment schedule:

Assessment 1: practical examination Week 13

Assessment 2 written examination Week 15

Weighing of assessments:

Practical examination 50 %

Final- term examination 50 %

Total **100 %**

6- List of references:

6.1. Course notes: Department books

7- Facilities required for teaching and learning

Chemistry Lab.

Course Coordinators:

Prof. Dr. Hassn Ali Dosoky

Prof. Dr. Ali Usry El-Etr

Date:



Histology A

Benha University

Faculty: Veterinary Medicine

Program on which the course is given: **Bachelor of Veterinary Medical Sciences.**

Department offering the course: **Department of Histology & Cytology**

Academic year / level: 1st year

Date of specification approval: Ministerial Decree No 921, on 15/9/1987.

(Then approved in this recent template by department council on 17/10/2008)

A- Basic Information

Title: Cytology and General Histology

Code: Vet 00613a

Lecture: 1h

Practical: 3h

Total: 4 hours

B- Professional Information

1- Overall aims of course:

- Acquiring the basic biological information about the cells.
- Understanding mechanism of action of the different organelles.
- Identification and differentiation between different tissue parts.

2- Intended Learning Outcomes of the Course (ILOs):

a- Knowledge and understanding

After successful completion of this course the students should have:

- a.1. Basic knowledge about cytology and general histology .
- a.2. Basic knowledge about cytogenetic and cytochemistry.
- a.3. Basic information about different body tissues.

b- Intellectual Skills

After successful completion of this course the students should be able to:

- b.1. Recognize different type of cells.
- b.2. Choose the suitable techniques for identification of different cells.
- b.3. Judge the tissue identifications.



c- Professional and Practical Skills

After successful completion of this course the students should acquire:

- c.1. Skills of staining.
- c.2. Skills of tissue differentiation.
- c.3. Skills of tissue classification and identification.

d- General and Transferable Skills

After successful completion of this course the students should be able to:

- d.1.- Be a functioning member in Histology team.
- d.2.- Make final & accurate identification of the tissue and organs.

3- Contents:

Topic	No. of hours	Lecture	Practical
Cytology	16	4	12
Cytochemistry	4	1	3
Epithelium Tissue	16	4	12
C.T	24	6	18
Total	60	15	45

4- Teaching and Learning Methods

Lectures and lab sessions in which the following facilities are used:

- 4.1- Slides
- 4.2- CD's
- 4.3- Panorama slides
- 4.4- 3 D Demonstrator
- 4.5 Microscopes.

5- Student Assessment Methods

- 5.1- MCq to assess understanding and intellectual skills.
- 5.2- Practical examinations to assess professional of practical skills.
- 5.3- Written examinations to assess knowledge of drawing.
- 5.4- Oral to assess intellectual and transferable skills.



Assessment Schedule

Assessment 1: M.C.q	week 4, 8 and 12
Assessment 2: Practical examination	week 13
Assessment 3: Written examination	week 15
Assessment 4: Oral examination	week 15

Weighing of assessment

M.C.q examination	10 %
Practical examination	25 %
Final term examination	50 %
Oral examination	15 %
Other types of assessments	0 %
Total	100 %

6. List of References

6.1- Course notes

- Fundamental veterinary histology. Edited by Staff members.
- Essential Laboratory Histology. Edit by Staff members.

6.2- Essential books (Text books)

- **Junqueira, L. C. and Carneiro J. (2003):** Basic histology. Tenth Edition. McGraw-Hill. New York Chicago San Francisco Lisbon London Madrid Mexico city New Delhi San Juan Seoul Singapore Sydney Toronto.
- **Eroschenko, V. P. (2005):** difiore's Atlas of histology. 10th Ed. Philadelphia Baltimore New York London Buenos Aires Hong Kong Sydney Tokyo.
- **Young, B. and Heath, J. (2000):-**Wheater's functional histology. A text and color atlas. 4th Ed. Edinburgh London, New York Philadelphia. Stlouis. Sydney Toronto.
- **William, J. Banks (1993):-** Applied Veterinary Histology, 3rd Ed., Mosby year book. St. Louis Baltimore Boston Chicago London Philadelphia Sydney Toronto.



6.3- Recommended books

- **Cormack, D. H. (1993):** Essential histology. First Edition. J. B. Lippincott Company. Philadelphia.
- **Dellmann, H. D. and Eurell. J. (1998):** Text book of Veterinary Histology, 5th Ed., Williams and Wilkins A waverly company. Baltimore Philadelphia London Paris Bangkok Buenos Aires Hong Kong Munich Sydney Tokyo Wroclaw.
- **Drury R. A. B. and Wallington E. A. (1980):-** Carleton's Histological technique. 4th ED., Oxford Unvi., Press. London, New York, Toronto

6.4- Periodicals, Web site . . . etc.

- Journal of Anatomy.
- Journal of Cell Ultrastructure.
- American Journal of Anatomy.
- Cell tissue Research.
- Anatomia Histologia Embryologia.

7- Facilities required for teaching and learning

- Laboratory.
- Tissue processing & staining.
- Immunohistochemistry kits.

Course coordinator: Dr. Ihab El-Zoghby

Head of the Department: Dr. Ihab El-Zoghby

Date:



Histology B

Benha University

Faculty: Veterinary Medicine

Program on which the course is given: **Bachelor of Veterinary Medical Sciences**

Department offering the course: **Department of Histology & Cytology**

Academic year / level: 1st year

Date of specification approval: Ministerial Decree No 921, on 15/9/1987.

(Then approved in this recent template by department council on 24/2/2009).

A- Basic Information

Title: Poultry Histology

Code: Vet 00613b

Lecture: 1

Practical: 3

Total: 4 hours

B- Professional Information

1- Overall aims of course:

After successful completion of this course the students should have:

- Basic knowledge about histological structure of the different body tissue.
- Understand the fine structure of different body organs.
- Differentiate between different body organs (microscopically).

2- Intended learning outcomes of the course (ILOs):

a-Knowledge and Understanding:

After successful completion of this course the students should have:

- a.1. Basic knowledge about poultry histology .
- a.2. Basic knowledge about organ in different birds.
- a.3. Basic information about different body tissues.

b- Intellectual skills:

After successful completion of this course the students should be able to:



- b.1. Recognize different bird organs.
- b.2. Choose the suitable techniques for identification of bird organs.
- b.3. Judge the tissue identifications.

c- Professional and practical skills

After successful completion of this course the students should acquire the following skills:

- c.1. Skills of staining.
- c.2. Skills of tissue differentiation.
- c.3. Skills of organs classification and identification.

d- General and transferable skills

After successful completion of this course the students should be able to:

- d.1. Be good member of Histologist team.
- d.2. Make final & accurate identification of the tissue and organs.

3- Contents:

Topic	No. of hours	Lecture	Practical
Muscular Tissue	4	1	3
Nervous Tissue	4	1	3
Lymphatic tissue and system	8	2	6
Digestive system	12	3	9
Respiratory System	8	2	6
Urinary System	4	1	3
Male and Female Genital	8	2	6
Endocrine System	4	1	3
Lymphatic System	4	1	3
Feather and Skin	4	1	3
Total	60	15	45



4- Teaching and learning methods

Lectures and practical sessions in which one or more of the following facilities are used:

- 4.1- Slides
- 4.2- CD's
- 4.3- Panorama slides
- 4.4- 3 D Demonstrator

5- Student assessment methods

- 5.1- MCq to assess knowledge and understanding.
- 5.2- Practical examinations to assess professional of practical skills.
- 5.3- Written examinations to assess knowledge and understanding.
- 5.4- Oral to assess intellectual skills.

Assessment Schedule

Assessment 1: MCq examination	week	4, 8-12
Assessment 2: Practical examination	week	13
Assessment 3: Written examination	week	15
Assessment 4: Oral examination	week	15

Weighing of assessment

M.C.q examination	10 %
Practical examination	25 %
Final term examination	50 %
Oral examination	15 %
Total	100 %

6. List of References

6.1- Course notes

- Poultry and Fish histology. Edited by Staff members.
- Fundamental veterinary histology. Edited by Staff members.

6.2- Essential books (text books)

- *Bellairs, R. and Osmond, M. (1998):* The atlas of chick development. 1st Ed., Academic press San Diego, London Boston New York Sydney Tokyo



Toronto.

- **Junqueira, L. C. and Carneiro J. (2003):** Basic histology. Tenth Edition. McGraw-Hill. New York Chicago San Francisco Lisbon London Madrid Mexico city New Delhi San Juan Seoul Singapore Sydney Toronto.
- **Eroschenko, V. P. (2005):** difiore's Atlas of histology. 10th Ed. Philadelphia Baltimore New York London Buenos Aires Hong Kong Sydney Tokyo.
- **William J. Banks (1993):-** Applied Veterinary Histology, 3rd Ed., Mosby year book. St. Louis Baltimore Boston Chicago London Philadelphia Sydney Toronto.
- **Hodges, R. D. (1974):** The histology of fowl. 1st Ed., University of London. Academic Press, London, New York. San Francisco.

6.3- Recommended books

- **Cormack, D. H. (1993):** Essential histology. First Edition. J. B. Lippincott Company. Philadelphia.
- **Dellmann, H. D. and Eurell. J. (1998):** Text book of Veterinary Histology, 5th Ed., Williams and Wilkins A waverly company. Baltimore Philadelphia London Paris Bangkok Buenos Aires Hong Kong Munich Sydney Tokyo Wroclaw.
- **Drury R. A. B. and Wallington E. A. (1980):-** Carleton's Histological technique. 4th ED., Oxford Unvi., Press. London, New York, Toronto

6.4- Periodicals, Web site, . . . etc.

- Journal of Poultry Science.
- Bri., Journal of Poultry Science
- Journal of Cell Ultrastructure.
- American Journal of Veterinary Research.
- <http://www.vt.edu>



7- Facilities required for teaching and learning.

- Laboratory.
- Tissue processing & staining.
- Immunohistochemistry kits

Course coordinator: Dr. Ihab El-Zoghby

Head of department: Dr. Ihab El-Zoghby

Date:



Physiology A

Benha University

Faculty: Veterinary Medicine

Program on which the course is given: **Bachelor Veterinary Medical Sciences**

Department offering the course: **Physiology**

Academic year/level: **1st year**

Date of specification approval: Ministerial Decree No 921, on 15/9/1987.

(Then approved in this recent template by department council on 24/10/2009)

A- Basic Information:

Title: Physiology

Code: Vet 00614a

Lecture: 2 h / W

Practical: 3 h / W

Total: 5 h / W

B- Professional Information

1- Overall aims of course:

Provide the students with the basic physiological and biochemical information about the cell structure and functions, Blood, body fluids and respiratory system.

2 Intended learning outcomes of course (ILOS):

a-Knowledge and understanding:

After successful completion of this course the students should be able to:

- 1-List the cell organelles and know the function of each one.
- 2-Define the blood, know its constituents and identify the importance of each one.
- 3-Know the different types of anemia and identify the causes of each one.
- 4-Understand and recognize the mechanisms of hemostasis and blood coagulation.
- 5-Realize the function of respiratory system and understand some metabolic processes.

b-Intellectual skills :

After successful completion of this course the students should be able to:

- 1- Judge examined blood samples and estimate different parameters to give right conclusion about the given samples.



- 2- Diagnose between different types of anemia.
- 3- Determine the suitable cause of the problem and solve it.

Professional and practical skills:

After successful completion of this course the students should be able to:

- 1- Perform collection of blood samples from different species of domestic animals.
- 2- Calculate and count RBCs & WBCs and interpret their results.
- 3- Calculate PCV, estimate H b and ESR.
- 4- How to read, write and interpret a report of CBC, other blood tests.
- 5- Diagnose different types of anemia and differentiate between them.

General and transferable skills :

- d1- Working in a team work.
- d2- Presentation of a scientific study and case reports.
- d3- Accept basic knowledge for pharmacology and veterinary medicine

3- Contents:

Topic	No. of hours	Lecture	Practical
Cell physiology	6	6	-
Physiology of blood and body fluids	49	14	35
Physiology of respiratory system	20	10	10
Total	75	30	45

4- Teaching and learning methods:

Lectures and lab sessions in which one or more of the following facilities are used:

- 4.1. Over head projector.



4.2. Microscopes and other facilities for blood sampling, staining and making blood films.

4.3. Data show.

5- Student assessment methods:

5.1. Quiz to assess the understanding of the course.

5.2. Practical to assess skills and practical attitude.

5.3. Written to assess knowledge, information and intellectual skills

5.4. Oral to assess understanding, intellectual and transferable skills.

Assessment schedule:

Assessment 1: Quiz examination	week 6, 8 and 10
Assessment 2: Practical examination	week 13.
Assessment 3: Written examination	week 15
Assessment 4: Oral examination	week 15

Weighing of assessments:

Quiz examination	10%
Practical examination	30%
Final- term examination	50%
Oral examination	10%
Total	100%

6- List of references:

6.1. Course notes: Veterinary Physiology, Edited by M.E. Azab

6.2. Essential books (text books):

Ruchebusch, Y., Phaneuf, I. and Dunlop, R (1991) Physiology of small and large Animals. B.C. Decker, Inc, Philadelphia, Hamilton.

Swenson M.J, Reece, W.O. and Comstock (1993) Duke's Physiology of Domestic Animals. 11th edition, publishing Associates a division of Cornell University press. Ithaca and London.



Gunningham, J. (1992) Text book of Veterinary Physiology. W.B. Saundero Company, Toronto, Montreal, Tokyo.

Guyton, A. (1991) Text book of Medical physiology. 8th, W.B. Saundero Company.

Ganong, W.F. (1989) Review of Medical Physiology. 9th (Middle East edition) Appleton and Lang.

7- Facilities required for teaching and learning:

Data show, Video Tapes and equipped lab.

Course coordinator: Prof Dr. M. E. Azab

Head of Department: Prof Dr. M. E. Azab

Date:



Physiology B

Benha University

Faculty: Veterinary Medicine

Program on which the course is given: **Bachelor Veterinary Medical Sciences**

Department offering the course: **Physiology**

Academic year/level: **1st year**

Date of specification approval: Ministerial Decree No 921, on 15/9/1987.

(Then approved in this recent template by department council on 24/10/2009).

A- Basic Information

Title: Physiology

Code: **Vet 00614 b**

Lecture: **2 h / W**

Practical: **3 h / W**

Total: **5 h / W**

B- Professional Information

1- Overall aims of the course:

This course is to provide the students with the basic knowledge about the physiology of muscles, nerves, urinary system, general metabolism and body temperature.

2- Intended Learning Outcomes of the course (ILOs):

a-Knowledge and understanding :

After successful completion of this course the students should

- 1- Know what is the meaning of resting membrane potential and recognize its role in excitation of nerves and muscles.
- 2-know the factors affecting muscle contraction and understand how each one affects contraction.
- 3- Understand the structure of urinary system and realize the function of each part.
- 4- Define metabolism and list the factors affecting it.
- 5- Mention how the body can regulate its temperature.

b-Intellectual skills :

After successful completion of this course the students should be able to:

- b.1. Determine muscle and nerve function.



b.2. analyze different samples to allow diagnosis of different problems of urinary system.

b.2. Conclude how the animals acclimatized to the different environments.

c-Professional and practical skills :

After successful completion of this course the students should be able to:

- c.1. perform dissection of nerve and muscle.
- c.2. draw different curves of muscle contraction using the kymograph.
- c.3. calculate glomerular filtration rate and other kidney tests.
- c.4. explain how to estimate the metabolic rate of different animals.

d-General and transferable skills :

- d1- Working in a team work.
- d2- Presentation of a scientific study and case reports.
- d3- Accept basic knowledge for pharmacology and veterinary medicine

3- Contents:

Topic	No. of hours	Lecture	Practical
Muscle & nerve	27	9	18
Urinary system and acid base balance	20	8	12
Body temperature	17	8	9
General metabolism	11	5	6
Total	75	30	45

4- Teaching and learning methods:

Lectures and lab sessions in which one or more of the following facilities are used:

- 4.1. Over head projector.



4.2. Slide projector.

4.3. Kits for assessing kidney function tests.

4.4. Instruments for demonstration of nerves and muscles.

5- Student assessment methods:

5.1. Quiz to assess the understanding of the course.

5.2. Practical to assess practical skills.

5.3. Written exam to assess knowledge, understanding and intellectual skills.

5.4. Oral to assess understanding and transferable skills.

Assessment schedule:

Assessment 1: Quiz examination	week 6, 8 and 10.
Assessment 2: Practical examination	week 13.
Assessment 3: Written examination	week 15.
Assessment 4: Oral examination	week 15.

Weighing of assessments:

Quiz examination	10	%
Practical examination	30	%
Final- term examination	50	%
Oral examination	10	%
Other types of assessment	0	%
Total	100	%

6- List of references:

6.1. Course notes: Veterinary Physiology, Edited by M.E. Azab

6.2. Recommended and Text books:

Ruchebusch, Y., Phaneuf, I. and Dunlop, R (1991) Physiology of small and large Animals. B.C. Decker, Inc, Philadelphia, Hamilton.

Swenson M.J, Reece, W.O. and Comstock (1993) Duke's Physiology of Domestic Animals. 11th edition, publishing Associates a division of Cornell University press. Ithaca and London.



Gunningham, J. (1992) Text book of Veterinary Physiology. W.B. Saundero Company, Toronto, Montreal, Tokyo.

Guyton, A. (1991) Text book of Medical physiology. 8th, W.B. Saundero Company.

Ganong, W.F. (1989) Review of Medical Physiology. 9th (Middle East edition) Appleton and Lang.

7- Facilities required for teaching and learning:

Data show, Video Tapes. Kymographs, microscopes and ECG.

Course Coordinator: Prof. Dr. M. E. Azab

Head of Department: Prof. Dr. M. E. Azab

Date:



Anatomy and Embryology A

Benha University

Faculty: Veterinary Medicine

Program on which the course is given: **Bachelor of Veterinary Medical Sciences**

Department offering the course: **Department of Anatomy & Embryology**

Academic year / level: 1st year

Date of specification approval: Ministerial Decree No 921, on 15/9/1987.

(Then approved in this recent template by department council on 16/10/2008)

A- Basic Information

Title: General Anatomy and Embryology

Code: Vet 06615 a

Lecture: 2 h/W

Practical: 4 h/W

Total: 6 h/W

B- Professional Information

1- Overall aims of the course:

The aim of this course is to provide the principle information about the general animal anatomy that will enable students to gain skills for comparative anatomy of the different body systems for the different domestic animals.

2- Intended learning outcomes of course (ILOs):

a-Knowledge and understanding :

After successful completion of this course the student should have the ability to:

- a.1. A concise knowledge about the anatomy on the standards model .
- a.2. Mention the basis of embryology .
- a.3. Comprehensive knowledge about the general osteology, myology and nervous system anatomy of equines and its comparative anatomy with that of the other different domestic farm animals.



-
- a.4. The principles of the comparative anatomy for the bones and muscles of the thoracic limb.

B-Intellectual skills:

After successful completion of the course students should have the ability to:

- b.1. Analyse the basis of embryology and determine the primordial origin of the different body organs.
- b.2. Collecting a Comprehensive knowledge about the general osteology, myology and nervous system anatomy of equines and its comparative anatomy with that of the other different domestic farm animals.
- b.3. Differentiate between the bones of the thoracic limb for the different animal species.
- b.4. Determine the sites of origin for the different peripheral nerves branches.
- b.5. Determine the origin and insertion of different skeletal muscles .

c-Professional and practical skills :

After successful completion of this course students should have the ability to:

- c.1. dissect the thoracic limb.
- c.2. conduct the shape and position of the thoracic limb bones.
- c.3. compare between bones of the thoracic limb of different domestic animals
- c.4. Determine the primordial origin of the different body organs.

d-General and transferable skills :

After successful completion of that course the students should be able to:

- d.1. Dissect and differentiate between the bones and muscles of the thoracic limb.
- d.2. Dissect the branches of the peripheral nerves and muscles of the thoracic limb.
- d.3. Cooperate with the other veterinary hospitals and departments



3- Contents:

Topic	No. of hours	Lecture	Practical
Introduction	2	2	-
General system	2	2	-
General osteology	2	2	-
General arthology (syndesmology)	2	2	-
General myology	2	2	-
General nervous system	2	2	-
General cardiovascular system and lymphatics	2	2	-
General embryology	16	16	-
Bones of the thoracic limb	12	-	12
Dissection of the thoracic limb	46	-	46
Practical general embryology	2	-	2
Total	90	30	60

4- Teaching and learning methods:

Lectures and lab sessions in which one or more of the following facilities are used:

- 4.1. Freshly died horses and donkeys.
- 4.2. Educational models and phantoms.
- 4.3. CD's, Power Point slides and video tapes in lecturing.
- 4.4. Prepared bones of died animals.
- 4.5. Demonstrating formalin preserved carcasses.

5- Student assessment methods:

- 5.1. Practical examination to assess the professional and practical skills.
- 5.2. Written examination to assess knowledge, understanding and intellectual skills
- 5.3. Oral examination to assess knowledge, transferable and intellectual skills.

Assessment schedule:

- Assessment 1: Practical exam week 13
- Assessment 2: Final- term week 15
- Assessment 3: Oral exam week 15



Weighing of assessments:

Practical examination	40	%
Final- term examination	50	%
Oral examination	10	%
Other types of assessment	0	%
Total	100	%

6- List of references:

6.1. Course Notes.

6.2. Essential books (text books):

- General anatomy.
- General Embryology.
- Anatomy of thoracic limb.

6.3. Recommended books:

- Anatomy of domestic animals volume 1 Getty 19.
- General Embryology.

6.4. Periodicals and Web sites:

Periodicals:

- Acta Anatomica
- Equine Veterinary journal.
- Journal of Animal Science.
- Research on Veterinary Science.
- American Journal of Veterinary Anatomy.
- American Journal of Veterinary Research.
- Veterinary Record.

Web sites: <http:// Pubmed.com>

7- Facilities required for teaching and learning:

- A laboratory for dissection and demonstration the muscles, bones and nerves of carcasses.
- Scalpels, knives and saws.



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- Holders and tanks for preservation of organs and muscles
 - Phantoms and models for different organs and bones.
 - Carcasses and animals for dissection and demonstration.

Course Coordinators:

Prof. Dr. Mohamed Omar Hussein El Shaieb

Prof. Dr. Mohamed Attia Metwally

Head of the Department:

Prof. Dr. Mohamed Attia Metwally

Date:



Anatomy B

Benha University

Faculty: Veterinary Medicine

Program on which the course is given: **Bachelor of Veterinary Medical Sciences**

Department offering the course: **Department of Anatomy & Embryology**

Academic year / level: 1st year

Date of specification approval: Ministerial Decree No 921, on 15/9/1987.

(Then approved in this recent template by department council on 5/3/2009)

A- Basic Information

Title: Urogenital System, Avian and Fish anatomy

Code: Vet 00615 b

Lecture: 2 h/W

Practical: 4 h/W

Total: 6 h/W

B- Professional Information

1- Overall aims of course:

The aim of this course is to provide the student with the principle information about male and female urogenital system anatomy of the different domestic farm animals; beside it also provide the basic information about the avian and fish anatomy that will enable the students to gain the skills about the comparative anatomy of the different domestic animals in concerning that view.

2- Intended Learning Outcomes of the course (ILOS):

a-Knowledge and understanding :

After successful completion of this course the student should be able to:

- a.1. Collect a concise knowledges about the anatomy of the urogenital system of different farm animals.
- a.2. Collect a concise knowledges about the avian and fish anatomy.
- a.3. Determine the anatomical features and the position of the urogenital system for the different domestic animals.



- a.4. Acquire comprehensive knowledge about the comparative anatomy of bones and muscles of the pelvic limb.

b-Intellectual skills :

After successful completion of this course students should be able to:

- b.1. Determine the different bones type of the different animal species.
- b.2. Determine the sites of the different peripheral nerves branches.
- b.3. Determine the origin and insertion of different skeletal muscles.
- b.4. Set the best steps for the avian and fish dissection.

c-Professional and Practical skills :

After successful completion of this course students should have the ability to:

- c.1. dissect a limb.
- c.2. conduct the shape and position of the pelvic limb bones for the different domestic animals.
- c.3. compare between the pelvic limb bones for the different domestic animals
- c.4. compare between the dissection for urogenital systems of the avian and fish species.

d--General and transferable skills :

After successful completion of this course students should have the ability to:

- d.1. Dissect and differentiate between the bones and muscles of the pelvic limb for the different domestic animals .
- d.2. Dissect the peripheral nerves branches and muscles of the pelvic limb.
- d.3. Cooperate with the other veterinary hospitals and departments .

3- Contents:

Topic	No. of hours	Lecture	Practical
Introduction	2	2	-
Urinary system	4	4	-
Male genital system	6	6	-
Female genital system	6	6	-
Avian anatomy	10	10	-
Fish anatomy	2	2	-
Bones of the pelvic limb	12	-	12
Dissection of the pelvic limb	42	-	42
Avian anatomy	4	-	4
Fish anatomy	2	-	2
Total	90	30	60

4- Teaching and learning methods:

Lectures and lab sessions in which one or more of the following facilities are used:

- 4.1. Using freshly died horses and donkeys.
- 4.2. Using the educational models and phantoms.
- 4.3. Using CD's, Power point slides and video tapes in lecturing.
- 4.4. Using prepared bones of died animals.
- 4.5. Demonstrating formalin preserved carcasses.

5- Student assessment methods:

- 5.1. Practical exam to assess professional and practical skills.
- 5.2. Written exam to assess knowledge, information and intellectual skills.
- 5.3. Oral exam to assess knowledge, information and intellectual skills.

Assessment schedule:

Assessment 1: Practical exam week	13
Assessment 2: Final- term week	15
Assessment 3: Oral exam week	15



Weighing of assessments:

Practical examination	40	%
Final- term examination	50	%
Oral examination	10	%
Other types of assessment	0	%
Total	100	%

6- List of references:

6.1. Course notes.

6.2. Essential books (text books).

- Urogenital system.
- Avian and fish anatomy.
- Dissection of the pelvic limb.

6.3. Recommended books.

- Anatomy of domestic animals volume 1 Getty 19.
- Atlas of veterinary anatomy.

6.4. Periodicals and Web sites:

- Acta Anatomica.
- Equine Veterinary journal.
- Research on Veterinary Science.
- American Journal of Veterinary Anatomy.
- American Journal of Veterinary Research.

Web sites: [http // Pubmed.com](http://Pubmed.com)

7- Facilities required for teaching and learning:

- A laboratory for dissection and demonstration of muscles, bones and nerves of carcasses.



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- Holders and tanks for preservation of organs and muscles.
 - Donkeys as a model for horse.
 - Fishes and birds as model for anatomy.
 - Carcasses and animals for dissection and demonstration.

Course Coordinators:

Prof. Dr. Mohamed Omar Hussein El Shaieb

Prof. Dr. Mohamed Attia Metwally

Head of the Department:

Prof. Dr. Mohamed Attia Metwally

Date:



Biochemistry A

Benha University

Faculty: Veterinary Medicine

Program on which the course is given: **Bachelor of Veterinary Medical Science**

Department offering the course: **Department of Biochemistry**

Academic year / level: 1st year

Date of specification approval: Ministerial Decree No 921, on 15/9/1987.

(Then approved in this recent template by department council on 12/10/2008)

A- Basic Information

Title: Biochemistry

Code: Vet 00616a

Lecture: 2 h/W

Practical: 3 h/W

Total: 5 h/W

B- Professional Information

1- Overall aims of the course:

The aim of the course is to provide the students with the basic education about the chemistry of Carbohydrates, Lipids and Proteins.

2- Intended Learning Outcomes of the course (ILOs):

a-Knowledge and understanding :

After successful completion of this course the student should be able to:

- a.1. Collect the basic knowledge about Carbohydrates, Lipids and Proteins classifications .
- a.2. Collect the basic knowledge about their chemical composition .
- a.3. Set the basis of comparison with other the chemical compounds related to them .
- a.4. Define the role of these compounds in the living cells.



b-Intellectual skills :

After successful completion of this course students should be able to:

- b.1. Differentiate between the different types of such basic nutrients found in the nature and in living cells .
- b.2. Choose and trace the appropriate chemical reactions for each compound.
- b.3. Judge the scheme for such different chemical reactions concerning with them.

c-Professional and practical skills:

After successful completion of this course students should be able to:

- c.1. Apply the accurate chemical reactions concerning such chemical components.
- c.2. Prepare the different reagents of such chemical reaction .
- c.3. Perform and apply the basis of the chemical analysis.

d-General and transferable skills :

After successful completion of this course students should be able to:

- d.1. Be a successful member chemists.
- d.2. illustrate a scientific study in the biochemistry laboratories .
- d.3. Set the basis of the scientific chemists terms.



3- Contents:

Topic	No. of hours	Lecture	Practical
Classification of carbohydrates	3	1	2
Chemistry of Monosaccharide	4	2	2
Chemistry of Disaccharide	3	1	2
Chemistry of Polysaccharide	4	2	2
Chemistry of carbohydrates derivatives	4	2	2
Classification of lipids	4	1	3
Chemistry of fatty acids	5	2	3
Chemistry of simple lipids	5	2	3
Chemistry of compound lipids	4	1	3
Chemistry of derived lipids	5	2	3
Classification of proteins	4	2	2
Chemistry of amino acids	5	2	3
Chemistry of protein compounds	5	2	3
Properties of proteins	5	2	3
Separations of proteins	5	2	3
Immunochemistry	5	2	3
Different types of immunity	5	2	3
Total	75	30	45

4- Teaching and learning methods:

Lectures and lab sessions in which one or more of the following facilities are used:

- 4.1. White boards and markers.
- 4.2. Over head projector and transparent sheets.
- 4.3. Demonstration of chemical reactions.
- 4.4. Data show and computer.
- 4.5. Microscopes.
- 4.6. Chemical kits.



5- Student assessment methods:

- 5.1. Quiz examinations to assess the understanding of the course
- 5.2. Practical exam to assess the professional and practical skills
- 5.3. Written exam to assess knowledge, information and intellectual skills.
- 5.4. Oral exam to assess knowledge, intellectual and transferable skills.

Assessment schedule:

Assessment 1: Quiz examinations	week 6, 8 and 10
Assessment 2: Practical examination	week 13
Assessment 3: Written examination	week 15
Assessment 4: Oral examination	week 15

Weighing of assessments:

Quiz examinations	10	%
Practical examination	20	%
Final- term examination	50	%
Oral examination	20	%
Total	100	%

Any formative only assessments

6- List of references:

6.1. Course Notes: A concise Guide of General Biochemistry

6.2. Essential books (text books):

- *Devlin, T. M. (1993):* Textbook of Biochemistry: With Clinical Correlation. 3rd ed. (4th printing). Wiley-Liss: A John Wiley & Sons, Inc., Publication, New York.
- *Murray, R.K.; Granner, D.K.; Mayes, P.A. and Rodwell, V.W. (1996):* Harper's of Biochemistry. 24th ed. Appleton & Lange. Norwalk, Connecticut, Loss Atlos, California.
- *Zilva, M.; Charles, F. and Myne, N. (1993):* Clinical Chemistry in Diagnosis and Treatment. 6th ed. Saunders, Philadelhis, U.S.A.

6.3. Recommended books:

- *Bakry, M.A. (1995):* Review of Medical Biochemistry. 3rd ed.
- *Khalifa, A. (1997):* Biochemistry for Medical Students. Fac. Of Med., Ain Shams Univ.



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- *Salah, E. (1993):* Medical Biochemistry. 2nd. Ed. Fac. of Med., Ain Shams Univ.
 - *Zahran, M.A. (1994):* Lectures on Medical Biochemistry. Alexandria Univ.

6.4. Periodicals:

- Journal of Biochemistry.
- American Journal of Biochemical Association.
- American Journal of Veterinary research.

7- Facilities required for teaching and learning

- Biochemistry laboratory.
- Routine Biochemical kit.
- Faculty central laboratory.
- Computer and internet lab.

Course Coordinator: Prof Dr Hussien Abd Al-Maksoud

Head of Department: Prof Dr Hussien Abd Al-Maksoud

Date:



Biochemistry B

Benha University

Faculty: Veterinary Medicine

Program on which the course is given: **Bachelor of Veterinary Medical Science**

Department offering the course: **Department of Biochemistry**

Academic year / level: 1st year

Date of specification approval: Ministerial Decree No 921, on 15/9/1987.

(Then approved in this recent template by department council on 15/2/2008)

A- Basic Information

Title: Biochemistry

Code: Vet 00616b

Lecture: 2 h/W

Practical: 3 h/W

Total: 5 h/W

B- Professional Information

1- Overall aims of course:

The aim of the course is to provide the students with a basic education about the chemistry of Enzymes, Vitamins, Minerals and Detoxication.

2- Intended Learning Outcomes of course (ILOs):

a-Knowledge and understanding :

After successful completion of this course the students should be able to:

- a.1. Collect the basic knowledge about Enzymes, Vitamins, Minerals and their classifications .
- a.2. Describe their chemical composition .
- a.3. Set the basis of comparison with the other chemical compounds related to them .
- a.4. Define the Basic role of these compounds in the living cells .



b-Intellectual skills :

After successful completion of this course the students should be able to:

- b.1. Differentiate between the different types of such basic nutrients found in the nature and living cells .
- b.2. Choose the appropriate chemical reactions for each compound.
- b.3. Judge the scheme for such different chemical reactions concerning with them.

c-Professional and practical skills :

After successful completion of this course the students should be able to:

- c.1. Apply the accurate chemical reactions concerning with such chemical components .
- c.2. Prepare the different reagents of such chemical reaction .
- c.3. Perform and apply the basis of the chemical analysis .

d-General and Transferable skills :

After successful completion of that course the students should be able to:

- d.1. Be a successful chemists.
- d.2. Illustrate a scientific study in the biochemistry laboratories .
- d.3. Set the basis of the scientific chemists terms.



3- Contents:

Topic	No. of hours	Lecture	Practical
Classification of Enzymes	1	1	-
Chemical composition of Enzymes	9	3	6
Enzyme kinetics	8	2	6
Chemistry of Co- enzymes	7	2	5
Classifications and functions of Co- enzymes	1	1	-
Classification of Vitamins	1	1	-
Chemistry of Fat sol. Vitamins	9	3	6
Chemistry of water sol. Vitamins	5	1	4
Role of vitamins as Co- enzymes	5	1	4
Vitamins deficiencies	1	1	-
Classification of Minerals	2	2	-
Properties of Major elements	6	2	4
Properties of Trace elements	1	1	-
Properties of Electrolytes	7	1	6
Role of minerals as Co- factors of enzymes	7	3	4
Minerals deficiency	2	2	-
Detoxication	3	3	-
Total	75	30	45

4- Teaching and learning methods:

Lectures and lab sessions in which one or more of the following facilities are used:

- 4.1. White boards and markers.
- 4.2. Over head projector and transparent sheets.
- 4.3. Demonstration of chemical reactions.
- 4.4. Data show and computer.
- 4.5. Chemistry lab.



5- Student assessment methods:

- 5.1. Quiz examinations to assess the knowledge and understanding.
- 5.2. Practical examination to assess the professional and practical skills.
- 5.3. Written examination to assess knowledge, information and intellectual skills.
- 5.4. Oral examination to assess knowledge, transferable and intellectual skills.

Assessment schedule:

Assessment 1: Quiz examinations week 6, 8 and 10	
Assessment 2: Practical examination week	13
Assessment 3: Written examination week	15
Assessment 4: Oral examination week	15

Weighing of assessments:

Quiz Examination	10	%
Practical examination	20	%
Final- term examination	50	%
Oral examination	20	%
Total	100	%

Any formative only assessments

6- List of references:

6.1. Course Notes: A concise Guide of General Biochemistry

6.2. Essential books (text books):

- *Devlin, T. M. (1993):* Textbook of Biochemistry: With Clinical Correlation. 3rd ed. (4th printing). Wiley-Liss: A John Wiley & Sons, Inc., Publication, New York.
- *Murray, R.K.; Granner, D.K.; Mayes, P.A. and Rodwell, V.W. (1996):* Harper's of Biochemistry. 24th ed. Appleton & Lange. Norwalk, Connecticut, Loss Atlos, California.
- *Zilva, M.; Charles, F. and Myne, N. (1993):* Clinical Chemistry in Diagnosis and Treatment. 6th ed. Saunders, Philadelhis, U.S.A.

6.3. Recommended books:

- *Bakry, M.A. (1995):* Review of Medioccal Biochemistry. 3rd ed.



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- **Khalifa, A. (1997):** Biochemistry for Medical Students. Fac. of Med., Ain Shams Univ.
 - **Salah, E. (1993):** Medical Biochemistry. 2nd. Ed. Fac. of Med., Ain Shams Univ.
 - **Zahran, M.A. (1994):** Lectures on Medical Biochemistry. Alexandria Univ.

6.4. Periodicals:

- Journal of Biochemistry.
- American Journal of Biochemical Association.
- American Journal of Veterinary research.

7- Facilities required for teaching and learning

- Biochemistry laboratory.
- Routine Biochemical kit.
- Faculty central laboratory.
- Computer and internet lab.

Course Coordinator: Prof Dr Hussien Abd Al-Maksoud

Head of Department: Prof Dr Hussien Abd Al-Maksoud

Date:



English language

Benha University

Faculty: Veterinary Medicine

Program on which the course is given: **Bachelor of Veterinary Medical Science**

Department offering the course: **Department of**

Academic year / level: 1st year / First Semester

Date of specification approval: Ministerial Decree No 921, on 15/9/1987.

(Then approved in this recent template by department council on 24/9/2008)

A- Basic Information

Title: English

Code: Vet 00617

Lecture: 2 h/W

Practical: -

Total: 2 h/W

B- Professional Information

1- Overall aims of the course:

Aim of this course is to provide the students with:

- The basic features of English language and its use internationally.
- The importance of English in the medical study.
- Great aide in studying the academic & clinical subjects in English language.

2- Intended Learning Outcomes of the course (ILOs):

a-Knowledge and understanding:

After successful completion of this course the students should be able to:

- a.1. Stand on the general correct uses of language in the medical field.
- a.2. Describe the different medical terminology.
- a.3. Have an idea about the different medical expressions used in medical branches.

b-Intellectual skills:

After successful completion of this course the students should be able to:

- b.1. Interpret the different meanings of the terms.



b.2. Categorize the different courses during the study in the veterinary Medicine .

b.3. use the language in correct manner concerning its phonetics and writing.

c-Professional and practical skills :

After successful completion of this course the students should have:

c.1. Report and appraise concise scientific activity to standard thinking and integrity .

d-General and transferable skills :

After successful completion of this course the students should be able to:

d.1. Accept the basic terminology for other medical sciences .

d.2. Speak the language in the correct manner in concerning its phonetics and writing rules.

3- Contents:

Topic	No. of hours	Lecture	Tutorial/ practical
Abbreviations	4	4	-
Specialization	4	4	-
Medical Adjectives	6	6	-
Medical prefixes	8	8	-
Grammar	4	4	-
Scientific texts	4	4	-
Total	30	30	-

4- Teaching and learning methods:

4.1. Lectures.

5- Student assessment methods:

5.1 Written examination to assess knowledge and information.

Assessment schedule:

Assessment 1: Written examination week 15



Weighing of assessments:

Final- term examination	100	%
Other types of assessment	0	%
Total	100	%

6- List of references:

6.1. Course notes: Department books

7- Facilities required for teaching and learning

- Well equipped lecture hall.

Course Coordinators:

Prof.Dr. Hisham Mohamed Hassn

Prof.Dr. Taha Abd Elhalim Khadr

Date:



Biology

Benha University

Faculty: Veterinary Medicine

Program on which the course is given: Bachelor of Veterinary Medical Sciences

Department offering the course: Biology Department, faculty of Science.

Academic year/level: 1st year

Date of specification approval: Ministerial Decree No 921, on 15/9/1987

(Then approved in this recent template by department council on 12/2/2009)

A- Basic Information

Title: Biology (Botany & Zoology)

Code: Vet 00618

Lecture: 4 h/W

Practical: 4 h/W

Total: 8 h/W

B- Professional Information

1- Overall aims of course:

Aim of teaching this course is to provide the students with:

- The basic information about the plants physiology and systematic zoology.

2- Intended Learning Outcomes of the course (ILOs):

a-Knowledge and understanding :

After successful completion of this course the students should have:

- a.1. Basic knowledge about the plant cell physiology & structure .
- a.2. Basic information about Algae, bacteria, Fungi .
- a.3. Comprises the taxonomy of animal kingdom in phyla, classes, orders, family & Genus .

b-Intellectual skills :

After successful completion of this course the students should have:

- b.1. The basic knowledge about the methods of studying the age, growth and fecundity as well as habits of different plants & fishes .



c-Professional and practical skills :

After successful completion of this course the students should acquire:

- c.1. Practical skills on Egyptian fauna characters .
- c.2. Professional information about the physical characters of colloid & diffusions.

d-General and transferable skills :

After successful completion of this course the students should be able to:

- d.1. A good knowledge about the plants & fishes .
- d.2. Helps the studying in the veterinary medical sciences especially at 4th & 5th year .

3- Contents:

Topic	No. of hours	Lecture	Practical
Plant physiology	60	30	30
Zoology	60	30	30
Total	120	60	60

4- Teaching and learning methods:

- 4.1. Lectures.
- 4.2. Laboratories.

5- Student assessment methods:

- 5.1. Practical examination to assess knowledge, practical and intellectual skills.
- 5.2. Written examination to assess knowledge and intellectual skills.

Assessment schedule:

- Assessment 1: Practical examination week 13
Assessment 2: Written examination week 15



Weighing of assessments:

Practical examination	50	%
Final- term examination	50	%
Other types of assessment	0	%
Total	100	%

6- List of references:

6.1. Course notes: Department books.

7- Facilities required for teaching and learning:

- Well equipped lecture hall.
- Biology lab.

Course Coordinators:

Prof.Dr. Mahmoud Sewalim

Prof.Dr. Hassan Shams

Prof.Dr. Mohamed El-Sayed Abd El hamid

Prof.Dr.Mohamed Nagy Mohamed

Date:



Biostatistics

University: Benha

Faculty: Veterinary Medicine

Program on which the course is given: Bachelor of Veterinary Medical Sciences

Department offering the course: Biostatistics Department.

Academic year/level: 1st year/ Second Semester

Date of specification approval: Ministerial Decree No 921, on 15/9/1987

(Then approved in this recent template by department council on 18/2/2009)

A- Basic Information

Title: Biostatics

Code: Vet 00619

Lecture: 2 h/W

Practical: - h/W

Total: 2 h/W

B- Professional Information

1- Overall aims of course:

- Descriptive and inferential statistics.
- How to represent the data.
- Personal computer applications of the statistics.

2- Intended Learning Outcomes of the course (ILOs):

a-Knowledge and understanding :

After successful completion of this course the students should be able to:

- a.1. Practice data collection and analysis using computer .
- a.2. Design experiments and computerize data processing .

b-Intellectual skills :

After successful completion of this course the students should be able to:

- b.1. Think how to deal with an epidemiological problems .
- b.2. Solving problems of data .

c-Professional and practical skills :

After successful completion of this course the students should have the ability to:



- c.1. Set the correct methods of data collection .
- c.2. Apply the different methods of data processing and analysis .
- c.3. Deal with the personal computers for the assessment the large mass of data .

d-General and transferable skills :

After successful completion of this course the students should have the ability for:

- d.1. Performing survey observations, data collection which is a fundamental part in the team work experience; handling & management of large data of the researches.

3- Contents:

Topic	No. of hours	Lecture	Practical
Description of the data	4	4	-
Probability	4	4	-
Binomial distribution	4	4	-
Normal distribution	6	6	-
Testing hypothesis	6	6	-
Disease prevalence	6	6	-
Total	30	30	-

4- Teaching and learning methods:

- 4.1. Lectures with power point slide show.
- 4.1. Class activities & problem solving discussions.
- 4.3. Internet data collection.

5- Student assessment methods:

- 5.1 Written examination to assess knowledge, understanding and intellectual skills.

Assessment schedule:

Assessment 1: Written examination week 15



Weighing of assessments:

Final- term examination	100	%
Other types of assessment	0	%
Total	100	%

6- List of references:

6.1. Course notes: Department books and CD's.

7- Facilities required for teaching and learning:

- Well equipped lecture lab.
- Computer lab.

Course Coordinator:

Prof.Dr. Yahia Mossa Hissin El-Gebali

Date:



Computer Sciences

Benha University: Faculty: **Veterinary Medicine**

Program on which the course is given: **Bachelor of Veterinary Medical Sciences**

Department offering the course: Department of physics, Faculty of science

Academic year/level: 1st year

Date of specification approval: Ministerial Decree No 921, on 15/9/1987

(Then approved in this recent template by department council on 8/2/2006)

A- Basic Information

Title: Computer Sciences **Code:** Vet 006110

Lecture: 1 h/W

Practical: 1 h/W **Total:** 2 h/W

B- Professional Information

1- Overall aims of course:

Aim of teaching this course is to provide the students with:

- The basic information about the main components of the computer

2- Intended Learning Outcomes of the course (ILOS):

a-Knowledge and understanding :

After successful completion of this course the students should have:

- a.1. Basic knowledge about the digital systems .
- a.2. Basic knowledge about the operative systems of the computer (Dos, windows XP).

b-Intellectual skills :

After successful completion of this course the students should be able to:

- b.1. Use computer, specially in data programming .
- b.2. Design the algorithm and flow chart.



c-Professional and practical skills :

After successful completion of this course the students should be able to:

c.1. Apply the correct methods for data collection & analysis by computer .

d-General and transferable skills :

After successful completion of this course the students should have the ability for:

d.1. Performing survey observation, data collection and analysis by using computer .

3- Contents:

Topic	No. of hours	Lecture	Practical
The main components of the computer	5	3	2
Digital system	6	4	2
Operative system	6	4	2
Word processing	7	5	2
Algorithm & flow chart	6	4	2
Total	30	20	10

4- Teaching and learning methods:

- 4.1. Lectures
- 4.2. Laboratories

5- Student assessment methods:

- 5.1. Practical examination to assess skills and practical attitude.
- 5.2 Written examination to assess knowledge and information.

Assessment schedule:

- | | | |
|-------------------------------------|------|----|
| Assessment 1: Practical examination | week | 13 |
| Assessment 2 Written examination | week | 15 |



Weighing of assessments:

Final- term examination	70	%
Practical examination	30	%
Other types of assessment	0	%
Total	100	%

6- List of references:

6.1. Course notes: Department books

7- Facilities required for teaching and learning:

- Well equipped lecture hall.
- Computer lab.

Course Coordinator:

Prof.Dr. Baiumy Taha El-Assal

Date: