Republic of the Philippines

**BOHOL ISLAND STATE UNIVERSITY**

Tagbilaran, Bohol

**Course Code: Educ 4**

**Course Name:Technology for Teaching and Learning 1**

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| VISION: | A premier Science and Technology university for the formation of a world class and virtuous human resource for sustainable development in Bohol and the country. |
| MISSION: | BISU is committed to provide quality higher education in the arts and sciences, as well as in the professional and technological fields; undertake research and development, and extension services for sustainable development of Bohol and the country. |
| GOALS: | 1. Pursue faculty and education excellence and strengthen the current viable curricular programs and develop curricular programs that are responsive to the demands of the times both in the industry and the environment.
2. Promote quality research outputs that respond to the needs of the local and national communities.
3. Develop communities through responsive extension programs.
4. Adopt efficient and profitable income generating projects/enterprise for self-sustainability.
5. Provide adequate, state-of-the-art and accessible infrastructure support facilities for quality equation.
6. Promote efficient and effective good governance supportive of high quality education.
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| CORE VALUES: |
|  | 1. Search for Excellence (BISU’s commitment to quality education shall be driven and characterized by excellence in every output and activity it produces/conducts through interweaving the technical, fundamental and practical knowledge.)
2. Responsiveness to Challenges (As a newfound institution of higher learning, BISU is faced will all the challenges demanded particularly the continuing depletion of the national government’s financial support along with BISU’s desire for upgrading its facilities and human resources. Being intellectually diverse and entrepreneurial, creative and innovative, BISU shall beat the odds by capitalizing on creative collaborations with its individual campuses, the community, local government units and other sectors available.)
3. Student Access (Being a state-owned university, BISU is committed to providing public service, by becoming a university that is open and accessible to all students who merit entrance. This value is the most important consideration by BISU in its drive to continuously develop, improve and upgrade its facilities and seek for more funds.)
4. Public Engagement (Expresses BISU’s commitment to search for knowledge-based solutions to societal and economic problems particularly of Bohol and of the region. Public engagement is the interpretation of BISU’s commitment to research and extension by being proactive in introducing changes that will deeply impact on the improvement of the life of the people.)
5. Good Governance (Alongside the current regime’s objectives of good governance in the delivery of basic services, BISU shall strive to institutionalize a streamlined, efficient and effective structure and systems that is supportive of the university’s goals and objectives, sans bureaucratic practices.)
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| **Program Outcomes Common to Teacher Education** |
| **Program Outcomes** | **Performance Indicators** |
| 1. Articulate the rootedness of education in Philosophical, sociocultural, historical, Psychological, and Political contexts
 | * Generate opportunities for reflection on historical, social, cultural and political processes as they affect the day to day lives of the students.
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| 1. Demonstrate mastery of subject matter/discipline
 | * Actively engages students to sustain interest in the subject matter.
* Implements learner-friendly classroom management procedures and practices.
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| 3. Facilitate learning using a wide range of teaching methodologies and deliveries modes appropriate to specific learners and their environments | * Use varied teaching methodologies appropriate for diverse learners.
* Evaluate current teaching approaches and innovate based on learners’ needs.
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| 4. Develop innovative curricula, instructional plans, teaching approaches, and resources for diverse learners | * Implement and evaluate the curriculum.
* Effectively write and carry out the lesson plan with mastery.
* Deliver interesting lessons with congruent objectives, subject matter, teaching-learning activities, materials and assessment procedures.
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| 5. Apply skills in the development and utilization of ICT to promote quality, relevant, and sustainable educational practices. | * Source and organize data and information concerning teaching and learning.
* Analyze and interpret data and information using appropriate tools and procedures.
* Compose and disseminate properly well-written reports (progress reports, assessment, and official communications, among others).
 |
| 1. Demonstrate a variety of thinking skills in planning, monitoring, assessing, and reporting learning learning processes and outcomes .
 | * Behave in accordance to the Code of Ethics of Professional Teachers.
* Use the community as learning resource.
 |
| 1. Practice professional and ethical teaching standards sensitive to the local, national, and global realities
 | * Plans and carries out personal and professional advancement.
 |
| 1. Pursue lifelong learning for personal and professional growth through varied experiential and field-based opportunities
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|  **Program Outcomes for Bachelor of Secondary Education Major in Mathematics** |
| * 1. Exhibit competence in mathematical concepts and procedures
 | * Explain and illustrate clearly, accurately and comprehensively the basic mathematical concepts, using relevant examples as needed
* Demonstrate in detail basic mathematical procedures
* Show the connections between mathematical concepts that are related to one another
* Provide examples to illustrate the application of mathematical concepts and procedures
 |
| * 1. Exhibit proficiency in relating mathematics to other curricular areas
 | * Create a curriculum guide that shows how mathematics can be integrated with other curricular areas
* Identify teaching activities which support the implementation of the curriculum guide
* Develop and utilize instructional materials that support the integration of mathematics with other curricular areas
* Utilize appropriate technologies to achieve the learning outcomes
 |
| * 1. Manifest meaningful and comprehensive pedagogical content knowledge (PCK) of mathematics
 | * Demonstrate skills in various methods of learning in mathematics such as conducting investigations, modeling and doing research
* Create and utilize learning experiences in the classroom which develop the learners’ skills in discovery learning, problem solving and critical thinking
 |
| * 1. Demonstrate competence in designing, constructing and utilizing different forms of assessment in mathematics
 | * Design and utilize varied assessment tools in mathematics, including alternative forms of assessment
* Analyze assessment results and use these to improve learning and teaching
* Provide timely feedback of assessment results to students
 |
| * 1. Demonstrate proficiency in problem solving by solving and creating routine and non-routine problems with different levels of complexity
 | * Demonstrate skills in various problem solving heuristics
* Select suitable examples to explain the various problem solving heuristics
* Manifest creativity and critical thinking when selecting examples and problems to be used in the classroom and in the assessment of students’ learning
* Use varied resources for selecting and creating problems to develop the students’ problem solving skils
 |
| * 1. Use effectively appropriate approaches, methods and techniques in teaching mathematics including technological tools
 | * Demonstrate knowledge and skills in varied approaches and methods of teaching mathematics
* Manifest discretion when selecting approaches or methods that would be effective in teaching particular lessons
* Utilizes a variety of student-centered approaches and methods in the classroom
* Demonstrate skills in the use of common mathematical software for teaching and learning mathematical concepts, e.g. Graphmatica, Geogebra and Geometer’s Sketchpad
* Develop and use materials that guide the students in using a mathematical software for discovering and learning mathematical concepts
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| * 1. Appreciate mathematics as an opportunity for creative work, moments of discovery and gaining insights of the world
 | * Model in class such mathematical attitudes as delight after having found the solution to a problem or a sense of wonder at how certain mathematical concepts evolved
* Develop lessons that can help students appreciate the use of mathematics in daily life.
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| **Course Component**  | Professional Education |
| **Course Code** | Educ 4 |
| **Course Name** | **Technology for Teaching and Learning 1** |
| **Pre-requisite** |  |
| **Course Credits** | **3 units** |
| **Contact Hours/week** | **3 hours/week** |
| **Academic Year** |  |
| **Course & Year** |  |
| **Class Schedule** |  |
| **Course Description** | This introductory course explores basic knowledge, skills and values in the use of technology for teaching and learning. It includes ICT policies and safety issues, media and technology in various content areas, learning theories and principles in the use and design of learning lessons, teaching-learning experiences and assessment tasks that utilize appropriate traditional and innovative technologies with social, ethical and legal responsibility in the use of technology tools and resources. |
| **Course Objectives****Common to Teacher Education** | **Program Outcomes** |
| **BSEd-Mathematics** |
| At the end of the unit, the students must have: |

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| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **1** | **2** | **3** | **4** | **5** | **6** | **7** |
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| 1. Explained ICT policies and safety issues as they impact on the teaching-learning process
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| 1. Identified learning theories and principles applied in the design and development of lessons through appropriate media and technologies for teaching and learning
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| 1. Integrated media and technology in various content areas
 |
| 1. Formulated teaching-learning experiences and assessment tasks using appropriate and innovative technologies
 |
| 1. Demonstrated social, ethical and legal responsibility in the use of technology tools and resources
 |
| **Methodologies/Strategies/****Techniques** | Lecture, Group/Class Discussion, Question and Answer, Oral recitations, Practical Applications |
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| **COURSE OUTLINE** |  |
| **CONTENT/TOPICS** | **Timeframe** | **Remarks** |
| Orientation of the coursePresentation of the syllabusOrientation of classroom policies on grades, attendance and course requirements**Pretest** | 1. **day**
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| **Unit 1- Introduction to Technology for Teaching and Learning**1. Basic Concepts to be defined:
2. Technology
3. Information and Communication
4. Educational Technology
5. Technology, Media and Learning
6. Instructional System and Instructional technology
7. Technology Tools
8. Roles of ICT in Teaching for Learning

**Unit 2. ICT Policies and Safety Issues in Teaching and Learning**1. ICT National or International Policies that are applicable to teaching and Learning
2. Safety Issues in ICT
3. Uses of ICT Policies in the Teaching and Learning Environment

**Unit 3. Theories and Principles in the Use and Design of Technology Driven Learning Lessons**1. Learning Theories and Principles in:
2. Dale’s Cone of Experience (with equal attention given to both the Conventional Technology and the Innovative and emerging Technology for Teaching)
3. TPACK (Technology, Pedagogy, and Content Knowledge)
4. ASSURE Model (Analyze learners, State Objectives, Select Methods, Media & Materials, Utilize Media & Materials, Require Learner Participation, Evaluation and revise)
 | **Prelims** **Week 1-5** |  |
| **Unit 4. ICT in Various Content Areas**1. 21st Century Skills

Digital Literacy Skills* Media
* Information
* ICT literacy
1. Instructional Design Models
* Gagne’s Nine Events
* Bloom’s Revised Taxonomy
* ADDIE
* Merill’s Principles of Instruction
1. Technology Enhanced Teaching lesson exemplars
2. ICT and Conventional Learning materials to enhance teaching-Learning
3. Digital learning resources
4. Google Docs
5. Survey monkey
6. Others
7. Conventional Learning resources
8. Flip charts
9. Realia
10. Others
11. Distance Learning
 | **Midterm Week 6-10** |  |
| 1. Technology Tools in a Collaborative Classroom Environment
2. Relevance and Appropriateness in the Use of Technology in Teaching and Learning
3. Principles in Selecting Instructional Materials based on their Appropriateness and Feasibility
* Appropriateness (Target Learners and Instruction)
* Authenticity (Dependable)
* Interest
* Cost (Economy)
* Organization and balance

**Unit 5. Innovative Technologies for Teaching-Learning and Assessment Task**1. ICT and Assessment in Learning
2. Assessment tools
3. Tools in evaluating appropriate assessment tools (ex. Checklist, rating scale)
4. Technology-enhanced lesson using the ASSURE as Technology-Integration Model
 | **Semi-Finals Week 11-14** |  |
| **Unit 6. Social, Ethical and Legal responsibilities in the Use of Technology Tools and Resources**1. Digital Citizenship
2. Social, Ethical and Legal responsibilities in the Use of Technology Tools and Resources by Teachers
3. Intellectual Property Rights Applicable to the Educational Setting: Copyright and Related Rights Copyright Law (Part IV)
4. Digital Safety Rules
5. Cyberbullying
6. Netizens in Cyberspace Active Citizenship
7. Netiquette (social conventions online)
8. Educational Sites and Portals
9. Online Communities of Learning
10. Online Resources
11. Collaborative Projects
12. Technology Tools for Collaborative Work
 | **Finals Week 15-18** |  |

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| **Integration of Values** |  |
| **Course Requirements** | **Learning Task**1. Attendance and Active Participation in class discussion/group activities
2. e-Portfolio
3. Projects submitted on time
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| **Grading System** | Major Exams 20%Project 40%Class Standing 40%\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 100 % |

**References**

**Main Textbook:**

Lucido, P. &Corpuz, B. (2012).*Educational technology 2*. Quezon City, PH: Lorimar Publishing Co.

**Suggested Readings:**

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<http://www.educatorstechnology.com/2012/06/33-digital-skills-every-21st-century.html>

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TPACK in two minutes <https://www.youtube.com/watch?v=FagVQlZELY>

UNESCO (2013). Training Guide on ICT Multimedia Integration for Teaching and Learning, pp. 60-63

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Our ICT <http://www.ourict.co.uk/> Ten Best Assessment Tools (Posted April 1, 2015) Retrieved from: <http://www.ourict.co.uk/formative-assessment-tools/>

Documents:

* the Philippines ICT Roadmap
* DepEd Five-Year Information and Communication Technology for Education Strategic Plan (DepEd ICT4E Strategic Plan) Executive Summary
* SEAMEO INNOTECH (2010) The Report on the Status of ICT Integration in Education in Southeast Asia
* K to 12 Curriculum Guides (DepEd, 2012)
* Senior High School Curriculum Guides retrieved from <https://drive.google.com/file/d/0D8xBBYUc2V91dVJQQXdVMFVDS2C/edit>