Republic of the Philippines
SULTAN KUDARAT STATE UNIVERSITY
College of Computer Studies
Isulan, Sultan Kudarat
S.Y. 2024 - 2025

GEC 003 – SCIENCE, TECHNOLOGY AND SOCIETY

UNIVERSITY VISION

A leading university in advancing scholarly innovation, multi-cultural convergence, and responsive public service in a borderless region.

UNIVERSITY MISSION

The University shall primarily provide advance instruction and professional training in science and technology, agriculture, fisheries, education and other related field of study. It shall undertake research and extension services, and provide progressive leadership in its area of specialization.

UNIVERSITY GOAL

a. **D**eliver quality service to stakeholders to address current and future needs in instruction, research, extension, and production
b. **O**bserve strict implementation of the laws as well as the policies and regulations of the University
c. Acquire with urgency state-of-the-art resources for its service areas
d. **B**olster the relationship of the University with its local and international customers and partners
e. **L**everage the qualifications and competences in personnel action and staffing
f. Evaluate the efficiency and responsiveness of the University systems and processes

UNIVERSITY OBJECTIVES

b. Enhance competency development, commitment, professionalism, unity and true spirit of service for public accountability, transparency and delivery of quality services;
c. Provide relevant programs and professional trainings that will respond to the development needs of the region;
d. Strengthen local and international collaborations and partnerships for borderless programs;
e. Develop a research culture among faculty and students;
f. Develop and promote environmentally-sound and market-driven knowledge and technologies at par with international standards;
g. Promote research-based information and technologies for sustainable development;
h. Enhance resource generation and mobilization to sustain financial viability of the university.

Program Objectives and its relationship to University Objectives:

PROGRAM OBJECTIVES (PO)	UNIVERSITY OBJECTIVES						
A graduate of BS in Information Technology can:	a	b	c	d	e	f	g
a. employ theoretical and practical skills in innovating latest technology in computing;		✓		✓	✓	✓	
b. design and implement business information systems;	✓	✓	✓	✓	✓	✓	✓
c. design industry-based applications, infrastructures and technologies that will promote the advancement and development of the community	✓	✓	✓	✓	✓	✓	✓
d. promote the advancement of industry-based services and technology that contributes to the development of the community; and	✓	✓	✓	✓	✓	✓	✓
e. demonstrate the code of conduct as well as social and legal aspects of Information Systems.	✓		✓	✓	✓	✓	✓

1. **Course Code** : GEC 003
2. **Course Title** : Science, Technology and Society
3. **Prerequisite** : NONE
4. **Credits** : 3 UNITS
5. **Course Description** :

The course deals with interactions between science and technology and social, cultural, political, and economic contexts that shape and are shaped by them. (CMO No. 20, series of 2013)

This interdisciplinary course engages students to confront the realities brought about by science and technology in society. Such realities pervade the personal, the public, and the global aspects of our living and are integral to human development. Scientific knowledge and technological development happen in the context of society with all its socio-political, cultural, economic, and philosophical underpinnings at play. This course seeks to instill reflective knowledge in the students that they are able to live the good life and display ethical decision making in the face of scientific and technological advancement.

This course includes mandatory topics on climate change and environmental awareness.

6. Course Learning Outcomes and Relationships to Program Objectives

Course Learning Outcomes	Program Objectives				
At the end of the semester, the students can:	a	b	c	d	e
a. Articulate the impacts of science and technology on society, specifically Philippine society	✓			✓	
b. Explain how science and technology affect society and the environment and its role in nation-building	✓		✓	✓	✓
c. Analyze the human condition in order to deeply reflect and express philosophical ramifications that are meaningful to the student as a part of society	✓		✓	✓	✓
d. Creatively present the importance and contributions of science and technology to society	✓			✓	✓
e. Examine shared concerns that make up the good life in order to come up with innovative and creative solutions to contemporary issues guided by ethical standards	✓	✓	✓	✓	✓
f. Illustrate how the social media and information age impact their lives and their understanding of climate change	✓			✓	✓
g. Imbibe the importance of science and technology in the preservation of the environment and the development of the Filipino nation	✓	✓	✓	✓	✓
h. Critique human flourishing vis-à-vis the progress of science and technology such that the student may be able to define for himself/herself the meaning of the good life	✓			✓	✓
i. Foster the value of a healthy lifestyle toward the holistic and sustainable development of society and the environment	✓			✓	✓

7. Course Content

Course Objectives, Topics, Time Allotment	Desired Student Learning Outcomes	Outcomes-Based Assessment (OBA) Activities	Evidence of Outcomes	Course Learning Outcomes	Program Objectives	Values Integration
Topic 1. SKSU VMGO, Classroom Policies, Course Overview, Course Requirements, Grading System (2 hours)						
1. Discuss the VMGO of the university, classroom policies, scope of the course, course requirements and grading system	1.1 Student can be aware of and appreciate of the university's VMGO, classroom policies, course overview, requirements and grading system.	Individual participation in class discussion and group presentation	Group and individual discussions		a, e	Value of appreciation

Topic 2. Introduction to Science, Technology, and Society (5 hours)						
2.1. Discuss the general concepts related to science and technology 2.2. Explain the scope of the study of Science, Technology and Society	Students can: 2.1 explain the general concepts in relation to science and technology 2.2 Students can discuss the scope of the study of STS	Individual participation in class discussion and presentation Students' presentation by pair Reflection Paper	Group and individual discussions Quiz Requirement/Activity Presentation of students by Pair			
Topic 3. Historical Antecedents in science and technology (4 hours) **a. In the World: Ancient, Middle and Modern Ages** **b. In the Philippines**						
3.1. Discuss the historical antecedents of science and technology across time 3.2. Explain how Philippine scientific and technological inventions shaped and were shaped by various social contexts	Students can: 2.1. recall and explain the historical antecedents of science and technology across time 2.2. discuss how Philippine scientific and technological inventions shaped by various social contexts.	Individual participation in class discussion and presentation Reflection Paper	Group and individual discussions Quiz Activity	a, b, c, d	a, e	Unity and teamwork Value of participation Cooperation

Topic 4. Intellectual Revolutions (4 hours) **a. Copernican; b. Darwinian; c. Freudian;**						
4.1. identify the intellectual revolutions that shaped society across time 4.2. explain how intellectual revolutions transformed the views of society about dominant scientific thought 4.3. identify other intellectual revolutions that advance modern science and scientific thinking	Students can: 4.1. determine the intellectual revolutions that shaped society across time 4.4. discuss how intellectual revolutions transformed the views of society about dominant scientific thought 4.5. determine other intellectual revolutions that advance modern science and scientific thinking	Individual participation in class discussion and presentation Reflection Paper	Group and individual discussions Quiz Activity	a, b, c, d	a, c, d, e	Unity and teamwork Value of participation Compassion Creativity
Topic: 5. Science and Technology and Nation Building (4 hours)						
5.1. explain how early Filipinos applied scientific principles in their daily living;	Students can: 5.1. identify how early Filipinos applied scientific principles in their daily living	Individual participation in class discussion and presentation	Group and individual discussions Quiz	a, b, c, d, g	a, b, c, d, e	Unity and teamwork Value of participation

5.2. present government policies on science and technology and explain their importance to the nation; and 5.3. discuss the role of science and technology in nation-building	5.2. determine the government policies on science and technology and discuss their importance to the nation; and 5.3. explain the role of science and technology in nation building	Reflection Paper	Activity			Decisiveness
Topic: 6. Human flourishing and Science and Technology (4 hours)						
5.1. Analyze the human condition in order to deeply reflect and express philosophical ramifications that are meaningful to the student as a part of society	Students can: 5.1. Analyze the human condition in order to deeply reflect on and express philosophical implications that are important to the student as a member of society.	Individual participation in class discussion and presentation Reflection Paper	Group and individual discussions Quiz Activity	a, b, c, d, e, f, g	a, b, c, d, e	Unity and teamwork Value of participation Value of Hardwork Correctness
Topic: 7. The Good Life (5 hours)						
7.1. explain the concept of the good life as posited by Aristotle 7.2. define the good life 7.3. Examine shared	Students can: 7.1. Discuss the concept of good life as posited by Aristotle 7.2. Explain the good life in their own words	Individual participation in class discussion and presentation Reflection Paper	Group and individual discussions Quiz Activity	a, b, c, d, e, f, g	a, b, c, d, e	Unity and teamwork Value of participation

concerns that make up the good life to come up with innovative and creative solutions to contemporary issues guided by ethical standards	7.3. They can investigate shared concerns that comprise the good life in order to develop innovative, creative solutions to contemporary issues that are guided by ethical standards.					Value of Hardwork
Topic: 8. When Technology and Humanity Cross (4 hours)						
8.1. Discuss the importance of human rights in the face of changing social conditions and technological development 8.2. Identify law or policies in the country that protect the well-being of the person in technological advancement and ethical dilemmas	Students can: 8.3. explain the importance of human rights in the face of changing social conditions and technological development 8.4. determine the law or policies in the country that protect the well-being of the person in technological advancement and ethical dilemmas	Individual participation in class discussion and presentation Reflection Paper	Group and individual discussions Quiz Activity	a, b, c, d, e, f, g	a, b, c, d, e	Value of creativity Value of participation Value of Hardwork

Topic: 9. The information Age: Current Issues on Social Media (4 hours)						
9.1. Identify the advantages and disadvantages of social media 9.2. Describe the importance of social media in the field of education	Students can: 9.1. Determine the advantages and disadvantages of social media 9.2. Explain the importance of social media in the field of education	Individual participation in class discussion and presentation Reflection Paper	Group and individual discussions Quiz Activity	a, b, c, d, e, f, g	a, b, c, d, e	Unity and teamwork Value of participation Value of Hardwork
Topic: 10. Biodiversity and the Genetically Modified Organisms: Science, Health, and Politics (4 hours)						
10.1. Determine the interrelatedness of society, environment, and health 10.2. Discuss the ethics and implications of GMOs and potential future impacts	Students can: 10.1. Identify the interrelatedness of society, environment, and health 10.2. Explain the ethics and implications of GMOs and potential future impacts	Individual participation in class discussion and presentation Reflection Paper	Group and individual discussions Quiz Activity	a, b, c, d, e, f, g	a, b, c, d, e	Unity and teamwork Value of participation Value of Hardwork
Topic: 11. The Nano World (4 hours)						
11.1. Discuss the major potential and realized impacts of nanotechnology on society	Students can: 11.1. explain the major potential and realized impacts of nanotechnology on society	Individual participation in class discussion and presentation	Group and individual discussions Quiz	a, b, c, d, e, f, g	a, b, c, d, e	Unity and teamwork Value of

11.2. Analyze nanotechnology through the conceptual STS lenses 11.3. Critique the issue on its costs and benefits to society	11.2. examine nanotechnology through the conceptual STS lenses 11.4. examine the issue on its costs and benefits to society	Reflection Paper	Activity			participation Value of Hardwork
Topic: 12. Gene therapy (Stem Cells) (4 hours)						
12.1. Describe the timeline of the development of Gene Therapy 12.2. Explain stem cell therapy 12.3. Discuss its applications, sources, and controversies	Students can: 12.1. Identify the timeline of the development of Gene Therapy 12.2. Discuss stem cell therapy 12.3. Explain its applications, sources, and controversies	Individual participation in class discussion and presentation Reflection Paper	Group and individual discussions Quiz Activity	a, b, c, d, e, f, g	a, b, c, d, e	
Topic: 13. Climate Change and the Energy Crisis (4 hours)						
13.1. Explain what is weather, climate and climate change 13.2. Determine the driving forces of Climate Change	Students can: 13.1. Discuss what is weather, climate and climate change 13.2. Identify the driving forces of Climate Change	Individual participation in class discussion and presentation Reflection Paper	Group and individual discussions Quiz Activity	a, b, c, d, e, f, g	a, b, c, d, e	

13.3. Discuss the causes and effects of climate change on energy	13.3. Explain the causes and effects of climate change on energy					
Topic 14. Culminating Activity and Final Exam						
		Research, present, and make a stand on S&T issues that currently affect the society		a, b, c, d, e, f, g	a, b, c, d, e	
Number of Hours	**52hours (Lecture)** **2 hours (Exam)**					
Total Number of Hours	**54 hours**					

14. Course Evaluation

Course Requirements: Activities and Presentations

Grading System:

MIDTERM		**FINAL TERM**	
Exam	- 50%	Exam	- 50%
Course Requirements	- 20%	Course Requirements	- 20%
Quizzes	- 20%	Quizzes	- 20%
Attendance	- 10%	Attendance	- 10%
	100%		100%

MTG+FTG/2=FG

Schedule of Examination:

Classes End - December 13, 2024

Midterm - October 16 – 18, 2024
Final Term - December 11 – 13, 2024

References: (10 references)

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- ✓ McNamara, Daniel J. in "A Return to the Beginning," in *Stellar Origins, Human Ways: Readings in Science, Technology, and Society*, ed. Ma. Assunta Cuyegkeng, Quezon City: Ateneo de Manila University Press, 2011.
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- ✓ Von Baeyer, Hans Christian, *Information: The New Language of Science*, Harvard University Press, 2005.

Supplemental:

- ✓ Agro-ecology: What it is and what it has to offer? Is this the future of farming?
- ✓ Alan Turing: The Enigma" (Andrew Hodges and Douglas Hofstadter)

- ✓ Aristotle, Nichomachean ethics, Book VI and Book X
- ✓ Article: “Environmental Impacts of Nanotechnology and Its Products” (Zhang et. Al Proceedings of the 2011 Midwest Section Conference of the American Society for Engineering Education, 2011)
- ✓ Article: “Nanoethics: The ethical and Social Implications of Nanotechnology” (Patrick Lin and Fritz Allhoff, Hoboken, New Jersey: John Wiley and Sons, Inc. 2007)
- ✓ Flowcharts/revival-west/the-age-enlightenment
- ✓ http://www.flowofhistory.com/readings-flowcharts/revival-west/the-age-enlightenment/fc97 http://www.flowofhistory.com/readings-flowcharts/revival-west/the-age-enlightenment/fc98 http://www.flowofhistory.com/readings-flowcharts/revival-west/the-age-enlightenment/fc99 http://www.flowofhistory.com/readings-flowcharts/revival-west/the-age-enlightenment/fc100 http://www.flowofhistory.com/readings-flowcharts/revival-west/the-age-enlightenment/fc100a http://www.flowofhistory.com/units/west/15/FC101 http://www.flowofhistory.com/%5Bmenupathalias%5D/fc102 http://www.flowofhistory.com/units/west/15/FC103
- ✓ Government Documents: 1. NEDA. National Development Agenda; Regional Agenda
- ✓ http://www.dbm.gov.ph/wp-content/uploads/GAA/GAA2015/GAA%202015%20Volume%20I/NEDA/NEDA.pdf http://www.dbm.gov.ph/wp-content/OPCCB/OPIF_2007/neda3.pdf
- ✓ Kuhn, Structure of Scientific Revolution (http://projektintegracija.pravo.hr/_download/repository/Kuhn_Structure_of_Scientific_Revolutions.pdf)
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- ✓ Physics of the Future: How science will shape human destiny and our daily lives by the year 2100 (Michio Kaku, Doubleday, 2011)
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