INTER AMERICAN UNIVERSITY OF PUERTO RICO
VICE PRESIDENCY OF ACADEMIC AND STUDENT AFFAIRS
GENERAL EDUCATION PROGRAM

SYLLABUS

I. GENERAL INFORMATION:

Course Title:	Technology and Environment
Code and Number:	GEST 2030
Credits:	3
Academic Term:	
Professor:	
Office hours:	
Office phone:	
E-mail:	

II. DESCRIPTION:

Identification of the basic concepts of science and the impact of technology on the environment. Distinction of energy sources and their economic and environmental implications. Study of the relationship of climatological phenomena with human activities. Evaluation of the impact of technological development on human beings and their environment. Prescribed distributive course.

III. GOALS, COMPETENCES AND COMPETENCE AREAS:

Goal I: Develop a person with humanistic sensitivity, capable of contributing to the solution of problems with a collaborative attitude, using research, critical, creative and innovative thinking, in an international context.

Competence # 1: Demonstrate a critical, creative, scientific, humanistic, ethical and aesthetic attitude for the solution of problems, based on the use of research methods, sources of information and technological advances.

Competence # 2: Demonstrate capacity and willingness for collaborative work and negotiation.

Competence Areas:

- Critical thinking.
- Information management.
- Ethical awareness.
- Research.

Goal III: Develop a person who values diversity, appreciates other cultures, is aware of their social, ethical, civic and environmental responsibility and who exercises leadership in a democratic life context.

Competence # 5: Demonstrate commitment to social, ethical, civic and environmental responsibility.

Competence Area:

- Ethical, civic and environmental awareness.

Goal VI: Develop a person capable of solving problems through scientific thinking, logical and quantitative reasoning and communication, in an ethical, critical, creative and innovative way.

Competence # 9: Apply scientific thinking and logical and quantitative reasoning for decision making and problem solving.

Competence # 10: Use information and communication technologies for decision making and problem solving.

Competence Areas:

- Decision-making processes.
- Problem solving.
- Technology integration.

OBJECTIVES

It is expected that, at the end of the course, the student will be able to:

1. Distinguish between science and technology and the importance of the scientific method in their development .
2. Use the scientific method in making decisions and solving problems.
3. Explain the development of technology and its implications for human activities.
4. Describe the different energy sources and their social, economic and environmental implications.
5. Recognize the importance of climate at the global level.
6. Explain the impact of weather patterns on human activities.
7. Analyze human interactions with their environment from the environmental ethics perspective, and proposing conservation strategies.

IV. COURSE CONTENT:

I. Science and Technology

1. Definition of science and technology
2. Development and integration of scientific knowledge
3. Scientific method and measurement systems
4. Types of technology
5. Ethical implications for humanity

II. Energy sources

1. Types of energy
2. Thermodynamics
3. Production and use of energy
4. Ethical implications

III. Weather phenomena

1. Definition of weather and climate
2. Climate patterns
3. Natural phenomena and climate
4. Implications in society

IV. Human Interactions with the Environment

1. Definition of conservation vs. preservation
2. Human impact on the environment
    a. Genetically modified organisms
    b. Endocrine switches
    c. Cloning of living beings
    d. Contamination
    e. Reduction in biodiversity
3. Importance and strategies for environmental conservation
4. Environmental ethics
5. Global warming and climate change

V. ACTIVITIES (suggested):

1. Conferences
2. Individual or group discussions of daily living situations
3. Use of news on controversial issues
4. Use of audiovisual resources
5. Individual or group course work
6. Search for information in different sources
7. Discussion forums
8. Construction of concept maps
9. Research projects
10. Problem solving

VI. EVALUATION:

At the instructor's preference.

VII. SPECIAL NOTES:

A. **Auxiliary services or special needs**

All students who require auxiliary services or special assistance must request the same at the beginning of the course or as soon as they become aware of the need, in the Office of Professional Counselor, _____, located at the University Counseling Program.

B. **Warning about dishonesty, fraud and plagiarism**

Lack of honesty, fraud, plagiarism and any other inappropriate behavior in relation to academic work constitute major infractions sanctioned by the General Regulations of Students. The greater infractions, according to the Regulations of Students can have as consequence the suspension of the University by a definite time greater than one year or the permanent expulsion from the University, among other sanctions.

C. **Compliance with the provisions of Title IX**

The Federal Higher Education Act, as amended, prohibits sex discrimination in any academic, educational, extracurricular, athletic, or any other program or employment, sponsored or controlled by an institution of higher education regardless of whether it is conducted inside or outside the institution's premises, if the institution receives federal funds. As provided by current federal regulations, a Title IX Assistant Coordinator has been designated in our academic unit to provide assistance and guidance in relation to any alleged incident of discrimination based on sex or gender, sexual harassme or sexual assault . You can contact the Assistant Coordinator, _____, at _____ extension _____ _____, or email _____ .

The Normative Document entitled *Standards and Procedures for Responding to Alleged Violations of Title IX Provisions* contains the institutional rules for channeling any complaint that is based on this type of allegation. This document is available on the website of the Inter-American University of Puerto Rico (www.inter.edu).

VIII: EDUCATIONAL RESOURCES:

TEXT:

Trefil, James and Hazen, Robert M. (2016). *The Sciences: An Integrated Approach*. Eighth Edition, John Wiley & Sons, Inc. ISBN: 978-1-118-18526-1.

Readings assigned in each Unit.

BIBLIOGRAPHY:

Electronic books are available at the Information Access Center (IAC).

Ahrens, C. Donald. *Meteorology today: an introduction to weather, climate, and the environment*. Boston, MA: Cengage, 2019.

Burgan, Michael. *Energy*. Broomall, PA: Mason Crest, 2017.

Chasek, Pamela S., et al. *Global environmental politics*. 7th edition. Boulder, CO: Westview Press, 2017.

Cunningham, William P. *Principles of environmental science: inquiry & application*. 8th editon. New York, NY: McGraw-Hill Education, 2017.
Enger, Eldon D. & Smith, Bradley F. *Environmental science: a study of interrelationships*. 14th ed. Dubuque: McGraw-Hill Education, 2016.
Felt, Ulrike, et al., eds. *The handbook of science and technology studies*. 4th edition. Cambridge, MA: The MIT Press, 2017.
Gardiner, Stephen M. & Thompson , Allen. *The Oxford handbook of environmental ethics*. New York, NY: Oxford University Press, 2017.
Ghosh, Nilanjan. & Goswami, Anandajit. *Sustainability science for social, economic, and environmental development.*Hershey, PA: Information Science Reference, 2014.
Green, Robert. *How renewable energy is changing society*. San Diego, CA: ReferencePoint Press, Inc., 2016.
Heos, Bridget. *It's getting hot in here: the past, the present, and the future of global warming*. Boston: HMH Books, 2016.
Keppeler, Jill. *Gareth's guide to saving the environment*. NY: Gareth Stevens Publishing, 2019.
Krimsky, Sheldon, et al. *GMOs decoded: a skeptic's view of genetically modified foods*. Cambridge, MA: The MIT Press, 2019.
Maser, Chris. *Interactions of land, ocean and humans: a global perspective.* Boca Raton: CRC Press, 2015.
Massey, Garth. *Ways of social change: making sense of modern times*. 2nd ed. Thousand Oaks: SAGE Publications, Inc., 2016.
Molles, Manuel C., Jr. *Ecology: concepts and applications*. NY: McGraw-Hill Education, 2019.
Mooney, Carla. *How the Internet is changing society*. San Diego, CA: ReferencePoint Press, Inc., 2016.
Nardo, Don. *How robotics is changing society*. San Diego, CA: ReferencePoint Press, Inc., 2016.
Perritano, John. *Science and technology*. Broomall, PA: Mason Crest, 2017.
Perritano, John. *Space science*. Broomall, PA: Mason Crest, 2017.
Schlottmann, Christopher, et al. *Food, animals, and the environment: an ethical approach*. NY: Routledge, 2019.
Wright, Richard T. *Environmental science: toward a sustainable future*. Gordon College. 13th Edition. Boston: Pearson, 2017.
World Almanac, 2019.
World Atlas, 2019.

DIGITAL RESOURCES:

Updated Databases are available at the Information Access Center (IAC).

Translated, bibliographical resources updated and revised by:
Alicia O. Roe, PhD
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