Republic of the Philippines

**SULTAN KUDARAT STATE UNIVERSITY**

Isulan, Sultan Kudarat

**College of Industrial Technology**

**1st Semester S.Y. 2025-2026**

## 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

To produce graduates with excellence and dignity in arts, science and technology.

## UNIVERSITY OBJECTIVES

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

**…m Objectives and its Relationship to University Objectives**

| PROGRAM OBJECTIVES | UNIVERSITY OBJECTIVES | | | | | | |
|---|---|---|---|---|---|---|---|
| A graduate of Bachelor of Technical and Vocational Teacher Education can: | a | b | c | d | e | f | g |
| a. Articulate effectively and independently in multi-disciplinary and multi- cultural teams the latest development in the fields practiced such as Automotive, architectural drafting, civil, electrical, electronics and food and its allied discipline. | / | / | / | / | / | | |
| b. Lead in the promotion and preservation of Filipino historical and cultural heritage, social empowerment and environmental sustainability in a professional and ethical approach. | | / | | | / | / | / |
| c. Generate research- based information and technologies at par from international standards, and | / | / | | / | | / | / |
| d. Promote and transfer knowledge and technologies for effective and efficient School- Industry partnership. | | / | | / | | / | / |

1. **Course Code** : GE 704
2. **Course Title** :Science, Technology and Society
3. **Pre – Requisite** : -
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.

**Course Learning Outcomes and Relationships to Program Objectives**

| Course Learning Outcomes | Program Objectives | | | |
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| **At the end of the semester, the students can:** | **a** | **b** | **c** | **d** |
| a. Demonstrate sensitivity and responsiveness towards responsible citizenship and global partnership. | / | / | / | / |
| b. Demonstrate sensitivity and responsiveness towards responsible citizenship and global partnership. | / | / | / | / |
| c. Demonstrate competencies actualizing the value of unity despite diversity. | / | / | / | / |
| d. Demonstrate appreciation on the role of schools in social transformation through unity and collaboration. | / | / | / | / |

## 6. 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 |
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| **Topic: SKSU VMGO, Classroom Policies, Course Overview, Course Requirements, Grading System (2 hours)** | | | | | | |
| 1.1. Discuss the VMGO of the University, classroom policies, and overview of the course, course requirements, and grading system. | 1.1 The students can internalize, appreciate and be aware of the University VMGO, classroom policies, course overview, requirements and grading system. | Individual and group participation in class discussion. | Individual and group discussions | | a ,b, c, d | Value of appreciation and commitment |

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| **Topic:** GENERAL CONCEPTSD AND STS HISTORICAL DEVELOPMENTS **(16 hours)** | | | | | | |
| 2.1. Historical antecedents in which social considerations changed the course of science and technology<br><br>a.In the World: Ancient, Middle and Modern Ages<br><br>b.In the<br><br>Philippines | 2.1. Discuss the interactions between S&T and society throughout history<br><br>2.2 Discuss how scientific and technological developments affect society and the environment<br><br>2.3 Identify the paradigm shifts in history | Student's participation in question and answer activity facilitated by the teacher.<br><br>Lecture and discussion Activity: "Standing on the shoulders<br><br>of Giants" | Evaluation through quizzes / graded recitation<br><br>Group presentation | a, b | a, b, c | Value of participation<br><br>Value of participation |
| 3.1. Intellectual revolutions that defined society<br><br>a. Copernican<br>b. Darwinian<br>c. Freudian<br>d. Information<br>e. Meso- American<br>f. Asian<br>g. Middle East<br>h. African | 3.1. Articulate ways by which society is transformed by science and technology | Student's participation through individual and class discussion.<br><br>Lecture and Discussion | Quiz, graded activity, and graded recitation | c | a, b, c, d | Value of participation |
| 4.1. Science and technology and nation building<br><br>a. The Philippine | 4.1 Discuss the role of Science and Technology in Philippine nation building | Small Group Activity Discussion | Group Project<br><br>presentation | d | a, b, c, d | Value of Participation |

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| ...iment<br>...Agenda<br>...Major<br>development programs and personalities in S&T in the Philippines<br><br>c. Science Education in the Philippines<br><br>d. Selected indigenous science and technologies | Evaluate government policies pertaining to science and technology in terms of their contributions to nation building<br><br>□Identify actual science and technology policies of the government and appraise their impact on the development of the Filipino nation | | | | | |
| **Topic:** STS AND THE HUMAN CONDITION (16 hours) | | | | | | |
| 5.1. The Human Person flourishing in terms of science and technology<br><br>Technology as a Way of Revealing | 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 | Reflection,<br><br>Discussion | Graded evaluation of student's participation accomplished by the subject professor. | e | a, b, c, d | Value of Participation and Cooperation |
| 5.2 Human flourishing | Critique human flourishing vis-à-vis the progress of science and technology so that the suident can define for himself/herself the meaning of the good life | Discussion | Group Presentation on how technology reveals nature and the human person's role in it | e | a, b, c, d | Value of Participation and Cooperation |
| 5.2 The Good Life | Examine shared concerns that make up the good life in order | Lecture and<br><br>Discussion | Case Study: Production and Consumption of | a,f | a, b, c, d | Value of Participation and Cooperation |

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| | to come up with innovative, creative solutions to contemporary issues guided by<br><br>ethical standards | | sugars | | | |
| 5.3 When technology and humanity cross | Examine human rights in order to uphold such rights in technological ethical dilemmas | Reflection and Discussion | | | | |
| 5.4 Why the future does not need us | Evaluate contemporary human experience in order to strengthen and enlighten the human person functioning in society | Reflection and Discussion | Case Study:<br><br>WAZE | | | |
| **Section Exam**:<br>Find and examine local government policies that protect the wellbeing of the person in the face of new technologies | | | Group Presentation : Content and Relevance - 30%<br>Analysis - 40%<br>Creativity & teamwork - 30%<br>----------<br>100% | | | |
| **Topic:** SPECIFIC ISSUES IN STS (16 hours) | | | | | | |
| 6.1. The Information Age (Gutenberg to Social media) | □□□□Link learned concepts to the development of the information age and its impact on society<br>6.2 □Illustrate how the social media and the information age have impacted our lives | Presentation and Discussion | Book Report<br>Activity Report: A day without Technology<br>Activity Report: Timing your Technology<br>Activity Report: Technology and Past (interviews<br><br>with elders) | f | a, b, c, d | Value of Participation<br><br>, |

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| *diversity and the healthy ety<br><br>*Genetically Modified Organisms: Science, Health, and Politics* | Determine the interrelatedness of society, environment, and health<br>Discuss the ethics and implications of GMOs and potential future impacts | Presentation and Discussion | Graded recitation / debate | | | |
| 6.3 The nano world | Discuss the major impacts (both potential and realized} of nanotechnology on society<br>Analyze the issue through the conceptual STS lenses<br>□Critique the issue on its costs and benefits to<br><br>society | Presentation and Discussion | | | | |
| *6.4 Gene therapy, Culminating Activity*<br>*Mandated Topics:*<br>1. Climate Change and the Energy Crisis<br>2. Environmental Awareness<br>Other Topics:<br>Alternative Energy Resources ( e.g. O-tech Ocean Thermal Energy<br><br>Conversion) | □Describe gene therapy and its various forms Assess the issue's potential benefits and detriments to global health<br><br>•□Identify the causes of climate change<br>•□Assess the various impacts of climate change including economic, geopolitical, biological, meteorological, etc.<br>•□Apply STS | Presentation and Discussion | Group presentation and discussion<br>Learning application:<br><br>weather control | | | |

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| | concepts to the issue of climate change<br><br>Research, present, and make a stand on S&T issues that currently affect Philippine society | Presentation and group work | | | | |
| Number of Hours | 50 hours ( Lecture)<br><br>2 hours ( Midterm Examination)<br><br>2 hours ( Final Examination) | | | | | |
| Total No. of Hours | 54 | | | | | |

**8. Course Evaluation:**

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| **Course Requirement:** | Quizzes<br><br>Project<br><br>Assignment<br><br>Class Participation/Oral<br><br>Reporting<br><br>Written Examination (Midterm and Final) |
| **Course Policies** | All students must adhere to the virtual guidelines: act respectfully, responsibly and with maturity; arrive on time and be ready for instruction; put cell phones on silent mode and must be kept- in case of virtual class, it is advise that students upon entry or joining in the classroom shall shut off the audio/mic and open always the camera; contribute to an orderly learning environment; must not hesitate to consult the professor when there are important concerns; establish good rapport with professors; maintain silence during oral reports/ presentations; cooperate in classroom activities and in in-class performance |

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| ***ing System*** | **Zero is equivalent to forty**<br>Quizzes/Assignments 10%<br>Oral Participation/ Project 10%<br>Attendance 10%<br>Reporting 30%<br>Written Examination (Midterm& Final term) 40%<br>**100%** | Class Schedule: MWF ( August 2022- January 2023)<br>Schedule of Examination : TBA |

**9.REFERENCES**

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| | • Rodriguez, Socorro M. "Philippine Science and Technology: Economic, Political and Social Events Shaping Their Development," 1996<br><br>• Von Baeyer, Hans Christian, *Information: The New Language of Science*, Harvard University Press, 2005.<br>Agro-ecology: What it is and what it has to offer? Is this the future of farming?<br>• Alan Turing: The Enigma" (Andrew Hodges and Douglas Hofstadter)<br>• Aristotle, Nichomachean ethics, Book VI and Book X<br>• 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)<br>• Article: "Nanoethics: The ethical and Social Implications of Nanotechnology" (Patrick Lin and Fritz Allhoff, Hoboken, New Jersey:<br><br>John Wiley and Sons, Inc. 2007)<br>Flowcharts/revival-west/the-age-enlightenment<br>o http://www.flowofhistory.com/readings-flowcharts/revival-west/the-age-enlightenment/fc97<br>http://www.flowofhistory.com/readings-flowcharts/revival-west/the-age-enlightenment/fc98<br>http://www.flowofhistory.com/readings-flowcharts/revival-west/the-age-enlightenment/fc99<br>http://www.flowofhistory.com/readings-flowcharts/revival-west/the-age-enlightenment/fc100<br>http://www.flowofhistory.com/readings-flowcharts/revival-west/the-age-enlightenment/fc100a<br>http://www.flowofhistory.com/units/west/15/FC101<br>http://www.flowofhistory.com/%5Bmenupathalias%5D/fc102<br>http://www.flowofhistory.com/units/west/15/FC103<br>• Government Documents: 1. NEDA. National Development Agenda; Regional Agenda<br>o http://www.dbm.gov.ph/wp-content/uploads/GAA/GAA2015/GAA%202015%20Volume%20I/NEDA/NEDA.pdf<br>http://www.dbm.gov.ph/wp-content/OPCCB/OPIF_2007/neda3.pdf<br>• Kuhn, Structure of Scientific Revolution<br>(http://projektintegracija.pravo.hr/_download/repository/Kuhn_Structure_of_Scientific_Revolutions.pdf)<br>• Philosophy of Science (Encyclopedia). Scientific Progress, Scientific Revolutions (http://plato.stanford.edu/entries/scientific progress/#SciPro) (http://www.encyclopedia.com/topic/Philosophy_of_science.aspx#3)<br>(http://www.encyclopedia.com/topic/Scientific_Revolutions.aspx#3)<br>• Physics of the Future: How science will shape human destiny and our daily lives by the year 2100 (Michio Kaku, Doubleday, 2011)<br><br>• Article: "The politics of Golden Rice" (Dubock, Adrian GM Crops & Food. Jul-Sep2014, Vol5 Issue 3 p 210-222 13p.) |
| **Website/Videos/Film Clips** | Dayrit, Fabian M. Ppt: Can we build a culture of science through nanotechnology? (2013)<br>• Film: Akiro Kurosawa's Dreams "Village of the Watermills"<br>• http://www.history.com/topics/enlightenment/videos/mankind-the-story-of -all-of-us-scientific-revolution<br>• http://www.flowofhistory.com.readings<br>• http://hti.osu.ed/scientific revolution/lesson plans<br>• http://www.theguardian.com/global-development-professionals-network/2015/sep/23/developing-poor-countries-de-develop-rich countries-sdgs<br>• http://news.bbc.co.uk/2/hi/technology/6432307, stm, The ethical dilemmas of robotics<br>• http://www/theatlantic.com/magazine/archive/2008/07/Is google making us stupid/306868/, Is Google Making Us Stupid? 2008. Nicholas Carr<br>• http://www.cc.gatech.edu/computing/nano/documents, Why The Future Doesn't Need Us (2000) – Bill Joy, Chief Scientist and |

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