Course Specification
(Bachelor)

Course Title:	**Natural Resources**
Course Code:	**PHYS1206**
Program:	**Bachelor of Science in Physics**
Department:	**Physics**
College:	**Faculty of Sciences**
Institution:	**University of Tabuk**
Version:	**TP-153- 01**
Last Revision Date:	**06/2022**

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A. General information about the course:

1. Course Identification

1. Credit hours:					
2					
2. Course type					
A.	☐ University	☒ College	☐ Department	☐ Track	☐ Others
B.	☒ Required		☐ Elective		
3. Level/year at which this course is offered: (level 4)					
4. Course general Description:					
This is an introductory course to natural resources and their physical science aspects. Natural resources include clean water, energy, minerals, and biological resources. The course will also introduce the students to the policies and management of the natural environment and its resources.					
5. Pre-requirements for this course (if any)**:**					
None					
6. Co-requirements for this course (if any)**:**					
None					
7. Course Main Objective(s):					
• General overview of natural resources as well as some fundamental concepts. • identifying the most important natural resources that we currently require and use, • The major technical and environmental challenges that come with them. • Natural resource management and the concept of sustainability and energy efficiency in relation to various types of natural resources.					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	2	100%
2	E-learning		
3	Hybrid • Traditional classroom • E-learning		
4	Distance learning		
5	Other (Laboratory)		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	30
2.	**Laboratory/Studio**	
3.	**Field**	
4.	**Tutorial**	
5.	**Others (specify)**	
Total		30

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	Explain the natural resources of energy in the environments and its efficiencies	**K1**	Lecture Discussion Problem-Solving	Written Exams Assignments Discussion
1.2	Interpret the impact of natural resources on living organisms, and on evolution	**K2**	Lecture Discussion Self-education	
2.0	**Skills**			
2.1	Calculate the efficiency of natural resources	**S1**	Lecture Discussion Problem-Solving	Written Exams Assignments Discussion
2.2	Organize the scientific reports on natural abundancies and efficiencies using a structured process of inquiry and scientific methodology	**S3**	Lecture Discussion Self-education Projects	Project
3.0	**Values, autonomy, and responsibility**			
3.1	Participate in a natural resource's tasks, and related community service initiatives	**V1**	Discussion Problem Solving Projects	Project Presentation
3.2	Demonstrate integrity and academic values	**V2**	Discussion Problem-Solving Project	Written Exams Assignments Project

C. Course Content

No	List of Topics	Contact Hours
1.	Earth's natural resources	2
2.	Common uses of earth resources	2
3-	Nonrenewable vs. Renewable Resources	2
4	Humans and Conservation	2
5	Humans and Pollution	2
6	Extracting Earth's Resources	2
7	Renewable Resources	2
8	Solar Energy Source	2
9	Wind Power	2
10	Geothermal Energy/Tidal Energy	2
11	Environmental, Economic, and Societal Challenges	2
12	Natural resources management	2
13	Sustainability	2
14	energy efficiency	2
15	energy conservation	2
	Total	**30**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Midterm Exam	7	20%
2.	Project report + Presentation	12-15	20%
3.	Quiz	1-15	10%
4.	Assignment + Discussion	1-15	10%
5.	Final Exam	16-17	40%

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	Miller, G. T., et al. (2009). "Living in the Environment: Concepts, Connections, and Solutions, 16e." International Student Edition. Belmont: Brooks/Cole, Cengage Learning. ISBN: 978-0495556718.
Supportive References	• Brady N.C. and Weil R.R. (2007). The nature and properties of soils

	(14th Edition). ISBN:978-0132279383. • Grigg, N. 2016. Integrated water Resource Management: An Interdisciplinary Approach. Springer, London. • Morgan, R. P. C. (2005). Soil Erosion and Conservation (3rd ed) Blackwell, Oxford. ISBN: 978-1405117814. • Barbier, E. 2019. The Water Paradox. Yale University Press. • Thirsty Planet: Strategies for Sustainable Water Management, 2004, by Constance Elizabeth Hunt; ISBN: 9781842772430 • Walter L. Filho and Vakur Sümer (2015), Sustainable Water Use and Management: Examples of New Approaches and Perspectives; ISBN: 978-3-319-12394-3 • Fallding, M. (2000). What makes a good natural resource management plan? Ecological Management & Restoration, 1(3), 185–194.
Electronic Materials	
Other Learning Materials	**Journals:** • www.sciencedirect.com

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	• Adequate classrooms with well-equipped facilities for power presentations and whiteboards.
Technology equipment (projector, smart board, software)	• projector, computer, and internet connection.
Other equipment (depending on the nature of the specialty)	• None

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
• Effectiveness of teaching and assessment	Student, Faculty	Direct (Course Report) Indirect (Surveys)
• learning outcomes	Faculty	Direct (CLO Program included in Course Report)
• Quality of learning resources	Student, Faculty	Direct (Peer reviews) Indirect (Surveys)
Other		

Assessors (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	**Pysics Department Council**

REFERENCE NO.	**COUNCIL (18) – SUBJECT (1)**
DATE	**20/06/2022**