



Course Specification of Bio-physics

I. Course Identification and General Information:						
1	Course Title:	Bio-physics				
2	Course Number & Code:	FR113				
3	Credit hours:	C.H				Tota l
		Theoretical	Practical	Training	Seminar	
		2	-	1	-	3
4	Study level/ semester at which this course is offered:	First Year - Second Semester				
5	Pre –requisite (if any):	None				
6	Co –requisite (if any):	None				
7	Program (s) in which the course is offered:	Bachelor of Veterinary Medicine				
8	Language of teaching the course:	English language				
9	Location of teaching the course:	Faculty of Veterinary Medicine Building				
10	Prepared by:	Dr. Basheer Ahmed Mufreh				
11	Date of approval:					

II. Course description:

Bio-physics is a Facility required course, This course provides a student by basic and advanced skills for understand Bio-physics at studying environment, and at home. It presents the knowledge of basic Bio-physics concepts. The course provides the knowledge needed to operate and utilize the operating system and office software package, and to use the. Bio-physics and further develops students' communication skills in design, describe, Draw and using a moderately advanced materials. It also provides the students with a wide range of basic concept and develops their use Experience of medical Bio-physics, and processes to investigate the effect of varying resistance on the Science of Bio-physics in the environment, solve simple problems on the cost of using Science of Bio-physics appliances, using machines and Networks.

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III. Intended learning outcomes (ILOs) of the course:

(A) Knowledge and Understanding:

Alignment of Course Intended Learning Outcomes (CILOs) to Program Intended Learning Outcomes (PILOs) in: **Knowledge and Understanding.**

Program Intended Learning Outcomes (Sub- PILOs) in: Knowledge and Understanding		Course Intended Learning Outcomes (CILOs) in: Knowledge and Understanding	
After completing this program, students will be able to:		After completing this course, students will be able to:	
A2-	Clarifies basic concepts, principles, and theories related to animal production, animal health and nutrition, behavior management, breeding and care that is related to animal ethical codes.	a1-	Describe the relation between work, energy, power
A3-	Identifies various causes of animal diseases, animal epidemics and how they can be diagnosed; including common and life-threatening diseases of animals, poultry and fish.	a2-	Distinguish the basic of Bio-physics in animals

Teaching And Assessment Methods For Achieving Learning Outcomes:

Alignment of Learning Outcomes of Knowledge and Understanding to Teaching and Assessment Methods:

Course Intended Learning Outcomes (CILOs) in Knowledge and Understanding		Teaching strategies/methods to be used	Methods of assessment
completing this course, students will be able to:		Lectures Investigation Explanation Open question Demonstration Presentation Observation.	Home Work Class Work Class Active Case Studies Research Papers Group Projects Watch Video
a1-	Describe the relation between work, energy, power		
a2-	Distinguish the basic of Bio-physics in		

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animals	Cooperative learning workshops Pair work Group work	Collect sample Mid-semester exam Final exam Cooperative learning
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(B) Intellectual Skills:

Alignment of Course Intended Learning Outcomes (CILOs) to Program Intended Learning Outcomes (PILOs) in: **Intellectual skills**

Program Intended Learning Outcomes (Sub-PILOs) in Intellectual skills		Course Intended Learning Outcomes (CILOs) of Intellectual Skills	
After completing this program, students will be able to:		After completing this course, students will be able to:	
B1-	Competently practices analytical and critical thinking skills in studying and assessing health problems and reading the results of animal medical examinations and in related sciences.	b1-	Differentiate among different Bio-physics.
B4-	Determine appropriate and effective treatment evaluates all medications used for each diseased condition.	b2-	Discriminate the importance of using Bio-physics to medical.

Teaching And Assessment Methods For Achieving Learning Outcomes:

Alignment of Learning Outcomes of Intellectual Skills to Teaching Methods and Assessment Methods:

Course Intended Learning Outcomes (CILOs) in Intellectual Skills.		Teaching strategies/methods to be used	Methods of assessment
After completing this course, students will be able to:			
b1-	Differentiate among different Bio-physics.	Lectures Investigation Feedback	Home Work Class Work Class Active
b2-	Discriminate the importance of using Bio-physics to medical	Open question Demonstration Observation. Cooperative learning workshops	Case Studies Research Papers Group Projects Watch Video Mid-semester exam

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		Pair work Group work	Final exam Cooperative learning
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(C) Professional and Practical Skills:

Alignment of Course Intended Learning Outcomes (CILOs) to Program Intended Learning Outcomes (PILOs) in: **Professional and Practical Skills**

Program Intended Learning Outcomes (Sub-PILOs) in Professional and Practical Skills		Course Intended Learning Outcomes (CILOs) in Professional and Practical Skills	
After completing this program, students will be able to:		After completing this course, students will be able to:	
C1-	Accurately records a comprehensive pathological story of a sick animal including information on healthy behavior and the necessary checks.	c1-	Employ functions and charts in Bio-physics.
C2-	Practicing practical, diagnostic, clinical and research skills, including the collection of samples in various fields of veterinary medicine and related sciences, in a safe and effective manner, taking into account the ethics of the profession.	c2-	Produce effective Bio-physics presentations.

Teaching And Assessment Methods For Achieving Learning Outcomes:

Alignment of Learning Outcomes of Professional and Practical Skills to Teaching and Assessment Methods:

Course Intended Learning Outcomes (CILOs) in Professional and Practical Skills		Teaching strategies/methods to be used	Methods of assessment
After completing this course, students will be able to:		Lectures Investigation Explanation Feedback Open question Demonstration Presentation	Home Work Class Work Class Active Case Studies Research Papers Group Projects Watch Video
c1-	Employ functions and charts in Bio-physics.		
c2-	Produce effective Bio-physics presentations.		

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(D) General / Transferable Skills:

Alignment of Course Intended Learning Outcomes (CILOs) to Program Intended Learning Outcomes (PILOs) in: **General and Transferable skills**

Program Intended Learning Outcomes (PILOs) in General / Transferable skills		Course Intended Learning Outcomes (CILOs) in General / Transferable skills	
After completing this program, students will be able to:		After completing this course, students will be able to:	
D1-	Communicates effectively with Professional colleagues and animal owners and expresses his ideas clearly and objectively.	d1-	Write reports required for a Bio-physics
D2-	Develops his scientific, professional and research capabilities and follow what is emerging in his field of specialization and using computer applications and information and communication technology.	d2-	Use Internet for the purpose of preparing different Bio-physics

Teaching And Assessment Methods For Achieving Learning Outcomes:

Alignment of Learning Outcomes of General and Transferable skills to Teaching and Assessment Methods:

Course Intended Learning Outcomes (CILOs) in General and Transferable Skills		Teaching strategies/methods to be used	Methods of assessment
After completing this course, students will be able to:		Lectures Investigation Explanation Feedback Open question Demonstration Presentation Observation. Cooperative learning workshops Pair work Group work	Home Work Class Work Class Active Case Studies Research Papers Group Projects Watch Video Collect sample Mid-semester exam Final exam Cooperative learning
d1-	Write reports required for a Bio-physics		
d2	Use Internet for the purpose of preparing different Bio-physics		

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IV. Course Content:					
1 – Course Topics/Items:					
a – Theoretical Aspect					
Order	Topic List / Units	CiLOs (symbols)	Sub-topic List	Number of weeks	Contact hours
1	Physics and Measurements	a1, b1 , d1 , d2	Introduction of Physics Design Physics and Measurements Description kind of Physics and Measurement system Observation Physics and Measurements	2	4
2	Motion AND Transportation	a1, b1 , d1 , d2	body momentum Kind of motion Bio- Speed Average velocity Acerbation of gravity Momentum Conservation of motion	3	6
3	Pressure and temperature	a1, b1 , d1 , d2	Pressure temperature Bio- Pressure Bio-temperature Coefficient of thermal conduction Coefficient of thermal Pressure	2	4

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			Heat Capacity Quantity of Heat Species of Heat animas		
4	Energy and Power	a1, b1 , d1 , d2	Energy and Environment Renewable Sources of Bio- Energy Energy change Solar and non-Solar Identify Power and Energy Energy and work. Energy and matter. Equilibrium Internal Energy	3	6
5	Thermodynamics	a1, b1 , d1 , d2	Thermodynamics Thermodynamics laws Renewable Sources of Bio- Energy Bio- Thermodynamics Calcute	1	2
6	Photo effect	a1, b1 , d1 , d2	Photon Photo effect and Environment Photo effect of animals Coherent light Radioactive Equilibrium	3	6
Number of Weeks /and Units Per Semester				14	28

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b- Training Aspect:				
Order	Training Tasks	CILOs (symbols)	Number of weeks	Contact hours
1	Measurement	c1, c2, d1, d2	2	4
2	Configuration	c1, c2, d1, d2	2	4
3	Setting	c1, c2, d1, d2	3	6
4	Reaction	c1, c2, d1, d2	3	6
5	Relation cheep	c1, c2, d1, d2	4	8
Number of Weeks /and Units Per Semester			14	28

V. Teaching strategies of the course:
<ul style="list-style-type: none"> ▪ Brainstorming ▪ Teacher explanation ▪ Directed reading ▪ Silent Reading ▪ Self-learning ▪ Problem solving ▪ Pair work ▪ Listening to short dialogues
3-Assessment Methods:
Home Active
Home Work

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Class Work
Research Papers
Group Projects
Watch Video

VI. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes (CILOs symbols)
1	Participation, quizzes and assignments	2-14	10	10%	a1, a2, c1,c2, d1, d2
2	Mid-Term Exam	8	10	10%	a1, a2, c1,c2, d1, d2
3	Mid-Term Practical Exam	8	10	10%	a1, a2, c1,c2, d1, d2
4	Final Practical Exam	15	10	10%	a1, a2, c1,c2, d1, d2
5	Oral Exam	16	5	5%	a1, a2, c1,c2, d1, d2
6	Final Exam	16	55	55%	a1, a2, c1,c2, d1, d2
Total			100	100%	

VII. Students' Support:

Office Hours/week	Other Procedures (if any)
Every sun day	Non

VIII. Learning Resource (MLA style or APA style)S:

1- Required Textbook(s) (maximum two)

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<ul style="list-style-type: none"> • Morris Mano, " Bio-physics 3 ", by Prentice – Hall 2011 ISBN. 1995
<p>2- Recommended Readings and Reference Materials</p> <ul style="list-style-type: none"> ▪ R. A. Serway and J. S. Faughn, General Bio-physics , 2006, Holt, USA. ▪ John F.Warrly, " General Bio-physics ", Pearson Education ,Russia
<p>3- Essential References</p> <p>Richards, Jack C., Hull, Jonathan and Proctor, Susan. (2008).Bio-physics-o. Third edition, New York: Cambridge University Press</p> <p>http://www.ph.utexas.edu/~ General Bio-physics /resources/resources.html</p>
<p>4- Electronic Materials and Web Sites <i>etc.</i></p> <p>http://mastersinesl.com/2012/40-best-sites-for-esl-study-materials-textbooks-and-software/ http://learnenglishteens.britishcouncil.org/skills/listening-skills-practice http://www.everythingsl.net/in-services/elementary_sites_ells_71638.php http://www.everythingsl.net/in-services/elementary_sites_ells_71638.php http://www.5minuteenglish.com/the-fun-of-learning-english.htm http://www.funbrain.com/cgi-bin/gg.cgi?A1=m&A2=0&A3=0&AFUNCT=1&ALEVEL=0 http://classroom.jc-schools.net/basic/la-grammar.html http://classroom-aid.com/2012/08/28/25-online-games-for-english-language-learners/ https://www.vocabulary.co.il/ http://www.talkenglish.com/listening/listenintermediate.aspx https://learnenglish.britishcouncil.org/en/english-grammar/phrase-and-sentence/sentence-structure http://classroom.jc-schools.net/basic/la-grammar.html http://www.factmonster.com/homework/writingskills1.html</p>
<p>5- Other Learning Material:</p>

I. Course Policies: (including plagiarism, academic honesty, attendance etc)

1	<p>Class Attendance:</p> <p>- Attendance in all lectures and practical classes are required, except in very emergency</p>
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	<p>circumstances, such as serious illness or death in the family with providing an acceptable documentation approved by the university and forwarded by the chairman of the department. Otherwise the absence shall be considered unexcused.</p> <ul style="list-style-type: none"> - In accordance with the university rules, if the percentage of student's absence exceeds 25 % of the total lectures or practical classes, the student involved shall be disqualified in the final written and practical examination of the course and shall be deemed to have failed in the course.
<p>2</p>	<p>Tardy: Roll will be called in the very beginning of each lecture and practical class. Retardation for more than three weeks without a reasonable cause, the student involved shall not be allowed to attend the class any longer and consequently shall be considered to be absent.</p>
<p>3</p>	<p>Exam Attendance/Punctuality:</p> <ul style="list-style-type: none"> ▪ It is incumbent on student to report at the examination hall for checking in and rolls calling at least 15 minutes before the commencement of examination. ▪ A student is not allowed to submit answer booklet and leave the examination hall only on or after the passage of the half examination duration. ▪ A student who comes late shall not be admitted to the examination hall, only within the first 30 minutes of the examination. After this time, the student will be considered to be missed in the examination and shall be deemed to have failed in the course. ▪ When a student misses the final examination due to a legitimate medical problems or death in the family, an acceptable documentation approved by the university medical unit for the excused absence must be provided no later than three weeks and consequently the student shall be disqualified in the examination but with the excused absence.
<p>4</p>	<p>Assignments & Projects:</p> <ul style="list-style-type: none"> ▪ Assignments and practical reports must be submitted for assessment on or before the due date. ▪ The submission date extension will not be granted only by the consent of the faculty member concerned. ▪ In the case of late submission, the student must provide a reasonable explanation to the faculty member. Otherwise, 1% of the obtained marks will be subtracted for each late day, including weekends and holidays.

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<p>5</p>	<p>Cheating:</p> <ul style="list-style-type: none"> ▪ If a student is found cheating in examination (midterm or final or quizzes) (copying from unauthorized materials and another students' work or allowing other students to copy from his/her own work), the student involved shall be disqualified in the examination and shall be deemed to have failed in the course and also suspended from examinations of two more courses. ▪ If a student is found engaging in any unauthorized communications (oral, sign, call, etc.), while the examination is in progress or in possessing of any authorized materials or electronic devices before the distribution of examination papers , the student involved shall be disqualified in the examination and shall be deemed to have failed the course.
<p>6</p>	<p>Plagiarism:</p> <ul style="list-style-type: none"> ▪ Plagiarism is the presentation of any material (text, data or figures) from any other source in preparation of assignments or practical reports without clear and adequate acknowledgement of the source. ▪ Plagiarism is also the use or copy of other students' work (with, or without payment) to prepare all or part of undertaken assignments or practical reports of work submitted for assessment. ▪ All types of plagiarism are unacceptable and are considered dishonest practices. If a student is found plagiarism, the student involved shall be subjected to the same penalties as in the case of cheating as already mentioned in the sub-section (5) of the course policies.
<p>7</p>	<p>Other policies:</p> <ul style="list-style-type: none"> ▪ Students must switch off their mobile phones, laptops, electronic devices etc. before entering lecture room or lab. If a student is found using these devices while the lecture or practical work is in progress, the student involved shall be expelled out of the class and shall be considered to be absent.

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Course Plan of BIO PHYSICS

X. - Information about Faculty Member Responsible for the Course:						
Name of Faculty Member	Dr. Basheer Ahmed Mufreh	Office Hours				
Location & Telephone No.		SAT	SUN	MON	TUE	WED
E-mail						

IX. Course Identification and General Information:						
1	Course Title:	Bio-physics				
2	Course Number & Code:	FR113				
3	Credit hours:	C.H				Tota
		Theoretical	Practical	Training	Seminar	l
		2	-	1	-	3
4	Study level/ semester at which this course is offered:	First Year - Second Semester				
5	Pre –requisite (if any):	None				
6	Co –requisite (if any):	None				
7	Program (s) in which the course is offered:	Bachelor of Veterinary Medicine				
8	Language of teaching the course:	English Language				
9	System of Study:	Regular / Semesters				
10	Mode of delivery:	Lectures and Practical				
11	Location of teaching the course:	Faculty of Veterinary Medicine Building				

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X. Course description:

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I. Intended learning outcomes (ILOs) of the course:

After completing this course, students will be able to:

- a1- Describe the relation between work, energy, power.
- a2- Distinguish the basic of Bio-physics in animals.
- b1- Differentiate among different Bio-physics.
- b2- Discriminate the importance of using Bio-physics to medical.
- c1- Employ functions and charts in Bio-physics.
- c2- Produce effective Bio-physics presentations.
- d1- Write reports required for a Bio-physics
- d2- Use Internet for the purpose of preparing different Bio-physics

I. Course Content:

A – Theoretical Aspect:

Order	Topics List	Week Due	Contact Hours
1	Physics and Measurements	1,2	4

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2	Motion AND Transportation	3,4,5	6
3	Pressure and temperature	6,7	4
4	Mid-Term Exam	8	2
5	Energy and Power	9,10,11	6
6	Thermodynamics	12	2
7	Photo effect	13,14,15	6
8	Final Exam	16	2
Number of Weeks /and Units Per Semester		16	32

b- Training Aspect:

Order	Training Tasks	Week Due	Contact hours
1	Measurement	1,2	4
2	Configuration	3,4	4
3	Setting	5,6,7	6
	Mid-Term Exam	8	2
4	Reaction	9,10,11	6
5	Relation cheep	12,13,14,15	8
	Final Exam	16	2
Number of Weeks /and Units Per Semester		16	32

XI. Teaching strategies of the course:

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- Brainstorming
- Teacher explanation
- Directed reading
- Silent Reading
- Self-learning
- Problem solving
- Cooperative learning
- Group work
- Pair work
- Listening to short dialogues

3-Assessment Methods:

Home Active
 Home Work
 Class Work
 Research Papers
 Group Projects
 Watch Video
 Note sample

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment
1	Participation, quizzes and assignments	2-14	10	10%
2	Mid-Term Exam	8	10	10%

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3	Mid-Term Practical Exam	8	10	10%
4	Final Practical Exam	15	10	10%
5	Oral Exam	16	5	5%
6	Final Exam	16	55	55%
Total			100	100%

XII. Students' Support:

Office Hours/week	Other Procedures (if any)
Every sun day	Non

XIII. Learning Resource (MLA style or APA style)s:

6- Required Textbook(s) (maximum two)

- Morris Mano, " Bio-physics 3 ", by Prentice – Hall 2011 ISBN. 1995

7- Recommended Readings and Reference Materials

- R. A. Serway and J. S. Faughn, General Bio-physics , 2006, Holt, USA.
- John F.Warrly, " General Bio-physics ", Pearson Education ,Russia

8- Essential References

Richards, Jack C., Hull, Jonathan and Proctor, Susan. (2008).Bio-physics-o. Third edition, New York: Cambridge University Press
<http://www.ph.utexas.edu/~ General Bio-physics /resources/resources.html>

9- Electronic Materials and Web Sites etc.

<http://mastersinesl.com/2012/40-best-sites-for-esl-study-materials-textbooks-and-software/>
<http://learnenglishteens.britishcouncil.org/skills/listening-skills-practice>
http://www.everythingsl.net/in-services/elementary_sites_ells_71638.php
<http://www.5minuteenglish.com/the-fun-of-learning-english.htm>

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<p>http://www.funbrain.com/cgi-bin/gg.cgi?A1=m&A2=0&A3=0&AFUNCT=1&ALEVEL=0 http://classroom.jc-schools.net/basic/la-grammar.html http://classroom-aid.com/2012/08/28/25-online-games-for-english-language-learners/ https://www.vocabulary.co.il/ http://www.talkenglish.com/listening/listenintermediate.aspx https://learnenglish.britishcouncil.org/en/english-grammar/phrase-structure http://classroom.jc-schools.net/basic/la-grammar.html http://www.factmonster.com/homework/writingskills1.html</p>
<p>10- Other Learning Material:</p>

II. Course Policies: (including plagiarism, academic honesty, attendance etc)	
1	<p>Class Attendance:</p> <ul style="list-style-type: none"> - Attendance in all lectures and practical classes are required, except in very emergency circumstances, such as serious illness or death in the family with providing an acceptable documentation approved by the university and forwarded by the chairman of the department. Otherwise the absence shall be considered unexcused. - In accordance with the university rules, if the percentage of student's absence exceeds 25 % of the total lectures or practical classes, the student involved shall be disqualified in the final written and practical examination of the course and shall be deemed to have failed in the course.
2	<p>Tardy:</p> <p>Roll will be called in the very beginning of each lecture and practical class. Retardation for more than three weeks without a reasonable cause, the student involved shall not be allowed to attend the class any longer and consequently shall be considered to be absent.</p>
3	<p>Exam Attendance/Punctuality:</p> <ul style="list-style-type: none"> ▪ It is incumbent on student to report at the examination hall for checking in and rolls calling at least 15 minutes before the commencement of examination. ▪ A student is not allowed to submit answer booklet and leave the examination hall only on or after the passage of the half examination duration. ▪ A student who comes late shall not be admitted to the examination hall, only within the first 30 minutes of the examination. After this time, the student will be considered to be missed in the

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	<p>examination and shall be deemed to have failed in the course.</p> <ul style="list-style-type: none"> When a student misses the final examination due to a legitimate medical problems or death in the family, an acceptable documentation approved by the university medical unit for the excused absence must be provided no later than three weeks and consequently the student shall be disqualified in the examination but with the excused absence.
4	<p>Assignments & Projects:</p> <ul style="list-style-type: none"> Assignments and practical reports must be submitted for assessment on or before the due date. The submission date extension will not be granted only by the consent of the faculty member concerned. In the case of late submission, the student must provide a reasonable explanation to the faculty member. Otherwise, 1% of the obtained marks will be subtracted for each late day, including weekends and holidays.
5	<p>Cheating:</p> <ul style="list-style-type: none"> If a student is found cheating in examination (midterm or final or quizzes) (copying from unauthorized materials and another students' work or allowing other students to copy from his/her own work), the student involved shall be disqualified in the examination and shall be deemed to have failed in the course and also suspended from examinations of two more courses. If a student is found engaging in any unauthorized communications (oral, sign, call, etc.), while the examination is in progress or in possessing of any authorized materials or electronic devices before the distribution of examination papers , the student involved shall be disqualified in the examination and shall be deemed to have failed the course.
6	<p>Plagiarism:</p> <ul style="list-style-type: none"> Plagiarism is the presentation of any material (text, data or figures) from any other source in preparation of assignments or practical reports without clear and adequate acknowledgement of the source. Plagiarism is also the use or copy of other students' work (with, or without payment) to prepare all or part of undertaken assignments or practical reports of work submitted for assessment. All types of plagiarism are unacceptable and are considered dishonest practices. If a student is found plagiarism, the student involved shall be subjected to the same penalties as in the case of cheating as already mentioned in the sub-section (5) of the course policies.
7	<p>Other policies:</p> <ul style="list-style-type: none"> Students must switch off their mobile phones, laptops, electronic devices etc. before entering lecture room or lab. If a student is found using these devices while the lecture or practical work is in progress, the student involved shall be expelled out of the class and shall be considered to be

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