Prince Sultan University
CHS – Mathematics & Sciences Department
2nd Semester, 2024 – 2025

INSTITUTIONAL COURSE SYLLABUS

Course Code: **SCI101**	Course Title: **Introduction to Physical Science**
Course Instructor: Dr. Dunia Houalla	Email: dhoualla@psu.edu.sa
Credit Hours: 3	Course Location: check your schedule
Scheduled Office Hours: Sun. 9:00-9:50, Mon. 12:00-12:50, Tue. 9:00-9:50, Wed. 12:00-12:50, Thur. 9:00-9:50	Office Location: B101-R221
Co-Requisite: N/A	Pre-Requisite: N/A
On Campus or Online: On Campus	

Mission Statement

Prince Sultan University aims to provide the Middle East with quality education to the highest international standards. In its efforts towards successful and responsible life-long learning, PSU integrates modern technology, pedagogy, and human values to advance scientific research, productivity, and leadership toward a more meaningful societal role.
PSU is committed to effectively managing institutional resources to optimize its multiple roles as a catalyst for new learning opportunities, national and international partnerships, continuous studies, professional growth, community service, and diversity in educational horizons for the good of humanity and sustainability.

I. Course Description:

This is an introductory science course which emphasizes on the understanding of fundamental concepts in a broad spectrum of physics and chemistry, and their applications from everyday life examples. The course covers selected topics such as motion, energy, momentum, fluids, heat, waves, and basic properties of atoms and how they interact. The course enables students to develop an understanding of the scientific method, solve simple problems, and appreciate the role of science in today's society.

II. Course Learning Outcomes:

On the successful completion of this course, students will be able to demonstrate the following:

Skills	Course Learning Outcomes
Knowledge & Understanding	1- Define various physical terms, for example: displacement, velocity, acceleration, weight, force, momentum, energy, pressure, and density.
Skills	2- Calculate various physical quantities using kinematic equations, Newton's laws of motion, and conservation laws. 3- Analyse various physical problems involving fluids and thermal energy. 4- Interpret various physical phenomena related to waves: specifically, sound, reflection, refraction and interference.

	5- Explain the chemical properties of some elements and their behaviour by using the periodic table.

III. Tentative Weekly Course Schedule: Kindly note that it may change to accommodate student needs upon the discretion of the teacher.

Week	Date	Chapter & Topic/ Sections	CLO(s)	Exams & Deadlines	Hrs
1	Dec. 29 – Jan. 2	Ch. 1: *Patterns of Motion & Equilibrium* Sections: 2, 3, 4, 5, 6, 7, 8, 9.	1, 2		3
2	Jan. 5 – 9	Ch. 1: *continued*	1, 2		3
3	Jan. 12 – 16	Ch. 2: *Newton's Laws of Motion* Sections: 1, 2, 3, 4.	1, 2		3
4	Jan. 19 – 23	Ch. 2: *continued*	1, 2	Quiz 1 (Tue / Wed) 12:00-12:30	2
5	Jan. 26 – 30	Ch. 4: *Gravity, Projectiles & Satellites* Sections: 1, 2.	1, 2		2
6	Feb. 2 – 6	Ch. 3: *Momentum & Energy* Sections: 1, 3, 4, 5, 6, 9.	1, 2		3
7	Feb. 9 – 13	Ch. 3: *continued*	1, 2		3
8	Feb. 16 – 20	Ch. 5: *Fluid Mechanics* Sections: 1, 2, 3, 4, 6, 7.	1, 3	**1st Major (Sunday, Feb. 16th, 12:00 PM).**	3
9	Feb. 23 – 27	**Saudi Founding Day holiday, Sun. Feb. 23**			
		Ch. 5: *continued*	1, 3		3
	March 2 – April 3	**Ramadan and Eidul-Fitr Holiday**			
15	April. 6 – 10	Ch. 6: *Thermal Energy & Thermodynamics* Sections: 1, 2, 3, 4, 7.	1, 3		3
16	April. 13 – 17	Ch. 6: *continued*	1, 3	Quiz 2 (Tue / Wed) 12:00-12:30	2
17	April. 20 – 24	Ch. 7*: Heat Transfer & Change of Phase* Sections: 1, 2, 3, 5, 6.	1, 3		3
18	April. 27 – May 1	Ch. 10: *Waves & Sound* Sections: 1, 2, 3, 4, 5.	1, 4	**2nd Major (Tuesday April 29th, 12:00 PM).**	3
19	May 4 – 8	**Extended Weekend (May 4 – 5)**			
		Ch. 12: *Atoms & the Periodic table* Sections: 1, 2, 3, 4.	1, 5	Optional Quiz 3 (Tue / Wed) 12:00-12:30	3
20	May 11 – 15	Ch. 15: *How Atoms Bond & Molecules Form.* Sections: 1, 2, 3, 4, 5.	1, 5		2
21-22	May 17 – 29	**Final Exam, May 24 (Sat.) at 08:30 AM**			

- Last day for dropping courses without permanent record: **January 9.**
- Last day for dropping one or more courses with a grade of "W": **April 10.**
- Last day for dropping the semester with a grade of "W": **April 17.**

IV. Student Assessment & Teaching Strategies:

Domain	Assessment Task	Teaching Strategy
Knowledge	Exams and Quizzes	Examples of everyday physical phenomena, explanations and discussions
Skills	Exams and Quizzes	Discussions, explanations, interactive solution of exercises, problem solving strategy

V. Course Requirements

- Two major exams during the semester
- One final comprehensive exam at the end of the semester
- Three quizzes (lowest dropped)
- Homework
- Participation

VI. Schedule of Assessment

Assessment	Assessment Task	Week Due	Proportion of Final Assessment
1	First Major Exam	7	20%
2	Second Major Exam	13	20%
3	Final Exam	16-17	40%
4	Quizzes	4, 11, 15	10%
5	Homework	After each chapter	7%
6	Participation	Weekly	3%
	Total		**100%**

VII. Learning Resources

A. References

Required Textbook:

- ***Conceptual Physical Science, Sixth Edition, Hewitt Suchocki-Hewitt, Pearson, 2012 – e-text***

Access code can be obtained from the bookstore to access the e-text and online resources

Additional References (optional):

1- *College Physics, Nicholas Giordano. Second Edition Brooks/Cole, 2013*
2- *Physics, Technology Update, by James S. Walker (Fourth Edition, Pearson International Edition, 2013)*
3- *Principles of Physics, Serway & Jewett. Fourth Edition. Brooks/Cole, 2005*

B. Facilities Required: Lecture room, computer, whiteboard, projector, internet access.
C. Digital Tools: Pearson Mastering Physics platform.
D. Learning Management System – LMS: Using "Moodle" is required; items such as syllabus, course materials, assignments, rubrics, and announcements will be delivered through Moodle.
E. Writing and Tutoring Center: Students are highly advised to use the Writing and Tutoring Center's academic services by booking tutoring/writing appointments through the booking system: (https://psu.mywconline.net/)

VIII. Classroom Policies

A. Academic Integrity Policy

"Plagiarism can be defined as unintentionally or deliberately using another person's writing or ideas as though they are one's own. Plagiarism includes, but is not limited to, copying another individual's work and taking credit for it, paraphrasing information from a source without proper documentation, and mixing one's own words with those of another author without attribution. In addition, buying a paper or project, or downloading a paper from the Internet, and submitting them as your own is also plagiarism. The penalty for academic dishonesty will bring course expulsion and failure, or even suspension" (Academic Integrity and Syllabus Acknowledgement Form).

All students are expected to submit their 'own' work and not the work of others.

B. Attendance Policy

Please, adhere to the following guidelines:

- The University attendance policy will be strictly followed. In this course, the absence of **12 hours** (12 classes for 3 times/week sections and 8 classes for 2 times/week sections) results in a **Denied Notice (DN)**. (Refer to the student regulation handbook for further details.) **It is the sole responsibility of the student to keep satisfying level of attendance. Otherwise "DN" grade will be granted automatically during any time in the semester without any notice.**
- Attendance will be taken during the first 10 minutes of the class. Any student arriving later than 10 minutes will be marked **absent**. Late students can still attend the class.
- No make-up exams will be allowed except for university accepted documents (refer to the student regulation handbook for further details). Any requests should be submitted *within* a week after the exam. There will be NO make-ups for missed quizzes.

IX. My Assumptions

- It is strongly advised to take notes during the class.
- Actively engage in lectures, work collaboratively with your peers and put in your best effort.