



**FORMAN CHRISTIAN COLLEGE (A Chartered University)**

**PHYS 100 D: Introduction to Physics (4 Credits)**

***Course Outline***

***Spring 2022***

<b>Instructor Information</b>	
Name	Dr. Fareeha Hameed
Email	fareehahameed@fccollege.edu.pk
Skype Name	hameedfareeha
Online Advising	Appointments by Email/SMS/WhatsApp For E-mail, include “ <i>PHYS 100 C: Introduction to Physics</i> ” in the subject line Office hours will be announced on Moodle when campus opens. Office S-020
Online Classes	Will be held on Zoom and recordings will be made available
Course Material/ Announcements	Will be uploaded on Moodle
<b>Course Information</b>	
Course Notes	Does not fulfill the General Education requirement for students who have studied Physics at Intermediate or A Levels or equivalent Scope of physics, system of units, kinematics and bodies in motion, communication, basic electricity, laboratory: familiarization with measuring instruments and related experimentation, electrical circuits
Learning Outcomes:	On Successful completion of this course the student will be able to: <ul style="list-style-type: none"><li>• Understand and appreciate that most of the natural phenomena can be explained using fundamental laws of physics.</li><li>• Develop understanding of the material studied by solving applicable problems.</li><li>• Become familiar with physics principles applicable in other fields of science.</li><li>• Become familiar with the techniques used in measurement and measuring instruments.</li></ul>
Text Books & Reference Material	<ul style="list-style-type: none"><li>• Physics in Context, W. J. Zealney, M. Hynoski et al, Oxford University Press (ISBN: 0 19 550776 2) [2 vol. set]</li><li>• Fundamentals of Physics Extended version, David Halliday, Robert Resnick and Walker, Jearl, (7th Edition) John Wiley &amp; Sons, 2002</li><li>• University Physics with Modern Physics, Hugh D. Young, Roger A. Freedman, (11th edition) (ISBN 81-297-0464-1) Pearson Education Ltd. [LPE] Addison-Wesley, .2004</li><li>• Physics for Scientists and Engineers; 6th Edition; Paul A. Tipler; W. H. Freeman &amp; Company. [2007]</li><li>• Online lectures (links will be given on Moodle)</li></ul>

	<ul style="list-style-type: none"> <li>• Presentation slides, demonstration videos and manuals for lab material will be uploaded to Moodle</li> </ul>
<p>Course Requirements &amp; Important things to know</p>	<ul style="list-style-type: none"> <li>• All examinations, tests and assignments shall be cumulative, i.e. may or may not contain material from previous assignments and tests.</li> <li>• <u>Technology Use:</u> The Moodle platform will be used for making announcements, sharing material, submission of assignments, and conducting quizzes, Exams, etc. Zoom will be used for online classes. Notifications will be sent on your official emails</li> <li>• Students are required to watch/listen to online lectures and do relevant readings. They are also required to watch online videos as instructed.</li> <li>• <u>Due Dates:</u> <ul style="list-style-type: none"> <li>○ All assignments are to be submitted before/on the due date.</li> <li>○ Late activities will not be graded, unless previous accommodations have been made. In case of any other limitations (internet), inform prior to the deadline. Avoid submitting at the last moment. Make prior arrangements to avoid any technological problems</li> <li>○ There are no make-up exams.</li> </ul> </li> <li>• <u>Academic Honesty:</u> <ul style="list-style-type: none"> <li>○ All work that you submit in this course must be your own.</li> <li>○ Unauthorized group efforts are considered academic dishonesty.</li> <li>○ Attendance will not be marked if you are more than 10 minutes late</li> <li>○ You are guilty of academic dishonesty if you examine another's solution, allow (actively or passively) another student to examine your solution, or you copy from the Internet without complete understanding of what you have done. University policy of plagiarism will be applicable in the case.</li> <li>○ All cases no matter how trivial they are will be reported to Academic Integrity Committee (AIC) of FCCU. Cheating or violation of academic integrity in any exam will cause F grade.</li> <li>○ <u>Ethics:</u> Ethics violations on exams, quizzes, assignments or any other course activities will be reported to the AIC (Academic Integrity Committee) and action will be taken according to AIP (Academic Integrity Policy) of FCC.</li> <li>○ Remember your netiquettes when communicating. You will be replied within 2 working days</li> <li>○ Office hours will be announced on Moodle</li> <li>○ No communications after office hours or on holidays/weekends unless it's an emergency. Remember regular teaching and learning is not considered an emergency. A planned exam is not an emergency. Avoid asking questions right before an exam. All issues should be resolved well before the deadlines.</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>• <u>WhatsApp Class group:</u> You may join this group. It is a choice not mandatory. Remember this is a class group. Hence be professional and polite. Keep your proper name visible. Only send constructive and positive messages that are relevant to this course. Don't spam the group with repetitive messages. If rules are not followed, you will be removed from the group. Remember your netiquettes. No one is available to reply 24/7. If you agree to these rules you may join using the given invite.</li> </ul>		
Course Content	Introduction to physics, lays emphasis on basic concepts that can be treated with elementary mathematics. These include applications of physics in everyday life to which the student can relate with. Concepts to be taken up are: Scope of Physics; System of units and measurements, Communications; Basic Electricity; from ideas to implementation; kinematics and bodies in motion		
Assessment Criteria	Quizzes	15%	
	Assignments	10%	
	Class Participation	10%	
	Midterm Exam	25%	
	Lab Project	15%	
	Final Exam	25%	
	<b>Total</b>	<b>100%</b>	
Assessment	<ul style="list-style-type: none"> <li>• <u>Quizzes:</u> <ul style="list-style-type: none"> <li>○ This may be multiple-choice questions or a written work/problems that students will have to submit on Moodle</li> <li>○ The quiz will be put up on Moodle. The deadline will also be mentioned.</li> </ul> </li> <li>• <u>Assignments:</u> <ul style="list-style-type: none"> <li>○ Students will be notified about it on Moodle and will be required to submit them by the deadline. Lab reports will be counted as one assignment.</li> </ul> </li> <li>• <u>Lab Project</u> <ul style="list-style-type: none"> <li>○ Each student will be assigned a lab project that they will perform in the virtual lab link provided. Then they will prepare a document with the data collected and answer the related questions and draw the conclusion of the experiment. The work performed in the virtual lab link will be recorded as a video with an audio narration of the explanation. Both the word document and the video recording will be submitted on Moodle.</li> </ul> </li> <li>• <u>Final Exam and Midterm Exam</u> <ul style="list-style-type: none"> <li>○ This will be a quiz taken on Moodle. This will be based on concepts and problem solving related to the course contents. Working will be scanned and uploaded. Zoom meeting with camera will be held.</li> </ul> </li> </ul>		

	<ul style="list-style-type: none"> <li>Assessment Schedule will be announced in Zoom class and posted on Moodle and notification sent by email</li> </ul>			
Course Content	Introduction to physics, lays emphasis on basic concepts that can be treated with elementary mathematics. These include applications of physics in everyday life to which the student can relate with. Concepts to be taken up are: Scope of Physics; Communications; Basic Electricity; from ideas to implementation; Medical Physics and Elements of Astrophysics			
Lesson Plan	<b>Week No.</b>	<b>Topics</b>	<b>Assessments and Activities</b>	
	1 <sup>st</sup> & 2 <sup>nd</sup> Week	Introduction and Breadth of Physics, <u>Vol I</u> 1.1, 1.2, 1.3, 1.4	Assignment	
	3 <sup>rd</sup> & 4 <sup>th</sup> Week	Introduction and Breadth of Physics, Vol I 1.5, 1.6, 1.7, 1.8	Quiz	
	5 <sup>th</sup> & 6 <sup>th</sup> Week	Communications Physics, Vol I 2.1, 2.2, 2.3, 2.4	Lab reports	
	7 <sup>th</sup> Week	Elements of electricity, <u>Vol I</u> 3.1, 3.2, 3.3	Practice HW	
	8 <sup>th</sup> & 9 <sup>th</sup> Week	Elements of electricity, 3.4, 3.5, 3.6	Assignment	
	10 <sup>th</sup> & 11 <sup>th</sup> Week	Moving About, Vol I 4.1, 4.2	Quiz	
	12 <sup>th</sup> & 13 <sup>th</sup> Week	Moving About, <u>Vol I</u> 4.3, 4.4	Lab Project	
	14 <sup>th</sup> Week	Revision	Final Exam	
Grading Scale	Grade	Quality Point	Numerical Value	Meaning
	A	4.00	93-100	Superior
	A-	3.70	90-92	
	B+	3.30	87-89	
	B	3.00	83-86	Good
	B-	2.70	80-82	
	C+	2.30	77-79	
	C	2.00	73-76	Satisfactory
	C-	1.70	70-72	
	D+	1.30	67-69	
	D	1.00	60-66	Pass
F	0.00	59 or below	Fail	

### Disclaimer

Considering the situation of the COVID-19 pandemic, the course instructor reserves the right to modify the above plan as need be during the course of the class; however, it won't be done impetuously. Any changes that would be incorporated will be informed in advance.