Course Information

COURSE INFORMATION

Course Title	Code	Semester	L+U Hour	Credits	ECTS
Physics I Laboratory (Mechanics)	FZK131	1. Semester	0 + 4	2.0	4.0

Prerequisites	None

Language of Instruction	Turkish
Course Level	Bacheclor's Degree (First Cycle)
Course Type	Compulsory
Mode of delivery	Face to face
Course Coordinator	Prof. Dr. Ahmet ERDEM
Instructors	Prof. Dr. Ahmet ERDEM
Assistants	
Course Objectives	This course explores the fundamental laws and concepts of physics experimentally.
Course Content	Units,uncertainty calculations, report preparation technique, graphics plotting, linear motion with constant velocity experiment, motion on a straight line and on plane with constant acceleration experiment. Newton's laws of motion: Experiment with Atwood instrument, circular motion experiment, simple pendulum experiment, collisions and the conservation of linear momentum experiment.
Course Learning Outcomes	1) Prove basic laws of physics experimentally. 2) Adopt skills in using various tools in physical experiments 3) Collect the data in an experimental setup and interpret the results 4) Realize individual experiments. 5) Work with a group

WEEKLY COURSE CONTENT

Week	Topics	Teaching and Learning Methods and Techniques	Study Materials
1. Week	Laboratory study methods: Units	Course presentation, practice, group study	
2. Week	Laboratory study methods: Metric systems and their applications	Course presentation, practice, group study	
3. Week	Laboratory study methods: Uncertainties in measurements, meaningful numbers	Course presentation,	

Quick Access

Physics
- Qualification Awarded
- Level of Qualification
- Qualification Requirements and Regulations
- Specific Admission Requirements
- Recognition of Prior Learning
- Profile of the Program
- Program Key Learning Outcomes
- Occupational Profile of Graduates
- Access to Further Studies
- Course Structure & Credits
- Exam Regulations & Assessment & Grading
- Graduation Requirements
- Mode of Study
- Programme Director(or Equivalent)
- Evaluation Questionnaire
- TYYÇ

Course Information
- Course Information
- Weekly Course Content
- Resources
- Assessment
- Course Category
- CONTRIBUTION OF COURSE LEARNING OUTCOMES TO PROGRAMME OUTCOMES
- ECTS credits and course workload

		practice, group study	
4. Week	Laboratory study methods: Uncertainty calculations, per cent error, normalization, some statistical methods	Course presentation, practice, group study	
5. Week	Laboratory study methods: Report preparation technique, graphics plotting	Course presentation, practice, group study	
6. Week	Linear motion with constant velocity experiment	Course presentation, practice, group study	
7. Week	Motion on a straight line and on plane with constant acceleration experiment	Course presentation, practice, group study	
8. Week	Preparation for experiment: Laws of motion and their equations	Course presentation, practice, group study	
9. Week	Newton’s laws of motion: Experiment with Atwood instrument	Course presentation, practice, group study	
10. Week	Circular motion experiment	Course presentation, practice, group study	
11. Week	Preparation for experiment: Free fall, collisions and conservation of linear momentum	Course presentation, practice, group study	
12. Week	Simple pendulum experiment	Course presentation, practice, group study	
13. Week	Collisions and the conservation of linear momentum experiment	Course presentation, practice, group study	
14. Week	Make up	Course presentation, practice, group study	
15. Week	Review of the semester	Lecture	
16. Week	Final Exam	Written exam	

RESOURCES

Recommended Sources
Laboratory Sheets ÇOMU Press. 2000
Serway, R. A. : 1992, Physics For Scientists&Engineers with Modern Physics, Third edition, Saunders Golden Sunburst Series, Saunders College Publishing.
Halliday, D., Robert, R. And Walker, J.: 1993, Fundamentals of Physics, Fourth edition, John Wiley & Sons, Inc.

ASSESSMENT

Measurement and Evaluation Methods and Techniques
Laboratory work (40 %), Final exam (60 %)

In-Term Studies	Quantity	Percentage
Laboratory	1	60
Total	1	60
End-Term Studies	**Quantity**	**Percentage**
Final Exam	1	40
Total	1	40
Contribution Of In-Term Studies To Overall Grade		60
End-Term Studies		40
Total		100

COURSE CATEGORY

Course Category	Percentage
Core Courses	% 100

CONTRIBUTION OF COURSE LEARNING OUTCOMES TO PROGRAMME OUTCOMES

Programme Outcomes	Contribution Level	DK1	DK2	DK3	DK4	DK5
PY1	5	5	5	5	5	5
PY2	5	5	5	5	5	5
PY3	5	5	5	5	5	5
PY4	5	5	5	5	5	5
PY5	5	5	5	5	5	5
PY6	5	5	5	5	5	5
PY7	5	5	5	5	5	5
PY8	5	5	5	5	5	5
PY9	4	4	4	4	4	4
PY10	4	4	4	4	4	4
PY11	4	4	4	4	4	4
PY12	3	3	3	3	3	3
PY13	4	4	4	4	4	4
PY14	4	4	4	4	4	4
PY15	4	4	4	4	4	4

*DK = Course's Contrubution.

	0	1	2	3	4	5
Level of contribution	None	Very Low	Low	Fair	High	Very High

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ECTS CREDITS AND COURSE WORKLOAD

Event	Quantity	Duration (Hour)	Total Workload (Hour)
Final Exam	1	4	4
Mid Term Exam 1	1	2	2
Assignment 1	6	2	12

Class Hours (14 weeks)	14	4	56
Final Exam Preparation	1	6	6
Mid Term Exam Preparation	1	6	6
Preliminary Study	14	1	14
		Total Workload	100
		Total Workload / 25.5 (s)	3.92
		ECTS Credit of the Course	4