

Course specification(2016-2017)
For veterinary students

1-Basic information	
Course Code	S1-CHM
Course title	General and organic Chemistry
Academic year	First year student, 1 st semester, 2016/2017
Program title	B. Sc. Veterinary Medical sciences
Contact hours/ week	Total: 4hours/week (Lec. 4h/week, Prac.4h/week)
Date of specification approval	3/10/2016

2-Professional information

This course aims to:

- 1- Determine the characters of hydrocarbons (alkanes, alkenes, and alkynes), their characters, their applications, and the different function groups and nomenclature of organic compounds.
- 2- Interpret data related to general chemistry (molecular orbital theory, resonance, overlap of atomic orbitals, electronic structure of atoms).
- 3- Analyze the data to detect the functional group, acidic and the basic radicals of the compounds.
- 4- Provide students with the skills of self-learning, working in group and time management.

3- Intended learning outcomes of course (ILOs)

a-Knowledge and understanding:

By the end of this course the student should be able to:

- a1-Identify the different classes of organic compound, function group, acidic radical and basic radical.
- a2-Mention the characters of alkanes, alkenes, alkynes, different function groups and types of isomerism.
- a3-List the electronic structures of different atoms, electronic energy levels and electronegativity.
- a4-Identify the forms of studied AO's (s, p, d & f), chemical bonding, Lewis structures, formal charges, and oxidation numbers.

b-Intellectual skills

By the end of this course the student should be able to:

- b1- Compare between common and IUPAC names of hydrocarbons and organic compounds.
- b2- Apply IUPAC rules for nomenclature of aliphatic and aromatic organic compounds.
- b3- Interpret electronic structures of atoms, chemical bonding, acidic and basic radicals , lewis structures , formal charges, and oxidation numbers.

c- Professional and practical skills

By the end of this course the student should be able to:

- c1- Demonstrate the difference between acidic radical and basic radical .
- c2- Illustrate the behavior of each function group.
- c3- compare between different state of atoms

d-General and transferable skills

By the end of studying the course, the student should be able to:

- d1. Work in a group and learn time management.

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d2. Prepare short report using internet and library.

4-Topics and contents

Course	Topics	No. of hours	Lectures	Practical
General chemistry 2h/w	Electronic structures of atoms	2	1	-
	Chemical periodicity.	2	1	-
	Chemical bonding	4	2	-
	Trends of atomic properties in the P.T.	4	2	-
	Mid term exam & revision	2	1	-
	Lewis structures	4	2	-
	Formal charges & oxidation numbers	4	2	-
	Molecular orbital theory	4	2	-
	Assignments	2	1	-
Organic chemistry 2 h / week	Introduction to common and UPAC systematic approach to nomenclature.	2	1	-
	IUPAC rules for alkenes and cycloalkane	4	2	-
	IUPAC rules alkene's and cycloalkene.	4	2	-
	IUPAC rules for alkyne's nomenclature.	2	1	-
	Mid term exam	2	1	-
	IUPAC rules for aromatic ring substitution nomenclature.	2	1	-
	IUPAC rules for alcohol and ether	2	1	-
	IUPAC rules for aldehyde and ketones	2	1	-
	IUPAC rules for carboxylic acids.	2	1	-
	IUPAC rules for carboxylic acid derivative.	2	1	-
	IUPAC rules for amines, amine salt, and types of isomerism	2	1	-
	R, S- system, geometrical, and conformational isomerism (enantiomers, and distreomers).	2	1	-
Practical inorganic chemistry lab 2 h/w	What is analytical chemistry, Data handling, What is qualitative analysis.	2	-	1
	Acidic Radical			
	(i)First group	2	-	1
	(ii)Second group	2	-	1
	(iii)Third group	2	-	1
	Scheme for acidic radical	2	-	1
	Basic group			
	(i) First group	2	-	1
	(ii) Second group	2	-	1
	(iii) Third group	2	-	1
	(iv) Fourth group	2	-	1
(v) Fifth group	2	-	1	

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	(vi) Sixth group	2	-	1
	Scheme for basic radical	2	-	1
	Revision	2	-	1
Practical organic chemistry lab 2 h/w	What is organic chemistry, Data handling, What is qualitative analysis.	2	-	1
	Element test	4		2
	Hydrocarbon	2	-	1
	Alcohols	2	-	1
	Aldehyde	2	-	1
	Ketones	2	-	1
	Acids	2	-	1
	Acid salts	2	-	1
	Carbohydrates	2	-	1
	Scheme for identification of organic cpds	2	-	1
	Revision	4	-	2

5-Teaching and learning methods

- (1) Lectures (Mind mapping, brain storming and think-pair share learning style (Data show and board).
- (2) Library visit, Lab works, Home works and exercises.

6-Teaching and learning methods for the students with disabilities

Office hours and special meeting

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	I.S	P&P.S	G.S
Mid-term exam	a1, a3	b1, b2, b3		-
Practical exams	a2	b1	c1,c2	-
Final exams	a1-a4	b1-b3		-
Student activity	a1	b3		d1-d2

7.2-Assessment schedules/semester

Method	Week(s)
Mid-term exam	7
Practical exams	14, 15
Final exams	managed by administrations
Student activity (Essay)	1-13

7.3-Weight of assessments

Assessment	%	Allocated Mark		
		1 st Semester	2 nd Semester	Total
Mid-term exam	--	--	-	5
Practical exams	40	--	-	30

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Final exams	60	--	-	60
Student activity	--	--	-	5
Total	100%	100%	-	100%

7- List of references

7.1.Nots and books

- Departmental notes on : hand out

7.2.Essential books:

- J.B.Umland and J.M. Bellama "General Chemistry",6 ed. Brooks/Cole Publishing Company,1996.

7.3. Recommended texts

- J.B.Russell," General Chemistry", McGraw-Hill Tnternational Book Company, 1981.
- R.D.Braun" Introduction to chemical analysis" , 1983, McGraw-Hill, Book Company, Japan

7.4.Journals , Websitesetc

Journals:

Websites:

www.sciencedirect.com

www.chemweb.com

Course Coordinator
Prof. Dr/ S.M.Sayyah

Head of Department
Prof.Dr/M.M. Khaliel

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Course	Topic	Week	Intended learning outcomes of course (ILOs)			
			K&U (a)	I.S (b)	P.P.S (c)	G.T.S (d)
General chemistry 1h/w	Electronic structures of atoms	1	a3	b3		-
	Chemical periodicity.	2	a3,a4	b3		-
	Chemical bonding	3,4	a3	b3		-
	Trends of atomic properties in the P.T.	5, 6	a3	b3		-
	Mid term exam	7	a1,a3	b3		-
	Lewis structures	8, 9	a4	b3		-
	Formal charges & oxidation numbers	10, 11	a4	b3	c3	-
	Molecular orbital theory	12, 13	a4	b3		-
	Assignments	14	a3,a4	b3		-
Organic chemistry 1h/w	Introduction to common and UPAC systematic approach to nomenclature.	1	a1	b1		-
	IUPAC rules for alkenes and cycloalkane	2, 3	a1	b1,b2		-
	IUPAC rules alkene's and cycloalkene.	4, 5	a1,a2	b1,b2		-
	IUPAC rules for alkyne's nomenclature.	6	a1,a2	b1,b2		-
	Mid term exam & revision	7	a1,a2	b1,b2		-
	IUPAC rules for aromatic ring substitution nomenclature.	8	a1,a2	b1,b2		-
	IUPAC rules for alcohol and ether	9	a1,a2	b1,b2		-
	IUPAC rules for aldehyde and ketones	10	a1,a2	b1,b2		-
	IUPAC rules for carboxylic acids.	11	a1,a2	b1,b2		-
	IUPAC rules for carboxylic acid derivative.	12	a1,a2	b1,b2		-
	IUPAC rules for amines amine salt and types of isomerism	13	a1,a2	b1,b2		-
	R, S- system, geometrical, and conformational isomerism (enantiomers, and distreamers).	14	a1,a2	b1,b2		-
Practical inorganic chemistry lab 2 h/w	What is analytical chemistry, Data handling, What is qualitative analysis.	1			c1	d1,d2
	Acidic Radical, (i)First group	2			c1	d1
	(ii)Second group	3			c1	d1
	(iii)Third group	4			c1	d1,d2
	Scheme for acidic radical	5			c1	d1
	Basic group ,				c1	d1
	(vii) First group	6			c1	d1
	(viii) Second group	7			c1	d1,d2
	(ix) Third group	8			c1	d1
	(x) Fourth group	9			c1	d1
	(xi) Fifth group	10			c1	d1

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	(xii) Sixth group	11			c1	d1
	Scheme for basic radical	12			c1	d1,d2
	Revision	13			c1	d1
Practical organic chemistry lab 2 h/w	What is organic chemistry, Data handling, What is qualitative analysis.	1			c2	d1
	Element test,	2,3			c2	d1
	Hydrocarbon	4			c2	d1
	Alcohols	5			c2	d1
	Aldehyde	6			c2	d1
	Ketones	7			c2	d1
	Acids	8			c2	d1
	Acid salts	9			c2	d1
	Carbohydrates	10			c2	d1
	Scheme for identification of organic cpds	11			c2	d1,d2
	Revision	12			c2	d1,d2

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1-Basic information			
Course Code:	S!_BIOL		
Course title :	Plant Anatomy- Plant Morphology		
Academic year:	1st year (2016/2017– 1st semester)		
Program title:	B. Sc. Veterinary Medical sciences		
Contact hours/week/semester:	Lecture:2	Practical:2	Total:4 (hour/week)
Approval Date	8/10/2016		

2-Professional information

Overall aims of course:

This course aims to:

- 1- Provide students with an overview of the structure of the plant cells and tissues.
- 2- Study the morphological types and modifications of root, stem and leaves.
- 3- Help students to identify plant specimens due to its morphological and anatomical features.
- 4- Develop an ability to use communication technology, think independently, manage time and work in groups effectively.

3- Intended learning outcomes of course (ILOs)

a-Knowledge and understanding:

By the end of this course the student should be able to:

- a1- Describe the features of plant anatomy at the cell, tissue and organ levels.
- a2- Explain the morphology of plants from germination to yield.
- a3- List the morphological modification of root, stem and leaf.

b-Intellectual skills

By the end of this course the student should be able to:

- b1- Differentiate the different cell organelles of plant and animal cells.
- b2- Compare and contrast fine structure of cells
- b3- Integrate informed judgments about plant morphology and anatomy.

c-Professional and practical skills

By the end of this course the student should be able to:

- c1- Prepare plant sections for microscopic examination.
- c2- Examine the complexity of tissues.
- c3- Examine the morphology of terrestrial plants and differentiate between the modified and normal plant organs
- c4- Illustrate the different forms of seed germination.

d-General and transferable skills

By the end of studying the course, the student should be able to:

- d1- Learn how to search for an information using the library or internet resources

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d2- Work in a group and learn time management

4-Topics and contents

Course	Week	Topics	No. of hours	Lectures	Practical
Plant Anatomy (Lec. 1.5 h./week, Pract. 2h./week)	1-3	Introduction - Structure of the plant cell (Protoplasmic & Non-protoplasmic components)	8.5	3	2
	4-5	Cell wall – Plant tissues (Meristematic & Permanent)	7	2	2
	6-7	Dermal tissues (Epidermal tissues) .	7	2	2
	8-9	Mechanical tissues (collenchyma, sclerenchyma)	7	2	2
	10-11	Vascular system & secretory system	7	2	2
	12	Internal structure of the young roots (dicot & monocot)	3.5	1	1
	13	Internal structure of the young stems (dicot & monocot)	3.5	1	1
	14-15	Internal structure of the young leaves (dicot & monocot)	5	2	1
Course		Topics	No. of hours	Lectures	Practical
Plant Morphology (Lec. 1.5 h./week, Pract. 2h./week)	1-3	Introduction - Seeds and seed germinations. Factors affecting seed germinations.	10.5	3	3
	4-5	Root system Tap root adventitious.	7	2	2
	6-7	Shoot system.	7	2	2
	8-9	Stem branching,	7	2	2
	10-11	Weak stem.	7	2	2
	12	Buds,	3.5	1	1
	13	Types of leaves	3.5	1	1
	14	Leaf modification.	3.5	1	1
15	Revision	1.5	1		

5-Teaching and learning methods

- 5.1- Lectures, discussions, demonstrations, and hands on laboratory exercises to teach.
5.2- Computer Assisted Instructions using PowerPoint Presentation and information summary.

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5.3- Handouts will be used during lectures...

5.4- Practical

6-Special teaching and learning methods for Students with disabilities students

6.1. Office hours

6.2. Revisions

6.3. Special assignments

6.4. Special lab duties

7-Student assessment

7.1. Assessments methods:

Method Anatomy	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	LS	P&P.S	G.S
Semester work	a1,2	b3		d1-2
Mid term	a1,2	b1-3		
Practical Exam	a1-3	b1,3	c1-3	
Final Exam	a1-3	b1-3		

7.2-Assessment schedules/semester

Method	Week(s)
Mid-term exam	7
Practical exams	14-15
Final exams	16
Semester work	Every week

7.3-Weight of assessments

Assessment	%
Mid-term exam	--
Practical exams	40
Final exams	60
Student activity	--
	100%

8- List of references

8.1.Nots and books

Hand outs

8.2.Essential books:

- Pandy and Chadha (1996). A Text Book of Botany: Plant Anatomy and Economic botany

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Volume III.

- Eanes and Macdaniels (1984). An introduction to plant anatomy.

8.3. Recommended texts

-Klein, Richard M. and Deana T. (1988) Fundamentals of Plant Science, , Harper and Row

-Janick, Schery, Woods, Ruttan, W.H. (1974). Plant Science, 2nd Ed., Freeman and Co.

-Ernest M.Gifford and Adriance S. Foster (1989). Morphology and Evolution of Vascular Plants, 3rd Edition, (New York: W. H. Freeman and Company)

8.4.Journals , Websitesetc

Journals:

Websites:

- <http://www.cas.muohio.edu/~meicenrd/ANATOMY/syllabus.html>

- http://www.wvcc.edu/oca/syllfiles/200AGPR113A67200298140492881PlantScienceI_Syllabus.doc

Course Coordinator

Head of Department

Prof. Dr/ M.S. Abdelhameed

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Course	Topic	Lect.	Pract.	Intended learning outcomes of course (ILOs)			
		Week	Week	K&U(a)	I.S(b)	P.P.S (c)	G.T.S (d)
Plant Anatomy	Introduction - Structure of the plant cell (Protoplasmic & Non-protoplasmic components)	1-3	1-2	A1	B1,2	C 1	D 1,2
	Cell wall – Plant tissues (Meristematic & Permanent)	4-5	3-4	A1	B2	C 1	D 1,2
	Dermal tissues (Epidermal tissues) .	6-7	5-6	A1	B 3	C 1,2	D 1,2
	Mechanical tissues (collenchyma, sclerenchyma)	8-9	7-8	A1	B 3	C 1,2	D 1,2
	Vascular system & secretory system	10-11	9-10	A1	B 3	C 1,2	D 1,2
	Internal structure of the young roots (dicot & monocot)	12	11	A1	B 3	C 1,2	D 1,2
	Internal structure of the young stems (dicot & monocot)	13	12	A1	B 3	C 1,2	D 1,2
	Internal structure of the young leaves (dicot & monocot)	14-15	13	A1	B 3	C 1,2	D 1,2



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Course	Topics	Lect.	Pract.	Intended learning outcomes of course (ILOs)			
		Week	Week	K&U(a)	I.S(b)	P.P.S (c)	G.T.S (d)
Plant Morphology	Introduction - Seeds and seed germinations. Factors affecting seed germinations.	1-3	1-3	A2	B 3	C 4	D 1,2
	Root system Tap root adventitious.	4-5	4-5	A2	B 3	C 3	D 1,2
	Shoot system.	6-7	6-7	A2	B 3	C 3	D 1,2
	Stem branching	8-9	8-9	A2	B 3	C 3	D 1,2
	Weak stem.	10-11	10-11	A2	B 3	C 3	D 1,2
	Buds	12	12	A2	B 3	C 3	D 1,2
	Types of leaves	13	13	A2	B 3	C 3	D 1,2
	Leaf modification.	14	14	A3	B 3	C 3	D 1,2
	Final Revision	15	-				



Course specification (2016-2017)

1-Basic information

Course Code:	S1-BIOL
Course title :	Invertebrates
Academic year:	1 st year, 2016-2017 (1 st term)
Programme title:	BVSC
Contact hours/ week/semester:	Lectures :2hrs/week 24hrs/semester practical:2hrs/week 24hrs/semester

2-Professional information

This course aims to:

- 1- Explain the basic concepts of invertebrates for understanding of their classification and life cycles.
- 2- Interpret biological problems related to the interaction between invertebrates and human.
- 3- Gain the students with skills of dissecting and differentiate between invertebrates using microscope with safety regulations.
- 4- Provide students with skills to cooperate with others and self-learning.

3- Intended learning outcomes of course (ILOs)

a-Knowledge and understanding:

By the end of this course the student should be able to:

- a1- Describe the biological activities of animals and human and invertebrate life cycle.
- a2- Define the basic topographical terms, different types and structures of the invertebrates.
- a3- Outline the classification of the phylum invertebrates.

b-Intellectual skills

By the end of this course the student should be able to:

- b1- Compare between different invertebrate classes..
- b2- Interpret biological problems resulting from interaction between parasitic invertebrates and human

C-Professional and practical skills

By the end of this course the student should be able to:

- c1- Draw the invertebrate features investigated by dissection.
- c2- Prepare a definite dissected specimen of the different regions in invertebrate animals.
- c3- Draw the diagnosed invertebrates by microscope.

d-General and transferable skills

By the end of studying this course, the student should be able to:

- d1- Work in group and manage time



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d2- Prepare an essay using internet and text books.

4-Topics and contents

Practical topics	No. of hours	Lectures	Practical
- classification of invertebrates - Protozoa (Amoeba, Euglena, Trypanosoma, Paramecium)	2	1	
Parazoa (Sponge)	2	1	
Hydrozoa (Hydra, Obelia)	2	1	
Planaria Fasciola	2	1	
Schistosoma and Taenia	2	1	
Ascaris	2	1	
Annelida (Allolopophora , Hirudo , Neris)	2	1	

Practical topics	No. of hours	Lectures	Practical
- classification of invertebrates - Protozoa (Amoeba, Euglena, Trypanosoma, Paramecium)	2		1
Parazoa (Sponge)	2		1
Hydrozoa (Hydra, Obelia)	2		1
Planaria Fasciola	2		1
Schistosoma, Taenia and Ascaris	2		1
Annelida (Allolopophora , Hirudo , Neris)	2		1
Revision+ Final exam	2		1

5-Teaching and learning methods

Lectures through: -

5.1- Lectures (Data show, write board, overhead projector, video and open discussion).

Practical through: -

5.2... Practical work in the laboratory -

- Dissection the animals and identification the slides by LM



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- Identification of some specimens.

Self learning through : -

5.3. Self learning

- Assignments and presentations

5.4. Individual learning using electron microscopic figs.

students

Via office hours, special meetings, special assignments and special lab duties.

7-Student assessment

7.1. Assessments methods

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	I.S	P&P.S	G.S
Mid-Term Exam	a1- a3	b1, b2		
Practical Exam	-		c1, c2, c3	
Final written Exam	a1- a3	b1, b2		
Student activity				d1,d2

7.2-Assessment schedules/semester

Method	Week
Mid-term exam	8 th
Practical exams	14 th
Final exams	15 th
Student activity	Through the term

7.3-Weight of assessments

Assessment	%
Mid-term exam & student activity	--
Practical exams	40
Final exams	60
Total	100



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8- List of references

8.1.Nots and books

Departmental notes: invertebrates, Lecture notes by staff members of zoology department.

8.2. Recommended books:

- Parasitology in focus.(2000): Book of parasitology, ED. H. Mehlhorn. Invertebrates of Mediterranean see ED. G.N. Soliman.

Journals:

Websites:

- http://www.guesspapers.net/education/Summary_of_Kingdom_Anamalia"
- <http://www.nature.com/news/2010/100106/full/news.2010.1.html>.
- <http://journals.royalsociety.org/content/qq5un1810k7605h5/fulltext.pdf>.
- <http://www.sciencedaily.com/>
- <http://www.pathology.washington.edu/galleries/cytogallery/main.phb>
- www.info.brookscoble.com

Course Coordinators

Prof. Dr/ Thabet Sakran

Head of Department

Prof. Dr./ Hanaa Ibrahim Fahim.



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Topic	weeks	Intended learning outcomes of course (ILOs)			
		K&U (a)	I.S (b)	P.P.S (c)	G.T.S (d)
Introduction and classification of invertebrates	1	a2, a3	b1		d1
Protozoa (Amoeba, Euglena, Trypanosoma, Paramecium)	2	a1, a2, a3	b1, b2	c2, c3	d1, d2
Parazoa (Sponge) and Hydrozoa (Hydra, Obelia)	3-6	a2, a3	b1	c2, c3	d1, d2
Planaria and Fasciola	7,8	a1, a2, a3	b1, b2	c2, c3	d1, d2
Schistosoma and Taenia	9,10	a1, a2, a3	b1,b2	c2, c3-	d1, d2
Ascaris and Annelida (Allolopophora , Hirudo , Neris)	11-14	a1, a2, a3	b1, b2	c1, c3	d1, d2



Course specification (2016-2017)

1-Basic information

Course Code:	S1-STAT
Course title :	Statistics
Academic year:	3 rd Year, 2 nd semester, 2010/2011
Program title:	BVSC
Contact hours/ week	Total:5 h/week (Lec: 3h /week 2h pract)
Date of specification approval	9/2016

2-Professional information

Overall aims of course:

This course aims to:

- Study the basic elements of probability and statistics.
- Recognize and understand how mathematical ideas interconnect and build on one another.
- Think logically and analytically.
- Work effectively as part of a team.

3- Intended learning outcomes of course (ILOs)

A-Knowledge and understanding:

By the end of this course the student should be able to:

- a1- Define the properties of the expectation and variance.
- a2- Describe the random variables and know their types.

B- Intellectual skills

By the end of this course the student should be able to:

- b1- Compare between certain probability distributions.
- b2- Compute analytically and numerically some statistics (Mean- Standard deviation-Standard error).

C-Professional and practical skills

By the end of this course the student should be able to:

- c1- Perform calculations on a scientific calculator to compute some statistics (Mean-standard deviation-standard error).
- c2- Evaluate the sample size required to give a confidence interval with certain length.

D-General and transferable skills

By the end of studying the course, the student should be able to:

- d1- Illustrate the extraction of information from the given data.
- d2- Compare between two groups of rabbits (say) with respect to mean and standard error.



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4-Topics and contents

Topics	No. of hours	Lectures
Introduction to probability –Some basic definitions.	2	1
Random variables, Probability functions and Expectations.	4	2
Some important discrete and continuous distributions: (binomial, Poisson and normal distributions)	6	3
Sampling theory (Sampling distribution of the sample mean, difference between two sample means, proportion and sample variance)	6	3
Estimation (point and interval estimations)	4	2
Testing of hypotheses and contingency tables: testing about the sample mean, difference between two sample means, proportion and sample variance	4	2
Revision and semester works	2	1

5-Teaching and learning methods

- 5.1- Board and transparences.
- 5.2- Scientific calculator.
- 5.3- Computer equipped with statistical programs.

6-Teaching and learning methods for the students with disabilities

Office hours and special meeting.

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	I.S	P&P.S	G.S
Mid-term Exam	a1, a2	b2	c1	d1
Final exam	a1, a2	b1, b2	c1, c2	d1,d2
Students activity		b1, b2	c2	d2

7.2-Assessment schedules/semester

Method	Week(s)
Mid-term exam	7 week
Final exams	managed by administrations
Student activity	every week



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7.3-Weight of assessments

Assessment	Weight of assessment
Mid-term exam	--
Final exams	100
Student activity	--
	100%

8- List of references

8.1.Nots and books

Departmental notes on Mathematics.

8.2.Essential books:

1. Rosner, B. (1982). Fundamentals of Biostatistics. PWS Publishers, Duxbury Press, Boston, Massachusetts.

8.3. Recommended Books

1. Hogg, R. V.; McKean, J. W. and Craig. A. T. (2005). Introduction to Mathematical Statistics. Pearson Prentice Hall. USA.
2. Bishop, O. N. (1980). Statistics for Biology. Third Edition, Longman Group Limited.

Course Coordinator

Dr. Alaa Hashem Abdel-Hamid

Head of Department

Prof. Dr. Hussain Ahmad Hassan El-Saifi



Course specification

Topic (Statistics)	Weeks	Intended learning outcomes of course (ILOs)			
		U&K(a)	I.S(b)	P.P.S(c)	G.T.S (d)
Introduction to probability –Some basic definitions.	1	a1 a2	b1	c1 c2	d1d2
Random variables, Probability functions and Expectations.	2-3	a1 a2	b1	c1	d1
Some important discrete and continuous distributions: (binomial, Poisson and normal distributions)	4-6	a1 a2	b1 b2	c2	d2
Sampling theory (Sampling distribution of the sample mean, difference between two sample means, proportion and sample variance)	7-9	a1 a2	b2	c1c2	d1
Estimation (point and interval estimations)	10-11	a1 a2	b1	c1	d1 d2
Testing of hypotheses and contingency tables: testing about the sample mean, difference between two sample means, proportion and sample variance	12-13	a1	b1 b2	c1c2	d1d2
Revision and semester works	14	a1	b1 b2	c1c2	d1d2



Course specification

1-Basic information

Course Code:	S1-PHYS
Course title :	Properties of matter and heat
Academic year:	1 st year students, 2015/2016
Program title:	BVSC
Contact hours/ week/semester:	4 h /week (Lecture: 2 h/week, Training:4h/week, Practical: 4h/week)
Last date of course specification approval	9/2016

2-Professional information

Overall aims of course:

This course aims to:

- 1- Analyze the principles of heat and properties of matter and interpret main idea of simple harmonic motion, concepts of fluid flow, temperature and Stefan-Boltzmann law.
- 2- Differentiate between the kinetic energy and potential energy.
- 3- Compare between different methods of heat transfer
- 3- Write a short report in a written form and orally using appropriate scientific language and time management.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

By the end of this course the student should be able to:

- a1. Define some physical quantities
- a2. Describe how the refrigeration can operate.
- a3. Define Hook's law, Archimedes's law, Pascal's law, Stefan's law, Newton's law, and the first and second laws of thermodynamics.
- a4. Identify the validity of formulae from the point of view of dimensions.
- a5. Describe some physical equation of motion, and equations of static and dynamic fluids.

B-Intellectual skills

By the end of this course the student should be able to:

- b1. Illustrate physical quantities (centripetal acceleration, strain, stress, young's modulus, specific heat, latent heat, melting point of ice)
- b2. Discuss the specific heat of solid.
- b3. Explain the energy and work in thermodynamics.
- b4. Distinguish the regions in Hooke's law and the regions of elasticity
- b5. Summarize the different types of motions of solids and liquids, and different methods of heat transfer

C-Professional and practical skills

By the end of this course the student should be able to:

- c1. Determine the different types of elasticity, liquids, thermometers, latent heat
- c2. Use some figures to show the relations between the different physical quantities.

D-General and transferable skills



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By the end of studying the course, the student should be able to:

- d1. Write a short report in a written form -using library or Internet resources.
- d2. Work in a group and learning time management.

4-Topics and contents

Course	Topics	No. of hours	Lec.	Training	Practical
Properties of matter 2h/week, training 1h/week	• <i>Introduction</i>	2	1	1	--
	<i>Mechanics I</i>	3	2	1	--
	<i>Mechanics II</i>	3	2	1	--
	<i>Elasticity</i>	3	2	1	--
	<i>States of matter</i>	3	2	1	--
	<i>Archimedes's principle, surface tension.</i>	3	2	1	--
	<i>Motion of fluids</i>	3	2	1	--
	Viscosity.	2	1	1	--
Heat 2h/week training 1h/week	Heat and Energy	2	1	1	--
	Thermal expansion, thermal stresses heat capacity.	3	2	1	--
	<i>Heat transfer</i>	3	2	1	--
	Radiation, Stefan-Boltzmann law, the ideal radiator.	3	2	1	--
	<i>The first law of thermodynamics I</i>	3	2	1	--
	<i>The first law of thermodynamics II</i>	3	2	1	--
	<i>The second law of thermodynamics</i>	3	2	1	--
	the Carnot theorem and conversion of energy.	2	1	1	--
Practical physics 4h/week	Introduction	1	--		1
	Simple pendulum	1	--		1
	Hooks law	1	--		1
	Resonance Tube	1	--		1
	Archimedes law	1	--		1
	Surface tension	1	--		1
	Viscosity of a liquid	1	--		1
	Specific heat of solid	1	--		1
	Latent heat of ice	1	--		1
	Latent heat of wax	1	--		1
	Newton's law of cooling	1	--		1
	Jules law	1	--		1
	Mechanical equivalent of heat	1	--		1

5-Teaching and learning methods



Course specification

- Lecture using Board and Data Show
- Experimental Models
- Discussion groups
- Quizzes, home works, exercises and exams.

6-Special teaching and learning methods for exceptional students

Office hours and special meeting

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	I.S	P&P.S	G.S
Homework exercises	a1, a2,a4	b1,b5		d1d2
Oral discussions	a2,a3,a5	b2,b3,b4,b5		
Quizzes	a1,a3,a5	b1,b2,b5		
Mid- term examination	a1, a4,	b1,b4,b5		
Practical exam	a1, a4	b1,b4	c1,c2	
Final examination	a1, a2,a3, a4,a5	b1, b2 , b3, b4,b5		

7.2-Assessment schedules/semester

Method	Week(s)
Mid-Term exam	--
Practical exams	13
Final exam	15
Student activity	Every week

7.3-Weight of assessments

Assessment	Weight of assessment
Mid-Term Examination	--
Final-term Examination	60
Practical Examination	40
Student activity	--
Total	100%

8- List of references

8.1.Notes and books

- Departmental notes on Heat
- Departmental notes on properties of matter
- Departmental notes on practical physics

8.2. Essential books:

- 1-Robert Oman and Daniel Oman, "How to solve Physics Problems",



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McGraw-Hill, 1984

2- F. Bueche, "Principles of Physics", McGraw-Hill, 1974

3- Serway, "Physics for Scientists and Engineers", Saunders
publishing, 1996.

College

8.3. Recommended texts

N/A

8.4. Journals, Websitesetc

N/A

Journals:

Websites:

Course Coordinator

Head of Department

Dr. Mostafa Ali

Prof. Dr. Hany S. Hamdy



Course specification

course	Topic	Week	Intended learning outcomes of course (ILOs)			
			K&U(a)	I.S(b)	P.P.S (c)	G.T.S (d)
Properties of matter 3h/week	<i>Introduction</i>	1	a1,a4	b1	c1	d1
	<i>MechanicsI</i>	2, 3	a1, a4	b1	c1	d1
	<i>MechanicsII</i>	4, 5	a1,a4,a5	b1,b5	c1	d1,
	<i>Elasticity</i>	6, 7	a1,a3,a4,a5	b1,b4	c1	d1
	<i>States of matter</i>	8, 9	a1, a3	b1,b5	c1	d1
	<i>Archimedes principle, surface tension.</i>	10, 11	a1, a3,a4,a5	b1		d1
	<i>Motion of fluids</i>	12, 13	a1, a4	b1, b5	c1	d1
	Viscosity.	14	a1, a4,a5	b1, b4	c1	d1
Heat 3h/week	Heat and Energy	1	a1,a4	b1	c1	d1
	Thermal expansion, thermal stresses, heat capacity.	2, 3	a1, a2	b1,b2, b5	c1	d1,
	<i>Heat transfer</i>	4, 5	a1,a4,a5	b1,b5	c1	d1
	Radiation, Stefan-Boltzmann law, the ideal radiator.	6, 7	a1,a3 a5	b1,b5		d1
	<i>The first law of thermodynamics I</i>	8, 9	a1,a3, a4	b1,b3		d1
	<i>The first law of thermodynamics II</i>	10, 11	a2, a3,a5	b1,b3		d1
	<i>The second law of thermodynamics</i>	12, 13	a1, a3	b1,b3		d1
	The Carnot theorem and conversion of energy.	14	a2, a3	b1,b3		d1
Practical physics 4h/week	Introduction	1	a1,a3	b1	C1,c2	d2
	Simple pendulum	2	a1,a5	b1	C1,c2	d2
	Hooks law	3	a1,a3	b1	C1,c2	d2
	Resonance Tube	4	a1,a5	b1	C1,c2	d2
	Archimedes law	5	a1,a3	b1	C1,c2	d2
	Surface tension	6	a1	b1	C1,c2	d2
	Viscosity of a liquid	7	a1	b1	C1,c2	d2
	Specific heat of solid	8	a1,a4	b1	C1,c2	d2



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	Latent heat of ice	9	a1,a4	b1	C1,c2	d2
	Latent heat of wax	10	a1,a4	b1	C1,c2	d2
	Newton's law of cooling	11	a1,a3	b1	C1,c2	d2
	Jules law	12	a1,a3	b1	C1,c2	d2
	Mechanical equivalent of heat	13	a1,a3	b1	C1,c2	d2



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