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No. 78
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SUBJECT: POLICIES, STANDARDS AND GUIDELINES FOR THE BACHELOR OF TECHNOLOGY AND LIVELIHOOD EDUCATION (BTLEd)

In accordance with the pertinent provisions of Republic Act (RA) No. 7722, otherwise known as the "*Higher Education Act of 1994*," and in pursuance of an outcomes-based quality assurance system as advocated under CMO 46 s. 2012, and by virtue of Commission *en banc* (CEB) Resolution No. 724-2017 dated October 3, 2017, the following policies, standards and guidelines (PSGs) are hereby adopted and promulgated by the Commission.

ARTICLE I
INTRODUCTION

Section 1   Rationale

Based on the *Guidelines for the Implementation of CMO No. 46 s. 2012*, this PSG implements the "shift to learning competency-based standards/outcomes-based education" in response to the 21st Century Philippine Teacher Education framework. Furthermore, **this PSG is anchored on the salient features of K to 12 Enhanced Curriculum (RA 10533), the Philippine Qualifications Framework (EO 83, s. 2012), the National Competency-Based Teacher Standards (NCBTS) now the Philippine Professional Standards for Teachers (D.O. 42, s. 2017)** and other relevant documents. It specifies the 'core competencies' expected of **Bachelor of Technology and Livelihood Education (BTLEd)** graduates "regardless of the type of HEI they graduate from." However, in "recognition of the spirit of outcomes-based education and of the typology of HEIs," this PSG also provides "ample space for HEIs to innovate in the curriculum in line with the assessment of how best to achieve learning outcomes in their particular contexts and their respective missions."

Quality pre-service teacher education is a key factor in the quality of Philippine education. In the Philippines, the pre-service preparation of teachers is a very important function and responsibility that has been assigned to higher education institutions. All efforts to improve the quality of education in the Philippines are dependent on the service of teachers who are properly prepared to undertake the various important roles and functions of teachers. As such, it is of utmost importance that the highest standards are set in defining the objectives, components, and processes of the pre-service technical teacher education curriculum.

The main concern of the **BTLEd** program is the preparation of TLE teachers Grades 4-8. Specifically, the **BTLEd** Program is expected to produce teachers who can assume the following major roles:

a. effective synthesizers of organized knowledge to allow analytical and critical thinking
b. efficient and effective promoters and facilitators of learning to enable the learners to develop to the fullest their potential for a continuing pursuit of lifelong learning
c. committed humanists whose clear understanding and appreciation of human ideals and values inspire learners to realize their potential
d. model teachers with competence to teach the TLE exploratory courses from Grades 4-8. high regard for learning imbued with proper work attitude and values as practiced in industry
e. nationally certified trainers in their fields of specialization

ARTICLE II
AUTHORITY TO OPERATE

Section 2 **Government Recognition**

All private higher education institutions (PHEIs) intending to offer the **Bachelor of Technology and Livelihood Education (BTLEd) program** must first secure proper authority from the Commission in accordance with these PSGs. All PHEIs with an existing **Bachelor of Secondary Education major in TLE** program are required to shift to an outcomes-based approach based on this PSG. State universities and colleges (SUCs), and local colleges and universities (LUCs) should likewise strictly adhere to the provisions in these policies and standards.

ARTICLE III
GENERAL PROVISIONS

Per section 12 of RA 7722, the higher education institution shall exercise academic freedom in its curricular offerings but must comply with the minimum requirements to specific academic programs, the general education distribution requirements and the specific professional courses.

Section 3 The Articles that follow give minimum standards and other requirements and prescriptions. The minimum standards are expressed as a minimum set of desired program outcomes which are given in Article IV Section 6. CHED designed a curriculum to attain such outcomes. This curriculum is shown in Article V Section 9 as a **sample** curriculum. The number of units of this curriculum is here prescribed as the "minimum unit requirement" under Section 13 of RA 7722. In designing the curriculum, CHED employed a curriculum map which is shown in Article V Section 10 as a **sample** curriculum map.

Using a learner-centered/outcomes-based approach, CHED also determined appropriate curriculum delivery methods shown in Article

V Section 11. The sample course syllabi given in Article V Section 12 show some of these methods.

Based on the curriculum and the means of its delivery, CHED determined the physical resource requirements for the library, laboratories and other facilities and the human resource requirements in terms of administration and faculty. See Article VI.

Section 4   The HEIs are allowed to design curriculum suited to their own contexts and missions provided that they can demonstrate that the same leads to the attainment of the required minimum set of outcomes, albeit by a different route. In the same vein, they have latitude in terms of curriculum delivery and in terms of specification and deployment of human and physical resources as long as they can show that the attainment of the program outcomes and satisfaction of program educational objectives can be assured by the alternative means they propose.

HEIs can use the **CHED Implementation Handbook for Outcomes-Based Education (OBE)** and the **Institutional Sustainability Assessment (ISA)** as guide in making their submissions for Article VII.

ARTICLE IV
PROGRAM SPECIFICATION

Section 5   **Program Description**

5.1. Degree Name

The program discussed herein shall be called **Bachelor of Technology and Livelihood Education (BTLEd) majors in:**

- Home Economics
- Industrial Arts
- Information and Communication Technology
- Agri-Fishery Arts

5.2. Nature of the Field of Study

The BTLEd program is an undergraduate teacher education program that equips learners with adequate and relevant competencies in the area of Technology and Livelihood Education, particularly for the TLE exploratory courses from Grades 4-8

5.3. Program Goals

The BTLEd program aims to develop highly competent and motivated teachers in Technology and Livelihood Education for Grades 4-8.

The technology livelihood education curriculum shall impart a body of knowledge, skills, attitudes, values and experiences that will provide prospective Grade 4-8 EPP/TLE Teachers with the necessary competencies essential for effective teaching and at the same time are accredited TVET Trainors and Assessors.

The specified body of knowledge, skills, attitudes, values and experiences shall include the following:

A. A general education component, consistent with the CHED issuance per CMO No. 20, series of 2013.

B. A professional education component to include courses under four broad categories: 1) theory and concept courses, 2) pedagogical content knowledge, 3) experiential learning courses, and 4) special topics courses.

   The theory and concept courses provide the broad frameworks within which students can understand, rationalize, and reflect on the various methods, strategies, processes, issues and other matters related to the teaching profession.

C. The pedagogical content knowledge courses aim to develop in students a wide range of skills to facilitate and evaluate learning among diverse types of students in a variety of learning environments. ICT-integration in teaching is an essential part of the methods and strategies courses to equip the teacher with competencies on the use of technology in teaching and in training.

D. The pedagogical content knowledge is based on the Philippine TVET Trainers Qualification Framework (PTTQF). PTTQF ensures consistent delivery of quality training services across the country. It aims to qualify and certify prospective EPP/TLE Teachers from Grades 4-8 to ensure their competence in trade qualifications, and training and assessment methodologies.

F. The experiential learning courses are intended to provide students with practical learning experiences in which they can observe , verify, reflect on and actually experience different components of the teaching-learning processes in actual school and industry settings.

   The special topics courses give the students an opportunity to explore special topics and current issues related to their field of study.

G. A specialization component that includes industry exposure to equip the teacher with in-depth knowledge of the content and specified skills in the major field.

After completion of all academic requirements of the program, graduates of the **BTLEd** should be able to qualify for the Licensure Examination for Teachers and practice the teaching profession in the field of Technology Livelihood Education as EPP Teachers for Grades 4-6 and/or TLE Teachers in Grades 7-8. Graduates will also qualify as TVET trainers and assessors after they have obtained the appropriate Certification. Graduates may also proceed to practice careers in various sectors of industry as entrepreneurs or as employees.

5.5. Allied Fields

Technology and Livelihood Education is an allied discipline which draws from many of the basic disciplines in the social sciences, science and math, engineering and technology, and related fields humanities.

Section 6   Program Outcomes

The minimum standards for the **BTLEd** program are expressed in the following minimum set of learning outcomes:

6.1 Common to all programs in all types of schools:

The BTLEd graduates have the ability to
a. articulate and discuss the latest developments in the specific field of practice(PQF level 6 descriptor)
b. effectively communicate orally and in writing using both English and Filipino
c. work effectively and independently in multi-disciplinary and multi-cultural teams(PQF level 6 descriptor)
d. act in recognition of professional, social, and ethical responsibility
e. preserve and promote *"Filipino historical and cultural heritage"* (based on RA 7722)

6.2 Common to the discipline (Teacher Education)

a. Articulate the rootedness of education in philosophical, socio-cultural, historical, psychological, and political contexts.
b. Demonstrate mastery of subject matter/discipline.
c. Facilitate learning using a wide range of teaching methodologies and delivery modes appropriate to specific learners and their environments.
d. Develop innovative curricula, instructional plans, teaching approaches, and resources for diverse learners.
e. Apply skills in the development and utilization of ICT to promote quality, relevant, and sustainable educational practices[1]

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[1] *Program Outcome "e" common to the Teacher Education discipline under Section 6.2. is anchored on the CHED-UNESCO ICT Competency Standards for Teacher Education in Annex D.*

f. Demonstrate a variety of thinking skills in planning, monitoring, assessing, and reporting learning processes and outcomes.
g. Practice professional and ethical teaching standards sensitive to the local, national, and global realities.
h. Pursue lifelong learning for personal and professional growth through varied experiential and field-based opportunities.

6.3 Specific to a sub-discipline and a major (Technology and Livelihood Education)

a. Demonstrate the competencies required of the Philippine TVET Trainers –Assessors Qualifications Framework (PTTQF);
b. Demonstrate broad and coherent, meaningful knowledge and skills in technology and livelihood education.
c. Apply with minimal supervision specialized knowledge and skills in technology and livelihood education;

d. Demonstrate higher level literacy, communication, numeracy, critical thinking, learning skills needed for higher learning;
e. Manifest a deep and principled understanding of the learning processes and the role of the teacher in facilitating these processes in their students;
f. Show a deep and principled understanding of how educational processes relate to larger historical, social, cultural, and political processes;
g. Apply a wide range of teaching process skills (including curriculum development, lesson planning, materials development, educational assessment, and teaching approaches); and
h. Reflect on the relationships among the teaching process skills, the learning processing in the students, the nature of the content/subject matter, and other factors affecting educational processes in order to constantly improve their teaching knowledge, skills and practices.

6.4 Common to a horizontal type as defined in CMO 46, 2012

a. BTLEd graduates of professional institutions demonstrate a service orientation in one's profession,
b. BTLE graduates of colleges participate in various types of employment, development activities, and public discourses, particularly in response to the needs of the communities one serves
c. BTLE graduates of universities participate in the generation of new knowledge or in research and development projects in technical education.

Moreover, graduates of State Universities and Colleges (SUCs) must have the competencies to support "national, regional and local development plans" (RA7722).

All private higher education institutions (PHEI), may adopt mission-related program outcomes that are not included in the minimum set of learning outcomes.

Program Outcomes	Performance Indicators
1. Demonstrate the competencies required of the Philippine TVET Trainers-Assessors Qualifications Framework (PTTQF).	- Conduct technical training and competency assessment; - Design and develop curriculum, courses and instructional materials; - Supervise and mentor technical students; - Extend the body of knowledge in the field of technical-vocational education and training.
2. Demonstrate broad, meaningful and coherent knowledge and skills in any of the specific fields in technical and vocational education.	- Demonstrate competence/ and mastery in meaningfully teaching EPP/TLE; - Facilitate the teaching-learning of EPP/TLE; - Relate lesson with other lessons in the course and with other disciplines.
3. Apply with minimal supervision specialized knowledge and skills in any of the specific fields in technical teacher education;	- Demonstrate competence in applying specialized knowledge and skills with confidence; - Demonstrate mastery in teaching EPP/TLE;
4. Demonstrate higher level literacy, communication, numeracy, critical thinking, learning skills needed for higher learning.	- Develop one's own teaching strategies to attain a learning outcomes; - Reflect on teaching strategies and skills to continuously improve on them; - Communicate ideas clearly and accurately in oral and written form; - Make sound judgment and decision after critical evaluation of ideas.
5. Manifest a deep and principled understanding of the learning processes and the role of the teacher in facilitating these processes in their students.	- Facilitate learning by applying time-tested principles of learning; - Employ interactive, collaborative, integrative, and reflective teaching-learning activities; - Teach based on sound principles and philosophies of education;
6. Show a deep and principled understanding of how educational processes relate to larger historical, social, cultural, and political processes.	- Relate teaching-learning to the historical, social, cultural and political context; - Show how historical, social, cultural and political processes impact on teaching-learning;

Program Outcomes	Performance Indicators
7. Apply a wide range of teaching process skills (including curriculum development, lesson planning, materials development, educational assessment, and teaching approaches).	• Use varied teaching approaches and strategies relevant to EPP/TLE • Implement effectively the curriculum and assess its relevance and responsiveness to the needs of the clientele; • Observe alignment of outcomes, teaching-learning activities and assessment tasks in lesson planning; • Use appropriate traditional and authentic assessment tools to assess learning and to inform instruction; • Utilize varied and appropriate instructional technology to facilitate and enrich instruction;
8. Reflect on the relationships among the teaching process skills, the learning processing in the students, the nature of the content/subject matter, and other factors affecting educational processes in order to constantly improve their teaching knowledge, skills and practices.	• Integrate principles of teaching and learning, theories on human development and social context of the learner for relevant and effective teaching. • Practice reflective teaching • Adapt innovative learning practices

ARTICLE V
CURRICULUM

Section 8   Curriculum Description

The **BTLEd** program is composed of General Education Courses, Professional Education Courses, Major Courses, Research Courses, and Mandated Courses (PE and NSTP).

Section 9   Sample Curriculum

Higher Education Institutions offering the BTLEd program may exercise flexibility in their curricular offering. However, the following courses are prescribed as minimum requirements to be implemented.

9.1 Curriculum Components

A. **Bachelor of Technology and Livelihood Education Major in Home Economics**

Courses	No. of Subjects	Units	Total
A. General Education Courses (CMO No. 20, series of 2013)	12		36 units
B. Professional Education Courses			48 units

Courses	No. of Subjects	Units	Total
Foundation Courses/Theories And Concepts Courses			
1. The Child and Adolescent Learner and Learning Principles	1	3	
2. The Teaching Profession	1	3	
3. The Teacher and the Community, School Culture and Organizational Leadership with focus on the Philippine TVET System*	1	3	
4. Foundation of Special and Inclusive Education	1	3	
Pedagogical Content Knowledge (PCK) Courses			
5. Facilitating Learner-Centered Teaching The Learner-Centered Approaches with Emphasis on Trainers Methodology I*	1	3	
6. Assessment in Learning 1	1	3	
7. Assessment in Learning 2 with focus on Trainers Methodology I & II*	1	3	
8. Technology for Teaching and Learning 1**	1	3	
9. Curriculum Development and Evaluation with Emphasis on Trainers Methodology II*	1	3	
10. Building and Enhancing New Literacies Across the Curriculum with Emphasis on the 21st Century Skills*	1	3	
Experiential Learning			
11. Field Study 1	1	3	
12. Field Study 2	1	3	
13. Practice Teaching/Internship	1	6	
C. RESEARCH			
14. Research 1 (Methods of Research)	1	3	
15. Research 2 (Undergraduate Thesis/Research Paper/ Research Project)	1	3	
D. Major Courses			**66 units**
Teaching Exploratory Courses (6 units of IA, 6 units of HE, 6 units of ICT, 6 units of Agri-Fishery and 3 units of Entrep)		30	
1. Introduction to Industrial Arts Part I	1	3	
2. Introduction to Industrial Arts Part II	1	3	
3. Home Economics Literacy	1	3	
4. Family and Consumer Life Skills	1	3	
5. Introduction to ICT Specializations 1	1	3	
6. Introduction to ICT Specializations 2	1	3	
7. Agri-Fishery Part I	1	3	
8. Agri-Fishery Part II	1	3	
9. Entrepreneurship	1	3	
10. Technology for Teaching and Learning 2**	1	3	
Major Courses in Home Economics (These must be aligned to the training regulations of TESDA)		36	

Courses	No. of Subjects	Units	Total
(Home Management)	1		
1. Household Resource Management	1	3	
2. Consumer Education		3	
Food Science and Nutrition			
1. Principles of Food Preparation	1	3	
2. Food and Nutrition	1	3	
3. Fundamentals of Food Technology	1	3	
(Food Service Management)		3	
1. School Food Service Management	1		
(Family Life and Child Development)			
1. Child and Adolescent Development	1	3	
2. Marriage and Family Relationships	1	3	
(Clothing Construction and Design)		3	
1. Clothing Selection, Purchase & Care	1	3	
2. Clothing Construction	1		
(Arts and Craft)		3	
1. Arts in Daily Living	1	3	
2. Crafts Design (Handicraft)	1		
E. Mandated Courses			14
Physical Education 1-4	4	8	
National Service Training Program 1& 2	2	6	

SUMMARY	UNITS
General Education (GE) Courses	36 units
Professional Education Courses	42 units
Research	6 units
Major Courses	66 units
Mandated Courses (PE and NSTP)	14 units
TOTAL	**164 units**

B. Bachelor of Technology and Livelihood Education Major in Industrial Arts

Courses	No. of Subjects	Units	Total
A. General Education Courses (CMO No. 20, series of 2013)	12		36 units
B. Professional Education Courses			48 units
FOUNDATION COURSES/THEORIES AND CONCEPTS COURSES			
1. The Child and Adolescent Learner and Learning Principles	1	3	
2. The Teaching Profession	1	3	
3. The Teacher and the Community, School Culture and Organizational Leadership with focus on the Philippine TVET System*	1	3	

Courses	No. of Subjects	Units	Total
4. Foundation of Special and Inclusive Education	1	3	
PEDAGOGICAL CONTENT KNOWLEDGE (PCK) COURSES			
5. Facilitating Learner-Centered Teaching: The Learner-Centered Approaches with Emphasis on Trainers Methodology I*	1	3	
6. Assessment in Learning 1	1	3	
7. Assessment in Learning 2 with focus on Trainers Methodology I & II*	1	3	
8. Technology for Teaching and Learning 1**	1	3	
9. Curriculum Development and Evaluation with Emphasis on Trainers Methodology II*	1	3	
10. Building and Enhancing New Literacies Across the Curriculum with Emphasis on the 21st Century Skills*	1	3	
EXPERIENTIAL LEARNING	3		
11. Field Study 1		3	
12. Field Study 2		3	
13. Practice Teaching/Internship		6	
C. Research	2		
14. Research 1 (Methods of Research)		3	
15. Research 2 (Undergraduate Thesis/Research Paper/ Research Project)		3	
D. Major Courses			**66 units**
Teaching Exploratory Courses (6 units of IA, 6 units of HE, 6 units of ICT, 6 units of Agri-Fishery and 3 units of Entrep)		30	
1. Introduction to Industrial Arts Part I	1	3	
2. Introduction to Industrial Arts Part II	1	3	
3. Home Economics Literacy	1	3	
4. Family and Consumer Life Skills	1	3	
5. Introduction to ICT Specializations 1	1	3	
6. Introduction to ICT Specializations 2	1	3	
7. Agri-Fishery Part I	1	3	
8. Agri-Fishery Part II	1	3	
9. Entrepreneurship	1	3	
10. Technology for Teaching and Learning 2**	1	3	
Major Courses in Industrial Arts (These must be aligned to the training regulations of TESDA)		36	
1. Fundamentals of Automotive Technology	1	3	
2. Applied Automotive Technology	1	3	
3. Civil Technology 1	1	3	
4. Civil Technology 2	1	3	
5. Fundamentals of Electronics Technology	1	3	
6. Digital Electronics Technology	1	3	
7. Fundamentals of Electrical Technology	1	3	

Courses	No. of Subjects	Units	Total
8. Applied Electrical Technology	1	3	
9. Metal works	1	3	
10. Domestic Refrigeration and Air-Conditioning	1	3	
11. Commercial Refrigeration and Air-Conditioning	1	3	
12. Graphic Arts	1	3	
E. Mandated Courses			14
Physical Education 1-4	4	8	
National Service Training Program 1& 2	2	6	

SUMMARY	UNITS
General Education (GE) Courses	36 units
Professional Education Courses	42 units
Research	6 units
Major Courses	66 units
Mandated Courses (PE and NSTP)	14 units
TOTAL	164 units

C. Bachelor of Technology and Livelihood Education Major in Information and Communication Technology

Courses	No. of Subjects	Units	Total
A. General Education Courses (CMO No. 20, series of 2013)	12		36 units
B. Professional Education Courses			48 units
FOUNDATION COURSES/THEORIES AND CONCEPTS COURSES			
1. The Child and Adolescent Learner and Learning Principles	1	3	
2. The Teaching Profession	1	3	
3. The Teacher and the Community, School Culture and Organizational Leadership with focus on the Philippine TVET System*	1	3	
4. Foundation of Special and Inclusive Education (new mandated)	1	3	
PEDAGOGICAL CONTENT KNOWLEDGE (PCK) COURSES			
5. Facilitating Learner-Centered Teaching: The Learner-Centered Approaches with Emphasis on Trainers Methodology I*	1	3	
6. Assessment in Learning 1	1	3	
7. Assessment in Learning 2 with focus on Trainers Methodology I & II*	1	3	
8. Technology for Teaching and Learning 1**	1	3	

Courses	No. of Subjects	Units	Total
9. Curriculum Development and Evaluation with Emphasis on Trainers Methodology II*	1	3	
10. Building and Enhancing New Literacies Across the Curriculum with Emphasis on the 21st Century Skills*	1	3	
EXPERIENTIAL LEARNING	3		
11. Field Study 1		3	
12. Field Study 2		3	
13. Practice Teaching/Internship		6	
C. Research	2		
14. Research 1 (Methods of Research)		3	
15. Research 2 (Undergraduate Thesis/Research Paper/ Research Project)		3	
D. Major Courses			**66 units**
Teaching Exploratory Courses *(6 units of IA, 6 units of HE, 6 units of ICT, 6 units of Agri-Fishery and 3 units of Entrep)*		30	
1. Introduction to Industrial Arts Part I	1	3	
2. Introduction to Industrial Arts Part II	1	3	
3. Home Economics Literacy	1	3	
4. Family and Consumer Life Skills	1	3	
5. Introduction to ICT Specializations 1	1	3	
6. Introduction to ICT Specializations 2	1	3	
7. Agri-Fishery Part I	1	3	
8. Agri-Fishery Part II	1	3	
9. Entrepreneurship	1	3	
10. Technology for Teaching and Learning 2**	1	3	
Major Courses in ICT *(any 2 of the following specialization courses ex: 1 & 2 or 1& 3 with a total of 36 units)*	36		
1. **Illustration and 2D Animation (18 units)** a. **Illustration** i. Drawing Tools and Animation ii. Drawing Concepts and Strategies iii. Troubleshooting Techniques b. **2D Animation** i. Key Drawings ii. 2D Digital Animation iii. Authoring Tools		3 3 3 3 3 3	
2. **Web Site Development & Digital Media Production (18 units)** a. **Web Site Development** i. Website Creation ii. Internet marketing iii. Author Wares b. **Digital Media Production** i. Video Production		3 3 3 3	

Courses	No. of Subjects	Units	Total
ii. Audio Production		3	
iii. Print Production		3	
3. Computer Systems Servicing, Telecom (OSP), Subscriber Line Installation (Copper Cable/POTS and DSL), Telecom OSP Installation (Fiber Optic Cable) and Broadband Installation (Fixed Wireless Systems) (18 units)			
a. Computer Systems Servicing		3	
b. Telecom (OSP)		3	
c. Subscriber Line Installation (Copper Cable/POTS and DSL)		3	
d. Telecom OSP Installation (Fiber Optic Cable)		3	
e. Broadband Installation (Fixed Wireless Systems)		3	
f. Customer Relations		3	
4. Contact Center Services (18 units)			
a. Call Center-Basics		3	
b. Foreign Language		3	
c. Computer and Internet Manipulation		3	
d. Sales Support		3	
e. Customer Support		3	
f. Post-support Documentation		3	
E. Mandated Courses			14
Physical Education 1-4	4	8	
National Service Training Program 1& 2	2	6	

SUMMARY	UNITS
General Education (GE) Courses	36 units
Professional Education Courses	42 units
Research	6 units
Major Courses	66 units
Mandated Courses (PE and NSTP)	14 units
TOTAL	164 units

D. Bachelor of Technology and Livelihood Education Major in Agri-Fishery Arts

Courses	No. of Subjects	Units	Total
A. General Education Courses (CMO No. 20, series of 2013)	12		36 units
B. Professional Education Courses			48 units
FOUNDATION COURSES/THEORIES AND CONCEPTS COURSES			
1. The Child and Adolescent Learner and Learning Principles	1	3	

Courses	No. of Subjects	Units	Total
2. The Teaching Profession	1	3	
3. The Teacher and the Community, School Culture and Organizational Leadership with focus on the Philippine TVET System*	1	3	
4. Foundation of Special and Inclusive Education	1	3	
PEDAGOGICAL CONTENT KNOWLEDGE (PCK) COURSES			
5. Facilitating Learner-Centered Teaching: The Learner-Centered Approaches with Emphasis on Trainers Methodology I*	1	3	
6. Assessment in Learning 1	1	3	
7. Assessment in Learning 2 with focus on Trainers Methodology I & II*	1	3	
8. Technology for Teaching and Learning 1**	1	3	
9. Curriculum Development and Evaluation with Emphasis on Trainers Methodology II*	1	3	
10. Building and Enhancing New Literacies Across the Curriculum with Emphasis on the 21st Century Skills*	1	3	
EXPERIENTIAL LEARNING	3		
11. Field Study 1		3	
12. Field Study 2		3	
13. Practice Teaching/Internship		6	
C. Research	**2**		
14. Research 1 (Methods of Research)		3	
15. Research 2 (Undergraduate Thesis/Research Paper/ Research Project)		3	
D. Major Courses			**66 units**
Teaching Exploratory Courses *(6 units of IA, 6 units of HE, 6 units of ICT, 6 units of Agri-Fishery and 3 units of Entrep)*		30	
1. Introduction to Industrial Arts Part I	1	3	
2. Introduction to Industrial Arts Part II	1	3	
3. Home Economics Literacy	1	3	
4. Family and Consumer Life Skills	1	3	
5. Introduction to ICT Specializations 1	1	3	
6. Introduction to ICT Specializations 2	1	3	
7. Agri-Fishery Part I	1	3	
8. Agri-Fishery Part II	1	3	
9. Entrepreneurship	1	3	
10. Technology for Teaching and Learning 2**	1	3	
Major Courses in Agri-Fishery Arts *(6 units of IA, 6 units of HE, 6 units of ICT, 6 units of Agri-Fishery and 3 units of Entrep)*		36	
1. Organic Agriculture	1	3	
2. Agricultural Crops Production I	1	3	

Courses	No. of Subjects	Units	Total
3. Agricultural Crops Production II	1	3	
4. Agricultural Crops Production III	1	3	
5. Animal Production I	1	3	
6. Animal Production II	1	3	
7. Animal Production III	1	3	
8. Pest Management	1	3	
9. Aquaculture	1	3	
10. Fish Capture	1	3	
11. Fishing Gear Repair and Maintenance	1	3	
12. Fish Products Packaging	1	3	
E. Mandated Courses			**14**
Physical Education 1-4	4	8	
National Service Training Program 1& 2	2	6	

* *Professional education courses with integrated TM Courses (see annexes for description)*

***required TTL courses anchored on the ICT Competency Standards for Teachers (see annexes)*

SUMMARY	UNITS
General Education (GE) Courses	36 units
Professional Education Courses	42 units
Research	6 units
Major Courses	66 units
Mandated Courses (PE and NSTP)	14 units
TOTAL	**164 units**

9.2 Guidelines for Preparing a Program of Study

1. Offer the courses based on the availability of faculty and resources.
2. Not all General Education courses need to be completed in First Year or Second Year.
3. Ensure that sequential subjects are scheduled accordingly e.g. Teaching English in the Elementary Grades 1 must come before Teaching English in the Elementary Grades 2.

9.3 Program of Study (Distribution of Courses)

Bachelor of Technology and Livelihood Education

FIRST YEAR			
1st Semester		2nd Semester	
Understanding the Self	3	The Contemporary World	3
Readings in Phil History	3	Math, Science and Technology (Elective)	3

Math in the Modern World	3	Arts and Humanities(Elective)	3
Science and Technology	3	Social Sciences and Philosophy (Elective)	3
Purposive Communication	3	Ethics	3
Art Appreciation	3	The Child and Adolescent Learner and Learning Principles	3
Life and Works of Rizal	3	The Teaching Profession	3
NSTP 1	3	NSTP 2	3
Physical Education	2	Physical Education	2
Total	**26**	**Total**	**26**

SECOND YEAR			
1st Semester		**2nd Semester**	
Facilitating Learner-Centered Teaching: The Learner-Centered Approaches with Emphasis on Trainers Methodology I	3	The Teacher and the Community, School Culture and Organizational Leadership with focus on the Philippine TVET System	3
Technology for Teaching and Learning 1	3	Technology for Teaching and Learning 2	3
Building and Enhancing Literacy Across the Curriculum with Emphasis on the 21st Century Skills	3	Curriculum Development and Evaluation with Emphasis on Trainers Methodology II	3
Assessment in Learning 1	3	Foundation of Special and Inclusive Education (new mandated)	3
Home Economics Literacy	3	Assessment of Learning 2 with focus on Trainers Methodology I & II	3
Family and Consumer Life Skills	3	Intro to ICT Specializations I	3
Introduction to Industrial Arts	6	Intro to ICT Specializations II	3
Physical Education	2	Entrepreneurship	3
		Physical Education	2
Total	**26**	**Total**	**26**

THIRD YEAR			
1st Semester		**2nd Semester**	
Research 1 (Methods of Research)	3	Major /Specialization 5	3
Exploratory Course (AFA1)	3	Major /Specialization 6	3
Exploratory Course (AFA2)	3	Major /Specialization 7	3
Major/Specialization 1	3	Major /Specialization 8	3
Major/Specialization 2	3	Major /Specialization 9	3
Major/Specialization 3	3	Major /Specialization 10	3
Major /Specialization 4	3	Major /Specialization 11	3
		Major /Specialization 12	3
Total	**21**	**Total**	**24**

FOURTH YEAR				
1st Semester			**2nd Semester**	
Field Study 1	3	Practice Teaching/Internship		6
Field Study 2	3			
Research 2 (Undergraduate Thesis/Research Paper/ Research Project)	3			
Total	9	Total		6

Section 10   Curriculum Map

Bachelor of Technology and Livelihood Education
Major: Industrial Arts

SAMPLE CURRICULUM MAP

Major Subjects	PROGRAM OUTCOMES							
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
Major Courses in Industrial Arts								
Fundamentals of Automotive Technology	P	P	D	D				
Applied Automotive Technology	P	P	D	D				
Civil Technology 1	P	P	D	D				
Civil Technology 2	P	P	D	D				
Fundamentals of Electronics Technology	P	P	D	D				
Digital Electronics Technology	P	P	D	D				
Fundamentals of Electrical Technology	P	P	D	D				
Applied Electrical Technology	P	P	D	D				
Metal works	P	P	D	D				
Domestic Refrigeration and Air-Conditioning	P	P	D	D				
Commercial Refrigeration and Air-Conditioning	P	P	D	D				
Graphic Arts	P	P	D	D				

Legend: *I – Introduced (The students gets introduced to concepts/principles).*
P – Practiced (The students practices the competencies with supervision).
D – Demonstrated (The students demonstrate the competencies across different settings with minimal supervision.)

Section 11   Sample Means of Curriculum Delivery

- Lecture
- Laboratory Work
- Discussion
- Exercises/Demonstration
- Interactive Learning
- Collaborative Learning
- Problem-Based Learning
- Project-Based Learning
- Reporting

- Multimedia Presentation
- Reading and Writing
- Library Work
- Field Work
- Interview

Section 12 **Sample Syllabi for Selected Core Courses**
(Please see Annexes)

ARTICLE VI
REQUIRED RESOURCES

Section 13 **Administration**

Dean/Department Head

The Dean/Department Head of the college offering the degree shall be employed full-time and must possess the following qualifications:

1. Filipino Citizen
2. Holder of a doctoral degree preferably DTE or Ph. D. or Ed.D. in any of the areas of specialization in the program.
3. Holder of valid certificate of registration and Board Licensure Examination for Professional Teachers (BLEPT)
4. With at least three (3) years of very satisfactory teaching experience in a technology/teacher education institution
5. With at least three (2) years of very satisfactory supervisory experience.

Section 14 **Faculty**

Members of the faculty should have academic preparation and experience appropriate to teaching technical and vocational courses.

A. **General Requirements**

1. As a general rule, master's degree in education or in an allied discipline is required for teaching in the tertiary level.
2. Faculty teaching general education and major subjects should have appropriate master's degree in the field they are assigned to teach.
3. Have at least one (1) year of very satisfactory teaching experience in any technical-vocational or technological institution.

B. **Qualifications of the Professional Education Faculty**

Faculty teaching Professional Education courses should have the following qualifications:
1. Holder of valid certificate of registration and Board Licensure Examination for Professional Teachers (BLEPT) as provided for in Section 11 of RA 8981.
2. Holder of Master's degree in Education or in any allied fields.

C. **Qualifications of Technology and Livelihood Education Instructors/Professors**

   1. Holder of at least Masters Degree in Technology Education or its equivalent.
   2. Must be compliant with the training regulations of TESDA.

D. **Full-time faculty members of the college**

   The institution shall maintain 25% of the faculty members teaching in the teacher education program as full-time.

E. **Faculty Development**

   The College of Education must have a system to support faculty development anchored on their institution's faculty development program. It should require the faculty members to:
   1. complete doctoral degrees in education and other allied fields;
   2. attend continuing education seminars, workshops, conferences, and others;
   3. undertake research activities related to the teacher education program and to publish their research outputs in refereed publications; and
   4. give lectures and present papers in national/international conferences, symposia and seminars

Section 15   Library

Library personnel, facilities and holdings should conform to existing CHED requirements for libraries which are embodied in separate CHED issuances. The library must maintain a collection of updated and appropriate/suitable textbooks and references used for the core courses in the curriculum. Library resources should complement curriculum delivery to optimize the achievement of the program outcomes for the BTLEd programs.

Section 16   Laboratory and Physical Facilities

In addition to the required laboratories and facilities for general education, the following shall be provided:

1. A practicum laboratory in technology education shall be maintained within or outside the campus through appropriate linkages, networking or consortium.
2. Specialized laboratories shall be maintained for the major fields.
3. The technology facilities and requirements shall be based on the training regulations set by TESDA.

A. **Educational Technology Laboratory**

   The TEI should have access to an educational technology laboratory with appropriate equipment and software as indicated in the course specifications. The same laboratory shall serve to allow

preparation, presentation and viewing of audio-visual materials to support instruction.

B. Laboratory School or Cooperating Schools

The TEI should maintain a facility within which the students can undertake their field study. This facility may be a laboratory school administered by the TEI. In cases when TEI has no laboratory school, the TEI must have a long-term memorandum of agreement with a Department of Education cooperating school or with a cluster of cooperating schools within which student can undertake their field study and practicum.

Section 17 Admission and Retention Requirements

The basic requirement for eligibility for admission of a student to the Teacher Education program shall be graduates from Senior High School level recognized by the Department of Education.

TEIs must have in place a selective admission policy for Teacher Education programs. This policy shall include passing an admission examination. For this purpose, TEIs may use either of the following admission examinations:

1. an admission examination developed and validated by the TEI
2. an admission examination developed and validated by another TEI and used by TEI under a consortium agreement;
3. an admission examination developed and validated by private testing centers and used by TEI for a fee;
4. some other standardized tests for teaching aptitude; or
5. some other national qualifications examinations.

ARTICLE VII
COMPLIANCE OF HEIs

Using the *CHED Implementation Handbook for OBE and ISA* as reference, a HEI shall develop the following items which will be submitted to CHED when they apply for a permit for a new program:

Section 18 The complete set of program outcomes, including its proposed additional program outcomes;

Section 19 Its proposed **curriculum** and its justification including a curriculum map;

Section 20 Proposed **performance indicators** for each outcome. Proposed measurement system for the level of attainment of each indicator;

Section 21 Proposed **outcomes-based syllabus** for each course;

Section 22 Proposed system of program assessment and evaluation; and,

Section 23 Proposed system of program **Continuous Quality Improvement (CQI).**

For existing programs, CHED shall conduct regular monitoring and evaluation on the compliance of HEIs to this Policies, Standards and Guidelines using an outcomes-based assessment instrument.

ARTICLE VIII
TRANSITORY, REPEALING and EFFECTIVITY PROVISIONS

Section 24   Transitory Provisions

All private HEIs, state universities and colleges (SUCs) and local universities and colleges (LUCs) with existing authorization to operate the **Bachelor of Technology and Livelihood Education (BTLEd)** and **Bachelor of Secondary Education major in Technology and Livelihood Education (BSEd-TLE)** programs are hereby given a period of **three (3) years** from the effectivity thereof to fully comply with all the requirements in this CMO. However, the prescribed minimum curricular requirements in this CMO shall be implemented starting Academic Year 2018-2019.

Section 25   Sanctions

For violation of this Order, the Commission may impose such administrative sanction as it may deem appropriate pursuant to the pertinent provisions of Republic Act No. 7722, in relation to Section 69 of BP 232 otherwise known as the Higher Education Act of 1982, and the Manual of Regulations for Private Higher Education (MORPHE) per CMO No. 40, series of 2008 and other related laws.

Section 26   Repealing Clause

Any provision of this Order, which may thereafter be held invalid, shall not affect the remaining provisions.

All CHED issuances or part thereof inconsistent with the provision in this CMO shall be deemed modified or repealed.

Section 27   Effectivity Clause

This Order shall take effect after its publication in the Official Gazette or Newspaper of General Circulation.

Quezon City, Philippines, _____ November 2 _____, 2017.

For the Commission:

PATRICIA B. LICUANAN, Ph.D.
Chairperson

Annexes:
ANNEX A: Description of Professional Education Courses with Integrated TM
ANNEX B: Description of Major Courses (Exploratory)
ANNEX C: Description of Major Courses in the Areas TLE
ANNEX D: ICT Competency Standards for Teachers
ANNEX E: Sample OBE Syllabus for TTL Courses

DESCRIPTION OF PROFESSIONAL EDUCATION COURSES
WITH INTEGRATED TM

Course Title	The Child and Adolescent Learners and Learning Principles
Course Description	This course focuses on child and adolescent development with emphasis on current research and theory on biological, linguistic, cognitive, social and emotional dimensions of development. Further, this includes factors that affect the progress of development and shall include appropriate pedagogical principles applicable for each developmental level.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title	The Teaching Profession
Course Description	This course deals with the teacher as a person and as a professional within the context of national teacher standards and other global teachers' standards, professional and ethical values, awareness of professional rights, privileges and responsibilities as well as their roles in the society.
Contact Hours	
Course Credits	3 units
Prerequisite	

Course Title	The Teacher and the Community, School Culture and Organizational Leadership with focus on the Philippine TVET System*
Course Description	This course focuses on the philosophical, technological and socio-economic foundation of the technical vocational education and training (TVET) in the Philippine. It also covers the principles underlying competency-based training, competency standards, program registration, assessment and certification. Discussions will also focus on TVET as a component of the Philippine Qualifications Framework and the effect of globalization.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title	Foundation of Special and Inclusive Education
Course Description	Philosophies, theories and legal bases of special and inclusive education, typical and atypical development of children, learning characteristics of students with special educational needs and practices in the continuum of special inclusive education.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title	The Learner-Centered Approaches with emphasis on Trainers Methodology I*
Course Description	This course explores the fundamental principles, processes and practices anchored on the educational philosophy of learner-centeredness. It covers the knowledge, skills and attitudes in planning a training session which includes identifying learner's requirements, preparing session plan, preparing instructional materials and organizing learning and teaching and assessment resources. It also deals with the competencies in delivering competency-based training session which covers preparing training session, conducting pre-assessment, facilitating training session, conducting competency assessment and reviewing delivery of training session
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title	Technology for Teaching and Learning 1**
Course Description	This course is designed to engage students to utilize the theories and principles in designing, developing, utilizing and evaluating teaching and learning resources. It covers the knowledge and skills in developing training materials such as, print, mock-up/simulator and models. It will also provide the student experiences in utilizing electronic media in facilitating training and in developing learning materials for e-learning. Also part of this course is the competency in maintaining training facilities which includes developing and implementing a housekeeping program and maintaining training systems, equipment, tools, materials and documents. The prospective teacher/trainer will be exposed to other methods and strategies related to different modes of training delivery such as institution-based, community-based training specially for livelihood, as well as, enterprise-based learning
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title	Assessment in Learning I
Course Description	This is a 3-unit course that focuses on the principles, development and utilization of conventional assessment tools to improve the teaching-learning process. It emphasizes on the use of testing for measuring knowledge, comprehension and other thinking skills. It allows students to go through the standard steps in test construction for quality assessment. It includes competencies contained in the Trainer's Methodology I of TESDA.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title	Assessment in Learning II with focus on Trainers Methodology I & II*
Course Description	This is a 3-unit course that focuses on the principles, development and utilization of non-conventional forms of assessment in measuring authentic learning. It covers the two important aspects of competency assessment: developing authentic assessment tools and conducting an authentic assessment process. The competency in developing authentic assessment tools details the requirements for determining evidence requirements, selecting appropriate assessment methods, preparing assessment tools, and validating assessment tools in accordance with the relevant Assessment Guidelines. The competency in conducting assessment includes the requirements for organizing assessment activities, preparing the candidate, gathering and evaluating evidence, making assessment decision, recording and providing feedback on assessment outcome.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title:	Curriculum Development and Evaluation with emphasis on Trainers Methodology II*
Course Description	This course covers the outcomes required to facilitate the development of competency standards for particular work functions, work processes, work roles and work-related vocational outcomes. It also deals with the knowledge and skills required to undertake a training needs analysis to identify the training needs of individuals or organization. This course will also cover the competency in developing and evaluating the training curriculum design which includes establishing training requirements, identifying the learner and finalizing the training program.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title	Building and Enhancing New Literacies Across the Curriculum with Emphasis on the 21st Century Skills*
Course Description	This course covers the outcomes required to facilitate the development of competency standards for particular work functions, work processes, work roles and work-related vocational outcomes. It also deals with the knowledge and skills required to undertake a training needs analysis to identify the training needs of individuals or organization. This course will also cover the competency in developing and evaluating the training curriculum design which includes establishing training requirements, identifying the learner and finalizing the training program.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title	Building and Enhancing Literacy Skills Across the Curriculum with emphasis on the 21st Century Skills*
Course Credits	3 units
Course Description	The focus of this course is on transversal skills which employers identified as very important for a person to possess in order to strengthen the individual capacity and employability. In this course, the students will be able to identify competencies that illustrate the learning domains of critical and innovative thinking, interpersonal skills, intrapersonal skills, global citizenship, and media and information literacy. Through this course, the students will be able to demonstrate the interplay of these transversal skills learning domains in different context.
Contact Hours	
Prerequisite	

Course Title	Technology Research I
Course Credits	3 units
Course Description	The course provides with important concepts of the methods of research covering the design, data collection, statistical application and development of research instrument. This also requires the students to prepare a research proposal which includes the introduction, significance of the research, methodology and the timeline of the study. The proposal will serve as a basis for Technology Research II.
Contact Hours	
Prerequisite	

Course Title:	Technology Research II
Course Credits	3 units
Course Description	The course is a continuation of Technology Research where the students are expected to complete the research proposal aligned to the areas of specialization. This includes the presentation, tabulation, analysis and interpretation of the data collected. An oral presentation of the output of research is required among the students.
Contact Hours	
Prerequisite	

Course Title	Experiential Learning (Field Studies and Teaching Internship)
Course Description	This course is a year-long engagement that supports authentic experiential learning from field study and actual classroom immersion of the prospective teachers. It begins with field study experiences through (a.) observation and (b) participation and will progress to (c) teaching assistantship and (d) guided/ mentored classroom teaching. The NCBTS domains shall be used as guideposts in developing the content, pedagogy and implementation scheme of this

	course.
Course Credits	12 units (FS 1 -3 units, FS 2- 3 unit, Practice Teaching 6 units)
Contact Hours	FS 1 & 2 (6 hrs per week for one semester taken with 2 or 3 academic subjects) Practice Teaching – 6 units (Fulltime 30-40 hrs per week) for one semester
Prerequisite	All required academic subjects for the degree should be taken before Practice Teaching.

Course Title	Field Study 1- Observations of Teaching-Learning in Actual School Environment
Course Description	This is the first experiential course, which will immerse a future teacher to actual classroom situation and learning environment where direct observation of teaching learning episodes that focuses on the application of educational theories learned in content and pedagogy courses will be made. Observations on learners' behavior, motivation, teacher's strategies of teaching, classroom management, assessment in learning among others shall be given emphasis. A portfolio shall be required in the course.
Course Credit	3 units
Contact Hours	3 hours/Week
Pre-requisite	All professional and major/specialization subjects

Course Title	Field Study 2- Participation and Teaching Assistantship
Course Description	This course is a continuation of Field Study 1. It is school based and allows a pre-service student to participate and assist in a limited actual teaching-learning activities that relate to assessment of learning, preparation of instructional materials, preparation of the bulletin boards, and other routines in the classroom. A portfolio which will contain sample lesson or learning plans and demonstration teaching of at least one subject content area will be required. An action research shall be encouraged to start in this course and conclude during the Internship.
Course Credit	3 units
Contact Hours	3 hours/Week
Pre-requisite	All professional subjects and major subjects

Course Title	Teaching Internship
Course Description	Practice Teaching provides opportunity to the student-teacher full time teaching in schools offering a TVL track of a senior high school or in a tech-voc institution under the supervision of a cooperating teacher/trainer and student teaching supervisor. The seven (7) NCBTS domains shall be used as guideposts in developing the content and implementation scheme of this course. This course is a one semester full time teaching internship in basic education schools using a clinical approach under the mentorship of a cooperating teacher. Teaching internship shall be done both in the in-campus or off campus if possible. No academic courses shall be taken together with Teaching Internship. A teaching portfolio shall be required and the completion of the Action Research.
Course Credit	6 units
Contact Hours	40 hours per week full time (no academic units allowed)
Pre-requisite	Field Study 1 & 2

ANNEX B

DESCRIPTION OF EXPLORATORY COURSES (30 UNITS)

Course Title	Entrepreneurship
Course Description	This course dwells on basic entrepreneurial concepts and practices. It includes topics such as personal entrepreneurial concepts, environment and market.
Course Credits	3 units
Contact Hours	

Course Title	Home Economics Literacy
Course Description	This is an overview of the home economics discipline including philosophy, areas of specialization, role in societal development. It includes history and philosophy of Home Economics, , areas of specialization and careers, family life and society, and household resource management.
Course Credits	3 units
Contact Hours	

Course Title	Family and Consumer Life Skills
Course Description	This is focused on the general competencies in the different sub-areas of home economics: food and nutrition, arts and crafts, interior design, food service, consumer education.
Course Credits	3 units
Contact Hours	

Course Title	Introduction to Industrial Arts Part 1 and Part 2
Course Description	This course deals with an introduction to the concept of industrial arts. It includes discussions on technology, its evolution, utilization and significance; with industry, its organization, materials, occupations, processes, and products; and with problems and benefits resulting from the technological nature of society. As an introductory subject, it is designed to develop certain habits, attitudes, and abilities desirable for all citizens of an industrial and technological civilization. It covers the basic knowledge and skills in the areas of automotive, civil, electronics, electrical.
Course Credits	6 units
Contact Hours	

Course Title	Introduction to Industrial Arts Part 1 and Part 2
Course Description	This course is a continuation of Introduction to Industrial Arts Part I. It focuses on electrical, metal works, graphic arts, and refrigeration & air-conditioning.
Course Credits	3 units
Contact Hours	

Course Title	Introduction to ICT Part I
Course Description	This course introduces BTLE students to the basic concepts, theories, and principles on the different specializations they may take in their course. Specifically, this course will give an overview on Technical Drafting, Illustration and 2D Animation. It also establishes the basics of Medical Transcription, Digital Media Production and Web Application.
Course Credits	3 units
Contact Hours	

Course Title	Introduction to ICT Part 2
Course Description	The course deals with the discussion and application of the basic concepts, theories, and principles on Computer Systems Servicing, Telecom (OSP) and Subscriber Line Installation (Copper Cable/POTS and DSL), Telecom OSP Installation (Fiber Optic Cable), Broadband Installation (Fixed Wireless Systems) and Contact Center Services.
Course Credits	3 units
Contact Hours	

Course Title	Introduction to Agri-Fishery Arts Part I
Course Description	This is an overview of agri-fishery arts discipline including philosophy, areas of specialization, role in societal development.
Course Credits	3 units
Contact Hours	

Course Title	Introduction to Agri-Fishery Arts Part II
Course Description	This course is a continuation of Introduction to Agri-fishery Arts I and is focused on specialized fields in agri-fishery arts such as Agricultural Crop Production, Animal Production, Aquaculture, Fish Capture, Organic Agriculture, etc.
Course Credits	3 units
Contact Hours	

Course Title	Technology for Teaching and Learning 2 (TLE)
Course Description	TTL 2 is a 3-unit course which will focus on the application, design, production, utilization, and evaluation of Information and Communications Technology (ICT) materials for teaching and learning in particular subject specializations and other related programs aligned to the K to 12 curriculum (Secondary English Language Education, Secondary Filipino Language Education, Secondary Science Education, Secondary Math Education, Secondary Social Science Education, Secondary Values Education, Technology and Livelihood Education).
Course Credits	3 units
Contact Hours	

DESCRIPTION OF MAJOR COURSES

A. HOME ECONOMICS (36 UNITS)

The specialization courses are based on the sub-disciplines of home economics that are historically consistent and similar with the core areas of home economics in the international community. There are study areas that are integrative in nature and are anchored on both the science and arts. There are also study areas that are interdisciplinary in nature but the primary focus of concern is on the family. The proposed number of units is 36 (minimum) but HEI's can add additional areas in home economics to make their programs competitive

The 36 minimum units were selected to cover areas of home economics that are **crucial/essential** to enable families and consumers to be effective members of the local and global communities and to effectively achieve 21st century process skills.

Course Title:	Household Resource Management (Lec/Lab)
Course Description	This course covers management principles applied at home.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title:	Consumer Education
Course Description	This course covers effective consumer participation through wise selection, use and divestment of goods and services. This course includes consumer rights and responsibilities as well as consumer-related laws.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title:	Principles of Food Preparation (Lec/Lab)
Course Description	This is focused on basic principles in the preparation of different types of food.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title:	Food and Nutrition (Lec/Lab)
Course Description	This covers principles of food, nutrition, and meal management as applied to nutrition and food needs of families and individuals.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title:	Fundamentals of Food Technology (Lec/Lab)
Course Description	This course is on food preservation and techniques including food hygiene and sanitation.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title:	School Food Service Management (3 u lec/lab – with 150 hours of practicum component)
Course Description	This is a course on the application of principles of food, preparation and services in the management of school cafeteria.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title:	Child and Adolescent Development
Course Description	This covers a discussion on developmental stages, characteristics and milestones of children and adolescents as basis for understanding the family.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title:	Marriage and Family Relationships
Course Description	This is focused on family and marital interactions within the context of various family subsystems and Filipino culture. This course subsumes topics on basic parenting styles and child-rearing skills.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title:	Clothing Selection, Purchase & Care
Course Description	This is on aesthetic, technical, economic, and psychological factors in the selection, purchase & care of clothes.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title:	Clothing Construction (Lec/Lab)
Course Description	This is an application of aesthetic, technical, economic, and psychological factors in the construction and care of clothes.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title:	Arts in Daily Living (Lec/Lab)
Course Description	This course is an application of art principles and design to family and individual needs.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title:	Crafts Design (Handicraft) (Lec/Lab)
Course Description	This covers materials, techniques and design in handicraft production.
Course Credits	3 units
Contact Hours	
Prerequisite	

B. INDUSTRIAL ARTS (36 units)

As one of the four areas of Technology and Livelihood Education, Industrial Arts deals with technology, its evolution, utilization and significance; with industry, its organization, materials, occupations, processes, and products; and with problems and benefits resulting from the technological nature of society (Maley, 1973). As an exploratory area in Grades 4, 5, 6 and Grades 7 and 8, it is designed to develop certain habits, attitudes, and abilities desirable for all citizens of an industrial and technological civilization. The following broad industrial sub-areas have been selected to comprise the area of industrial arts.

Course Title:	Fundamentals of Automotive Technology
Course Description	This course deals with the basic concepts, theories and principles related to automotive technology. It provides students with the foundation necessary to be able to perform basic automotive, motorcycle/small engine servicing as well as driving skills.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title:	Applied Automotive Technology
Course Description	This course deals with the application of the basic concepts, theories and principles in automotive technology. Specifically, it provides students with the necessary knowledge and skills in automotive, motorcycle/small engine servicing as well as driving skills.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title:	Civil Technology 1
Course Description	This course deals with the areas of civil technology related to drafting, carpentry, woodworking and construction painting.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title:	Civil Technology 2
Course Description	This course deals with the required knowledge and skills in the areas of civil technology related to masonry, plumbing, and tile setting.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title:	Fundamentals of Electronics Technology
Course Description	This course deals with the basic concepts, theories and principles related to electronics technology. Students are taught basic electronic products assembly and servicing.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title:	Digital Electronics Technology
Course Description	This course deals with the basic concepts, theories and principles related to digital electronics technology. The course also deals mechatronics- how digital electronics are integrated to mechanical components to fulfill an industry requirement.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title:	Fundamentals of Electrical Technology
Course Description	This course deals with the basic concepts, theories and principles related to electrical technology
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title:	Applied Electrical Technology
Course Description	This course deals with the application of the basic concepts, theories and principles in electrical technology. Specifically, it provides students with the necessary knowledge and skills in Electrical Installation and Maintenance, Electrical Power Distribution Line Construction, Instrumentation and Control Servicing, Transmission Line Installation and Maintenance.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title:	Metal works
Course Description	This course deals with the various welding techniques in the industry, including gas metal arc welding, gas tungsten arc welding and shielded metal arc welding. In addition, an introduction to machining is also provided to students.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title:	Domestic Refrigeration and Air-Conditioning
Course Description	This course deals with the basic concepts, theories and principles related to *Domestic Refrigeration and Airconditioning. Students are engaged in basic troubleshooting and servicing of domestic RAC units.*
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title:	Commercial Refrigeration and Air-Conditioning
Course Description	This course deals with the basic concepts, theories and principles related to Commercial Refrigeration and Airconditioning. Students are engaged in basic troubleshooting and servicing of commercial RAC units.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title:	Graphic Arts
Course Description	This course deals with the study of industries and technologies involved in the arts of printing. The course revolves around the printing press and the camera, as well as other equipment and modern tools that have evolved from these basic reproduction tools.
Course Credits	3 units
Contact Hours	
Prerequisite	

C. INFORMATION AND COMMUNICATION TECHNOLOGY (36 units)

As one of the four areas of Technology and Livelihood Education, Industrial Arts deals with technology, its evolution, utilization and significance; with industry, its organization, materials, occupations, processes, and products; and with problems and benefits resulting from the technological nature of society (Maley, 1973). As an exploratory area in Grades 4, 5, 6 and Grades 7 and 8, it is designed to develop certain habits, attitudes, and abilities desirable for all citizens of an industrial and technological civilization. The following broad industrial sub-areas have been selected to comprise the area of industrial arts.

Course Title:	Illustration and 2D Animation
Course Description	The course is designed to develop the knowledge, skills and attitudes for the ILLUSTRATION NC II and Animation NC II qualification. It consists of competencies that a person must achieve in enhancing drawings by providing a visual representation that corresponds to the content of the associated text and develop & enhance the knowledge, skills, & attitudes of a digital media specialist in accordance with industry standards. The illustration may be intended to clarify complicated concepts or objects that are difficult to describe textually, or the illustration may be used to express emotion, or perception of things and ideas as in greeting cards, or cover art or interior art for books and magazines, or for advertisement, as on posters. The illustrator may specialize in a specific type and/or medium of drawings, e.g. realistic or cartoon drawings, using poster colors, pencil, etc. using traditional or digital or combination of digital and traditional methods, produce cleaned-up and in-between drawings (TESDA Training Regulations).

Courses	a. Illustration
	    i. Drafting tools and materials
	    ii. Drawing concepts and strategies
	    iii. Trouble Shooting Techniques
	b. 2D Animation
	    i. Key Drawings
	    ii. 2d Digital Animation
	    iii. Authoring Tools

Course Credits	18 units
Contact Hours	

Course Title:	Web Site Development & Digital Media Production
Course Description	This course is designed to develop & enhance the knowledge, skills, & attitudes of a Website Developer/Digital Media Specialist, in accordance with industry standards. It covers the basic and common competencies in addition to the core competencies such as developing commercial web site and design, development, and production of multimedia software which could be used to improve the teaching-learning process.

Courses	a. Web Site Development
	    i. Website Creation
	    ii. Internet marketing
	    iii. Author Wares
	b. Digital Media Production
	    iv. Video Production
	    v. Audio Production
	    vi. Print Production

Course Credits	18 units
Contact Hours	

Course Title:	Computer Systems and Telcom Servicing
Course Description	This course is designed to develop & enhance the knowledge, skills, & attitudes of a Computer Systems and Telcom Service Technician, in accordance with industry standards. It covers the basic and common competencies in addition to the core competencies such as to install and configure computers systems, set-up computer networks and servers and to maintain and repair computer systems and networks, use Copper Cable Splicer/Jointer and Telephone and Broadband Installer, in accordance with industry standards. Additional competencies include installing pole hardware, cable terminal, line wire and accessories; installing main copper/fiber optic cable; splicing/jointing cable terminal to main aerial/underground copper/fiber optic cable splices; performing basic troubleshooting and repairing on cable fault and errors; installing/connecting parallel wires; installing jacketed wire, CBK and telephone instrument; and installing broadband and digital subscriber lines. (TESDA Training Regulations).
Courses	a. Computer Systems Servicing b. Telecom (OSP) c. Subscriber Line Installation (Copper Cable/POTS and DSL) d. Telecom OSP Installation (Fiber Optic Cable) e. Broadband Installation (Fixed Wireless Systems) f. Customer Relations
Course Credits	18 units
Contact Hours	

Course Title:	Contact Center Services
Course Description	This course is designed to develop the basic and common knowledge, skills, and attitudes of a Contact Center Services Provider in accordance with industry standards. It covers the basic, common and core competencies. Specifically, it includes competencies such as - communicate effectively in English for customer service, demonstrate ability to effectively engage customers and perform customer service delivery processes (TESDA Training Regulations).
Courses	a. Call Center-Basics (3 units) b. Foreign Language (3 units) c. Computer and Internet Manipulation (3 units) d. Sales Support (3 units) e. Customer Support (3 units) f. Post-support Documentation (3 units)
Course Credits	18 units
Contact Hours	

D. AGRI-FISHERY ARTS (36 units)

Course Title	Organic Agriculture
Course Description	The course intends to acquaint students with philosophy, objectives and principles of organic agriculture, broader theoretical knowledge of functions and relationships in agroecosystems. It will further provises differences and specificities between conventional and organic farming, i.e. principles of plant production with emphasis on crop rotations and differences in plant nutrition, importance and main principles of farm animal breeding in relation to nutrient balance in the organic farming system. Through learning about the various natural processes that occur in each field, the student will appreciate how each production practice affects the entire system. Students will study a variety of organic and sustainable production practices and relate these practices to ecological principles. Socio-political factors involved in organic farming are also covered.
Course Credits	
Contact Hours	
Prerequisite	

Course Title	Crop Production Technology I: Field Crop and Cereal Production
Course Description	The course covers basic principles, theories, methods and application of cereals and field crops production. This course also examines problems encountered in cereal and field crops production as well as find possible solutions to problems on field crop and creal production for greater efficiency and effectiveness in agricultural economy.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title	Crop Production Technology II: Horticulture and Crop Production
Course Description	This course is designed in order for the students to acquire knowledge and skills on the various practices in growing, processing and marketing horticultural crops of high economic importance in the service area.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title	Crop Production Technology III: Farming System
Course Description	The course is meant to guide the students on how to interlink the various farming enterprises that do not conflict with respect to labor requirements, use of land or other resources according to well-defined practices. This is in response to the physical, biological and socio-economic environments and also in accordance with goals and preferences of the farmers.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title	Animal Production Technology I: Poultry Production
Course Description	This course includes the study of basic concepts and principles of selection, culling, breeds and breeding, feeds and feeding, housing and equipment requirement, pests and diseases control, marketing, dressing and cutting. It includes economic importance and management practices in poultry raising.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title	Animal Production Technology II: Swine Production
Course Description	This course includes the study of basic concepts and principles of selection, culling, breeds and breeding, feeds and feeding, housing and equipment requirements, pests and diseases control, marketing, slaughtering and and meat fabrication, economic importance and other management practices in swine raising.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title	Animal Production Technology III: Ruminant Production
Course Description	This course includes the basic concepts and principles of selection, culling, breeds and breeding, feeds and feeding, housing and equipment requirements, pests and diseases control, marketing, slaughtering and meat fabrication. It also includes economic importance and other management practices in small and large ruminant rising.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title	Crop Protect I: Principles of Crop Production *(Option for Pest Management)*
Course Description	This course deals with the study of the principles and approaches of crop pests and diseases and their application for effective management and control of agricultural production for agricultural sustainability in the country.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title	Integrated Pest Management *(Option for Pest Management)*
Course Description	The course is designed to introduce students to the theory and practice of integrated pest management systems in major agronomic and horticultural crops; pasture systems; non-cropland, and urban settings. Students will be required to combine knowledge with analytical, managerial, and communication skills to address real-world problems in a diversity of management systems.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title	Aquaculture
Course Description	This course aims to provide the learners with an overview of aquaculture. It includes water quality, production system, spawning and the common fish cultured in the community.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title	Fish Capture
Course Description	This course deals with catching and delivering seafood products. This will train learners in fishing and other related fishing activities in inland bodies of water and marine waters using fishing vessels. The learners are expecte3d to develop the skills in applying safety measures, fish capture operations, using tools and equipment, protecting marine environment, applying basic handling and safety practices, adjusting and positioning of mesh nets or gill nets, spots and traps.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title	Fishing Gear Repair and Maintenance
Course Description	This course orients the learners on fishing gear, repair and maintenance. It covers basic, common and core competencies required of the learners. The basic skills include leading workplace communication, leading small teams, solving problems related to work activities, using mathematical concepts and relevant technologies. While the common competencies cover applying safety measures in operations, using tools and equipment, performing estimation and calculations. The core competencies include supervising loading and unloading of net, evaluating net mending and administering and monitoring net mending activities.
Course Credits	3 units
Contact Hours	
Prerequisite	

Course Title	Fish Products Packaging
Course Description	This course intends to train learners in packing fish products using variety of methods such as applying food safety and sanitation, using food processing tools, equipment and utensils, implementing good manufacturing practice procedure, packing processed fish by vacuum, bottling or canning.
Course Credits	3 units
Contact Hours	
Prerequisite	

Note: Descriptions of these courses shall be subject to regular changes made in the training regulations of TESDA. Graduates of courses which do not have existing TESDA training regulations shall undergo a skills assessment exam to be designed and administered by the delivering school until TESDA develops its corresponding training regulations and assessment modules.

ICT COMPETENCYSTANDARDS FOR TEACHERS

COMPETENCIES	PERFORMANCE INDICATORS
Domain 1: Understanding ICT in Education	
1.1.1 Demonstrate awareness of policies affecting ICT in education	1.1.1.1 Discuss national ICT policies affecting classroom practices
1.2.1 Comply with ICT policies as they affect teaching-learning	1.2.1.1 Implement ICT policies in teaching-learning
1.3.1 Contextualize ICT policies to the learning environment	1.3.1.1 Incorporate ICT policies in the design and implementation of teaching-learning activities.
Domain 2: Curriculum and Assessment	
2.1.1 Demonstrate understanding of concepts, principles, and theories of ICT systems as they apply to teaching-learning	2.1.1.1 Discuss ICT concepts, principles and theories in various teaching-learning processes
	2.1.1.2 Use technology tools in the assessment process
2.2.1 Evaluate digital and non-digital learning resources in response to student's diverse needs	2.2.1.1 Select digital and non-digital learning resources in reference to the student learning preferences
	2.2.1.2 Revise digital learning resources in response to varied needs of students
2.2.2 Develop digital learning resources to enhance teaching-learning	2.2.2.1 Produce digital learning material designed to enhance teaching-learning
2.3.1 Use ICT as a tool to develop 21st century skills: Information, Media and Technology Skills, Learning and Innovation Skills, Life and Career Skills, and Effective Communications Skills.	2.3.1.1 Integrate ICT in teaching plans that require learners to connect the content of the lesson to society
Domain 3: Pedagogy	
3.1.1. Apply relevant technology tools for classroom activities	3.1.1.1 Design a technology-enhanced lesson to support learning
	3.1.1.2 Deliver the lesson using appropriate digital tools or applications
	3.1.1.3 Assist students to reflect on their own learning using technology tools
3.2.1 Use ICT knowledge to solve complex problems and support student collaborative activities	3.2.1.1 Use varied teaching strategies like project-based learning that integrate technology tools to support thinking and collaboration
3.3.1 Model collaborative knowledge construction in face-to-face and virtual environments	3.3.1.1 Initiate flexible learning through online communications (synchronous / asynchronous modality)

COMPETENCIES	PERFORMANCE INDICATORS
Domain 4: Technology Tools	
4.1.1 Demonstrate competence in the technical operations of technology tools and systems as they apply to teaching and learning	4.1.1.1 Perform basic trouble shooting and maintenance of technology tools and systems;
	4.1.1.2 Use productivity and other tools in everyday work.
4.2.1 Use technology tools to create new learning opportunities to support communities of learners	4.2.1.1 Make technology tools-based instructional materials to improve student learning;
	4.2.1.2 Produce ICT-based teaching and learning tools in collaboration with students.
4.2.2 Demonstrate proficiency in the use of technology tools to support teaching and learning	4.2.2.1 Propose or recommend technology and policy innovations related to promoting continuous learning among students
Domain 5: Organization and Administration	
5.1.1 Manage technology-assisted instruction in an inclusive classroom environment	5.1.1.1 Facilitate flexible learning environment that enhances collaboration with the use of technology tools.
5.2.1 Exhibit leadership in shared decision-making using technology tools	5.2.1.1 Lead group activities using technology tools.
Domain 6: Teacher Professional Learning	
6.1.1 Explore existing and emerging technology to acquire additional content and pedagogical knowledge.	6.1.1.1 Use technology tools to search for, manage, analyze, integrate and evaluate information that can be used to support professional learning
	6.1.1.2 Evaluate technology resources in terms of appropriateness, quality, usability, accessibility, and cost effectiveness.
6.1.3 Utilize technology tools in creating communities of practice	6.1.3.1 Use technology tools to collaborate and share resources among communities of practice
6.2.1 Collaborate with peers, colleagues and stakeholders to access information in support of professional learning.	6.2.1.1 Identify educational sites and portals suitable to their subject area
	6.2.1.2 Join online expert and learning communities
	6.2.1.3 Use resources from relevant mailing lists and online journals
	6.2.1.4 Evaluate and compare useful and credible web resources to be shared with other students
	6.2.1.5 Active membership to local and global learning communities to maintain access to creative applications of technology that help enhance student learning
Domain 7: Teacher Disposition	
7.1.1 Demonstrate social, ethical,	7.1.1.1 Discuss safety issues in obtaining

COMPETENCIES	PERFORMANCE INDICATORS
and legal responsibility in the use of technology tools and resources	resource materials from local area network-based and the internet
	7.1.1.2 Comply with intellectual property laws including the fair use of educational content
	7.1.1.3 Institute mechanisms to ensure child online safety and prevent cyber bullying
7.1.2 Show positive attitude towards the use of technology tools	7.1.2.1 Practice standard netiquette in sharing and utilizing shared materials among learning communities.
	7.1.2.2 Provide support to learners' digital culture and behaviors.
	7.1.2.3 Utilize smart devices for building the positive relationships between teachers and students.

Course Syllabus Template

Course Name	Technology for Teaching and Learning 1
Course Credits	3 units
Course Description	Technology for Teaching and Learning 1 (TTL1). This is a 3-unit introductory course that explores basic knowledge and skills and values in the use of technology for teaching and learning. This course include 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.
Contact Hours/week	3 hours
Prerequisite	None
Course Outcomes	1. Explain ICT policies and safety issues as they impact on the teaching-learning process 2. Identify learning theories and principles applied in the design and development of lessons through appropriate media and technologies for teaching learning 3. Integrate media and technology in various content areas 4. Formulate teaching-learning experiences and assessment tasks using appropriate and innovative technologies 5. Demonstrate social, ethical, and legal responsibility in the use of technology tools and resources.

COURSE OUTLINE AND TIMEFRAME	
	Course Content/Subject Matter
Week 1	A. Introduction to Technology for Teaching and Learning
Week 2	B. ICT Policies and Safety Issues in Teaching and Learning
Week 3-4	C. Theories and Principles in the Use and Design of Technology-Driven Lessons
Week 5-6	D. ICT in Various Content Areas
Week 7-9	E. ICT and Conventional Learning Materials to Enhance Teaching and Learning
Week 10-11	F. Technology Tools in a Collaborative Classroom Environment and Relevance and Appropriateness in the Use of Technology in Teaching and Learning
Week 12	G. Innovative Technologies for Teaching-Learning and Assessment Task
Week 13	H. Technology-Enhanced Lesson using the ASSURE as Technology-Integration Model
Week 14-15	I. Social, Ethical and Legal Responsibilities in the Use of Technology Tools and Resources

Week 16-17	J. Educational Sites and Portals
One week (or an equivalent of three hours)	Allotted for the Midterm and the Final Exams

Alignment of Course Outcomes with Summative Assessment Tasks

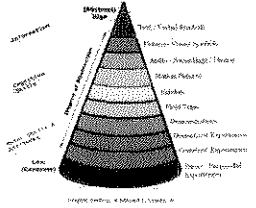| Course Objectives	Summative Assessment Task	Details
1. Explain ICT policies and safety issues as they impact on the teaching-learning process 2. Identify learning theories and principles applied in the design and development of lessons through appropriate media and technologies for teaching and learning 3. Integrate media and technology in various content areas 4. Formulate teaching-learning experiences and assessment tasks using appropriate and innovative technologies 5. Demonstrate social, ethical, and legal responsibility in the use of technology tools and resources	e-Portfolio • Blog Entries / Posts in the Freedom Wall / Tweets in the Classroom-Made Twitter Wall A Lesson Plan Integrating Technology Midterm and Final examinations	In this required output, the students are expected to organize their reflections and insights using a Reflection Guide Model (e.g. Gibb's reflection Model.) Ideas, and opinions on the topic discussed during sessions which may be posted in blogs can also be included in the ePortfolio. A Selection Rubrics by Smaldino, S. et al. (2008) can be used as criteria for grading. Different outputs made in the class, filing them all together can done in a portfolio or in an electronic portfolio such as foliofor.me. In this task, students are expected to create a lesson plan showing clearly the integration of appropriate and innovative technologies in the teaching-learning activities and assessment tasks using the ASSURE Model. The criteria in the rubrics shall focus on the integration of technologies and the ability to demonstrate ethical and legal responsibilities in the use of resources. These tasks are given to evaluate the students' knowledge and understanding of concepts and principles of technology integration in instruction and appropriate attitudes and values in becoming a teacher. These are given to validate the results of their practical activities and to prepare them for the licensure examination.

LEARNING PLAN

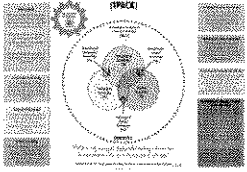| Desired Learning Outcomes (DLO)	Course Content/Subject Matter	Textbooks/ References	Teaching and Learning Activities (TLAs)	Assessment of Tasks (ATs)	Resource Materials	Time Table

1. Understand ICT in Education
 	
1.1 Define basic concepts in understanding ICT in Education
	Unit 1- Introduction to Technology for Teaching and Learning
	
	A. Basic Concepts to be defined:
	  1. Technology
	  2. Information and Communication
	  3. Educational technology
	  4. Technology, Media and Learning
	  5. Instructional System and Instructional technology
	  6. Technology Tools
	B. Roles of ICT in Teaching for Learning
		Anderson, J. (2010). *ICT Transforming Education A Regional Guide*. UNESCO Bangkok Asia and Pacific Regional Bureau for Education
		
		Ballado, R. (2012). *Basic concepts in educational technology 1*. Manila, PH: Rex Bookstore
		
		Lucido, P. & Corpuz, B. (2012). *Educational technology 2*. Quezon City, PH: Lorimar Publishing Co.
		
		http://k12teacherstaffdevelopment.com/tlb/introduction-to-technology-for-teachers/
		
		http://www.educationscotland.gov.uk/learningandteaching/approaches/ictineducation/roleofictinlearning.asp
			Brief Lecture: With the aid of a PowerPoint presentation, provide an overview of the subject Technology for Teaching and Learning.
			
			Small Group discussion: Give graphic organizers of the different concepts to be defined through the use of concept mapping
			Whole group discussion: Present to the whole class group outputs.
			
			Individual Research: Encourage students to validate the concept map and conceptual definitions
				Use a rating scale for the concept map developed by each group.
				
				Pen and Paper test
					OHP / Multimedia Projector
					
					Computer / Laptop
					
					Graphic organizers	

Desired Learning Outcomes (DLO)	Course Content/Subject Matter	Textbooks/ References	Teaching and Learning Activities (TLAs)	Assessment of Tasks (ATs)	Resource Materials	Time Table
1.2 Enumerate the national ICT policies affecting classroom practices	Unit 2. ICT Policies and Safety Issues in Teaching and Learning A. ICT National or International Policies That Are Applicable to Teaching and Learning	Anderson, J. (2010). *ICT Transforming Education A Regional Guide.* UNESCO Bangkok Asia and Pacific Regional Bureau for Education Lucido, P. & Corpuz, B. (2012). *Educational technology 2.* Quezon City, PH: Lorimar *Publishing* Co. Documents: • The Philippines ICT Roadmap • DepEd Five-Year Information and Communication Technology for Education Strategic Plan (DepEd ICT4E Strategic Plan) Executive Summary • RA 10844, Sec. 3 (An Act Creating the Department of ICT, Defining its Powers and Functions, Appropriating Funds, and Other Purposes)	Forum With Resource Person: Invite a resource person to talk on ICT national and international policies applied to teaching and learning	Posting of comments ICT policies in Freedom Wall/Blog	Freedom Wall in the classroom/ Blog Created and Administered by the Teacher	
1.3 Describe the implementation ICT policies in teaching-learning	B. Safety Issues in ICT		Group Interviews: Organize small groups to conduct interviews and observations on practices that address safety issues in ICT for teaching and learning.	Checklist on the practices that address safety issues	Accomplished Checklist PowerPoint presentations	1 week

Desired Learning Outcomes (DLO)	Course Content/Subject Matter	Textbooks/ References	Teaching and Learning Activities (TLAs)	Assessment of Tasks (ATs)	Resource Materials	Time Table
		• SEAMEO INNOTECH (2010) Report Status of ICT Integration in Education in Southeast Asian Countries				
1.4 Identify ICT policies that are incorporated to the design and implementation of teaching-learning activities	C. Uses of ICT Policies in the Teaching and Learning Environment		Individual Research: Encourage students to research on other school ICT Policies and best practices Class Observation (Field Study): Observe how ICT policies are utilized in the classroom. Facilitate the Creation the Classroom ICT Policies agreed upon by all learners	Accomplished observation guide Learners' written description and opinions on their newly crafted ICT Classroom policies	Class Observation Guide on the utilization of ICT policies in the classroom	
2. Identify learning theories and principles applied in the use and design of learning lessons with technology 2.1 Identify	Unit 3. Theories and Principles in the Use and Design of Technology Driven Learning Lessons A. Learning Theories and Principles in:	Lucido, P. & Corpuz, B. (2012). Educational technology 1 2nd	Active Learning with Teacher-Led Discussion on Dale's Cone of Experience and how its principles	Reflection Posted on the	Online Class Blog	1.5 hours

Desired Learning Outcomes (DLO)	Course Content/Subject Matter	Textbooks/ References	Teaching and Learning Activities (TLAs)	Assessment of Tasks (ATs)	Resource Materials	Time Table
learning principles and theories that is applied in technology driven teaching-learning models.	1. Dale's Cone of Experience (with equal attention given to both the Conventional Technology and the Innovative and Emerging Technology for Teaching)	edition. Lorimar Publishing Co. https://www.youtube.com/watch?v=p-eSxgRetvk	and theories are utilized in the technology-driven teaching and learning	online Blog/ 'Classroom-made Twitter Wall'	or Site/ 'Classroom-made Twitter Wall'	
	2.TPACK (Technology, Pedagogy and Content Knowledge)	TPACK in Two Minutes https://www.youtube.com/watch?v=FagVSQIZELY	Image Analysis: Students analyze and explain the image/diagram. The teacher synthesizes.	Restricted Essay	Video clip Multimedia Projector Computer	1.5 hours
		Heinich, R. (2003). Instructional media and technologies for learning. (7th edition). Upper saddle, New York: Merril Prentice Hall Newby, T.J. (2011). Educational technology for teaching and learning. (4th ed.) Boston: Pearson Education, Inc. Roblyer, M.D. (2003). Integrating educational technology into teaching. (3rd ed.) Upper Saddle, New York: Merrill Prentice Hall	A brief lecture on TPACK			

Desired Learning Outcomes (DLO)	Course Content/Subject Matter	Textbooks/ References	Teaching and Learning Activities (TLAs)	Assessment of Tasks (ATs)	Resource Materials	Time Table
	3.ASSURE Model (Analyze Learners, State Objectives, Select Methods, Media, & Materials, Utilize Media & Materials, Require Learner Participation, Evaluate and Revise)	Smaldino, S. et al. (2005). Instructional technology and media for learning, 8th ed. New Jersey: Pearson Prentice Hall pp. 53-65	(Active Learning in a Brief Lecture given by the teacher) The Fishbowl Activity: Learners are given metacards and asked to write a question of clarification about the topic (i.e. questions concerning the application of the topic to practical concepts). Teacher draws these questions from the bowl and answers the questions or asks the class to answer them. (This could be done during or after the input.) Think-Pair and Share: In pairs, students will discuss about the ASSURE Model and create their own ASSURE lesson	Checklist on the Elements included in a lesson using the ASSURE Model and the rating scale	Metacards Fish Bowl Container	1 week

Desired Learning Outcomes (DLO)	Course Content/Subject Matter	Textbooks/ References	Teaching and Learning Activities (TLAs)	Assessment of Tasks (ATs)	Resource Materials	Time Table

3.Integrate media and technology in various content areas
 	
3.1 Review teaching plans that require learners to connect the content of the lesson to society
	Unit 4. ICT in Various Content Areas
	
	A. 21st Century Literacy Skills
	
	Digital Literacy Skills
	    • Media
	    • Information
	    • ICT literacy
	
	B. Instructional Design Models
	    • Gagne's Nine Events
	    • Bloom's Revised Taxonomy
	    • ADDIE
	    • Merill's Principles of Instruction
		K to 12 Curriculum Guides (DepEd, 2012)
		
		Lucido, P. & Corpuz, B. (2012). *Educational technology* 2. Quezon City, PH: Lorimar Publishing Co.
		
		Anderson, J. (2010). ICT Transforming Education A Regional Guide. UNESCO Bangkok Asia and Pacific Regional Bureau for Education
		
		Williams, M. (2000). Integrating technology into teaching and learning: An Asia Pacific perspective. Singapore: Prentice Hall
		
		UNESCO (2013). Training Guide on ICT Multimedia Integration for Teaching and Learning. pp. 56-59
		
		Bellanca, J & Brandt, R. (2010). 21st Century Skills: Rethinking How Students Learn (Leading Edge)
			Brief Lecture: Explain 21st century literacy skills with emphasis on digital literacy skills.
			
			Research on Instructional Design Models and Collaborative Work on designing an infographics or a visual image of the assigned Instructional Design Model to be presented in class
				Oral examination	Multimedia Projector
					
					Laptop
					
					Teacher-made/ Teacher-prepared samples of infographics
						2 weeks

Desired Learning Outcomes (DLO)	Course Content/Subject Matter	Textbooks/ References	Teaching and Learning Activities (TLAs)	Assessment of Tasks (ATs)	Resource Materials	Time Table
3.2 Introduce sample technology-enhanced lessons to support learning	C. Technology Enhanced Teaching Lesson Exemplars	Smaldino, S. et al. (2005). Instructional technology and media for learning, 8th ed. New Jersey: Pearson Prentice Hall	Inquiry-Based Approach: Introduce a technology-enhanced teaching lesson exemplar Analysis of a teaching plan exemplar -- identifying the elements in designing a lesson and discussing the possibilities of technology integration Demonstration: Demonstrate a sample technology-enhanced lesson	Lesson exemplar analysis output Demonstration Guide	A Lesson Plan exemplar Checklist focusing on how technology is integrated in the lesson	
3.3 Select ICT and conventional learning materials designed to enhance teaching-learning	D. ICT and Conventional Learning Materials to Enhance Teaching Learning 1. Digital Learning Resources a. Google Docs b. Survey Monkey c. Others 2. Conventional Learning Resources a. Flip charts b. Realia c. Others	http://www.educatorstechnology.com/2012/06/33-digital-skills-every-21st-century.html http://www.edtechteacher.org/gate/	Group research and presentation of the digital learning materials identified as appropriate and feasible in a given teaching-learning context	Presentation of selected instructional media appropriate for the teaching and learning context	multimedia equipment	3 weeks

Desired Learning Outcomes (DLO)	Course Content/Subject Matter	Textbooks/ References	Teaching and Learning Activities (TLAs)	Assessment of Tasks (ATs)	Resource Materials	Time Table
3.6 Identify flexible learning through online communications (synchronous / asynchronous modality)	E. Distance Learning	Anderson, J. (2010). ICT Transforming Education A Regional Guide. UNESCO Bangkok Asia and Pacific Regional Bureau for Education	Forum-Discussion: Conduct a forum on Distance Learning	KWL Chart • What I Know • What I Want to know • What I Learned	Teacher-made Class Site (e.g. Google site, weebly, etc.) Skype	
	Types of Online Distance Learning • Synchronous • Asynchronous	Melton, R. (2002). Planning and Developing Open and Distance Learning A Quality Assurance Approach unesdoc.unesco.org/images/0012/001284/128463e.pdf	Demonstration and hands-on exploration on the synchronous and asynchronous online distance learning using the Class Site	Checklist	KWL Chart template	
3.7 Describe flexible learning environment that enhances collaboration with the use of technology tools.	F. Technology Tools in a Collaborative Classroom Environment	Smaldino, S. et al. (2005). Instructional technology and media for learning, 8th ed. New Jersey: Pearson Prentice Hall	Brief Lecture on the different technology tools in a collaborative classroom environment Small Group Discussion-Student Led	Paper and Pencil Test	Google docs	2 weeks
3.8 Reflect on the use of technology and on its relevance and appropriateness	G. Relevance and Appropriateness in the Use of Technology in Teaching and Learning Principles in Selecting Instructional Materials based on their Appropriateness and Feasibility	Smaldino, S. et al. (2005). Instructional technology and media for learning, 8th ed. New Jersey: Pearson Prentice Hall Eayde, M. & Lockyer, M. (2013). Tools for Learning Retrieved from: http://ro.uow.edu.au/cgi/viewcon	Based on the lesson demonstrated, the class will analyze and determine the appropriateness and use of technology. (Variation: Based on a lesson plan exemplar) Class presentation of their evaluation of instructional materials	Reflective narrative or Entries in the 'Classroom Twitter Wall' in the classroom/Blog Created and Administered by the Teacher	Gibb's Reflection Cycle template Online Class Blog or Site/ 'Classroom-made Twitter Wall'	

Desired Learning Outcomes (DLO)	Course Content/Subject Matter	Textbooks/ References	Teaching and Learning Activities (TLAs)	Assessment of Tasks (ATs)	Resource Materials	Time Table
	• Appropriateness (Target Learners and Instruction) • Authenticity (Dependable) • Interest • Cost (Economy) • Organization and Balance And other considerations: Environmental Factors, Dynamic Variables (e.g. size of class, attitudes, etc.)	tent.cgi?article=1413&context=a sdpapers	used in the lesson	Self or Peer Evaluation of their assessment	Rubric focusing on the appropriate ness of the material in instruction	
4. Formulate teaching-learning experiences and assessment tasks using appropriate and innovative technologies 4.1 Identify Technology-assisted tools in the assessment of learning	Unit 5. Innovative Technologies for Teaching-Learning and Assessment Task A. ICT and Assessment in Learning 1. Assessment Tools	Smaldino, S. et al. (2005). Instructional technology and media for learning, 8th ed. New Jersey: Pearson Prentice Hall Victoria State Government (2013). Assessment Tools. Retrieved from: http://www.education.vic.gov.au/s chool/teachers/support/Pages/too ls.aspx	Students' research on examples of technology-assisted tools in assessment in learning	Reporting and Feedbacking	Assessment tools	1 week

Desired Learning Outcomes (DLO)	Course Content/Subject Matter	Textbooks/ References	Teaching and Learning Activities (TLAs)	Assessment of Tasks (ATs)	Resource Materials	Time Table
	B.Tools in evaluating appropriate assessment tools (ex. checklist, rating scale)	http://www.edtechteacher.org/assessment UNESCO (2013). Training Guide on ICT Multimedia Integration for Teaching and Learning. pp. 60-63 Angelo, T. & Cross, K.P. (1993). Classroom Assessment Techniques 2nd Ed. A Handbook for College Teachers	Workshop on the formulation of tools to evaluate assessment tools	Workshop output		
Demonstrate proficiency in the formulation of teaching-learning experiences using innovative technologies	C. Technology-Enhanced Lesson using the ASSURE as Technology-Integration Model	Smaldino,S. et al. (2005). Instructional technology and media for learning. 8th ed. New Jersey: Pearson Prentice Hall	Lesson planning	Rubrics for assessing lesson plans Critiquing of lessons plans Revising of lesson plans	ASSURE Model	1 week
5. Demonstrate social, ethical, and legal responsibility in the use of technology tools and resources 5.1 Show, give examples, observe social, ethical, and legal responsibility in the use of technology tools and resources	Unit 6. Social, Ethical and Legal Responsibilities in the Use of Technology Tools and Resources A. Digital Citizenship • Nine Elements of Digital Citizenship B. Social, Ethical and Legal Responsibilities in the Use of Technology Tools and Resources by Teachers	http://www.digitalcitizenship.net/ http://www.eduscapes.com/sessions/socialtech/ Smaldino, S. et al. (2008). Instructional technology and	Lecture-discussion on the nine elements of digital citizenship Group research on the social, ethical and legal responsibilities in the use of technology tools and resources by teachers Talk it Out (from Global Digital Citizen Foundation) An	Written exam Rubrics assessing research outputs	Computer/ laptop Multimedia projector Computers A Worksheet	2 weeks

Desired Learning Outcomes (DLO)	Course Content/Subject Matter	Textbooks/ References	Teaching and Learning Activities (TLAs)	Assessment of Tasks (ATs)	Resource Materials	Time Table
		media for learning, 8th ed. New Jersey: Pearson Prentice Hall	activity on taking a stance on an issue and defending it Learners are given a scenario primarily focusing on social, ethical and legal responsibilities in the Use of technology Analysis of the different cases involving social, ethical and legal issues on technology use		for *Talk it Out* Scenarios	
5.2 Identify examples of compliance of IPR in educational setting.	C. Intellectual Property Rights Applicable to the Educational Setting: Copyright and Related Rights Copyright Law (Part IV)	www.ipophil.gov.ph/images/Patents/IRRs/RepublicAct8293.pdf	Group Research on the Intellectual Property Rights in the Educational Setting Class presentation of research outputs (e.g. poster, infographics, hootboard, etc.)	Rubrics assessing research presentations and outputs	RA 8293 Document An act prescribing the intellectual property code and establishing the intellectual property office, providing for its powers and functions, and for other purposes	

Desired Learning Outcomes (DLO)	Course Content/Subject Matter	Textbooks/ References	Teaching and Learning Activities (TLAs)	Assessment of Tasks (ATs)	Resource Materials	Time Table
5.3 Enumerate digital safety rules that ensure child online safety and prevent cyber bullying	D. Digital Safety Rules • Rule 1: Research before you register • Rule 2: Discriminate • Rule 3: Think before typing • Rule 4: Require ID • Rule 5: Trust your gut	www.safekids.com/kids-rules-for-online-safety www.educationworld.com/a-tech/tech/tech044.shtml www.collegeview.com/articles/article/smart-students-in-a-digital-world	Four As Activity: *You Know the Rules* (from Global Digital Citizenship Foundation) Learners imagine that they can draft three rules that every digital citizen must follow. What would they make and why? Abstraction, Analysis & Application Forum Discussion on the digital safety rules	Class formulated Guide on Digital Safety Rules	Computer / Laptop Multimedia Projector	
5.4 Discuss safety rules in obtaining resource materials from local area network-based and the internet	E. Cyber bullying	https://www.stopbullying.gov/cyberbullying/what-is-it/	Debate on Cyberbullying Small group Discussion	Posters and digital campaign materials	video clips on cyberbullying	
5.5 Describe the community of learners as netizens who share and utilize digital materials.	F. Netizens in Cyberspace Active Citizenship		Brief Lecture		Posters	
5.6 Practice standard netiquette in sharing and utilizing shared materials among learning communities.	G. Netiquette (social conventions online)	Abushakara, N. (2016). Netiquette: Modern manners for a modern world, The ultimate guide to online etiquette. Create Space Independent Publishing Platform	Advocacy Campaign Forum			

Desired Learning Outcomes (DLO)	Course Content/Subject Matter	Textbooks/ References	Teaching and Learning Activities (TLAs)	Assessment of Tasks (ATs)	Resource Materials	Time Table
		Tuffley, D. (2014). Email etiquette: Netiquette for the information age. Altiora Publications				
5.7 Show/ demonstrate support to school learners as part of learning community in their digital culture and behaviors			Joining social media site Role playing on how to support school learners as part of learning community	Rubrics assessing behavior in social media sites	Rubrics	
5.8 Identify educational sites and portals suitable to their subject area	H. Educational Sites and Portals	Diaz, C.G. and Declaro, R.A.(2013). UNESCO training guide on ICT multimedia integration for teaching and learning. Retrieved from Creative Commons License http://creativecommons.org/licenses/by-sa/3.0 https://globaldigitalcitizen.org/50-education-technology-tools-every-teacher-should-know-about	Group Research to identify educational sites and portals Presentation and Sharing of Research Outputs (e.g. Infographics, Digital advertisement, brochure, bulletin board display / online bulletin board)	Pencil and Paper Tests List of educational Sites	Multimedia Projector	2 weeks
5.9 Join online expert and learning communities	I. Online Communities of Learning e.g. • Facebook • Twitter • Instagram • Webinar		Practicum on sample strategies on how to join experts' learning communities	Rating scale Reflection	Online learning sites Gibb's Reflective Cycle	

Desired Learning Outcomes (DLO)	Course Content/Subject Matter	Textbooks/ References	Teaching and Learning Activities (TLAs)	Assessment of Tasks (ATs)	Resource Materials	Time Table
		Anderson, J. (2010). ICT Transforming Education A Regional Guide. UNESCO Bangkok Asia and Pacific Regional Bureau for Education			template	
5.10 Use resources from relevant mailing lists and online journals	J. Online Resources e.g. • Opensource • multimedia resources; video sites • finding images • music and audio; webcasts • locate web resources by topic • Others		Group Research and Application of the identified relevant mailing list and online journals	Check list		
5.11 Describe technology tools that are used in group activities.	K. Collaborative Projects i.e. The Problem-Based Project or Project-Based Project	http://www.ascd.org/publications/books/102112/chapters/What_Is_Project-Based_Multimedia_Learning%C2%A2.aspx	Student Led-Group Discussion Lecture	Pencil and Paper Test	Multimedia Projector	
5.12 Use technology tools to collaborate and share resources among communities of practice	L. Technology Tools for Collaborative Work e.g. • google drive • edmodo • bubbl.us • Wikispaces • Others	http://www.emergingedtech.com/2014/05/20-excellent-free-tools-for-interactive-collaboration-experiences-in-the-classroom/	Lecture-Demonstration Workshop / hands-on experience on the tools Online Chat Session	Practical Test	internet connectivity	

| Suggested Readings and References | Abushakara, N. (2016). *Netiquette: Modern manners for a modern world, The ultimate guide to online etiquette.* Create Space Independent Publishing Platform
Anderson, J. (2010). *ICT Transforming Education A Regional Guide.* UNESCO Bangkok Asia and Pacific Regional Bureau for Education
Angelo, T. and Cross, K.P. (1993). *Classroom Assessment Techniques 2nd Ed..* A Handbook for College Teachers
Chiles, D. (2014). *Internet etiquette: Netiquette fundamentals, rules and optimization.*

Diaz, C.G. and Declaro, R.A.(2013). *UNESCO training guide on ICT multimedia integration for teaching and learning.* Retrieved from Creative Commons License http://creativecommons.org/licenses/by-sa/3.0
Heinich, R. (2003). *Instructional media and technologies for learning.* (7th edition). Upper saddle, New York: Merril Prentice Hall
www.safekids.com/kids-rules-for-online-safety

www.educationworld.com/a-tech/tech/tech044.shtml

www.collegeview.com/articles/artice/smart-students-in-a-digital-world

https://www.stopbullying.gov/cyberbullying/what-is-it/
http://www.ascd.org/publications/books/102112/chapters/What_Is_Project-Based_Multimedia_Learning%C2%A2.aspx
http://www.emergingedtech.com/2014/05/20-excellent-free-tools-for-interactive-collaboration-experiences-in-the-classroom/
       http://www.educatorstechnology.com/2012/06/33-digital-skills-every-21st-century.html
http://www.edtechteacher.org/assessment
http://www.edtechteacher.org/gafe/
Lucido, P. & Corpuz, B. (2012). *Educational technology 2.* Quezon City, PH: Lorimar Publishing Co.
Melton, R. (2002). *Planning and Developing Open and Distance Learning A Quality Assurance Approach*
Newby, T.J. (2011). *Educational technology for teaching and learning.* (4th ed.) Boston: Pearson Education, Inc.
Roblyer, M.D. (2003). *Integrating educational technology into teaching.* (3rd ed.) Upper Saddle, New York: Merril Prentice Hall
Smaldino, S. et al. (2005). *Instructional technology and media for learning,* 8th ed. New Jersey: Pearson Prentice Hall
Smaldino, S. et al. (2008). *Instructional technology and media for learning,* 8th ed. New Jersey: Pearson Prentice Hall
Tuffley, D. (2014). Email etiquette: Netiquette for the information age. Altiora Publications
TPACK in Two Minutes https://www.youtube.com/watch?v=FagVSQIZELY
UNESCO (2013). Training Guide on ICT Multimedia Integration for Teaching and Learning. pp. 56-59
Williams, M. (2000). Integrating technology into teaching and learning: An Asia Pacific perspective. Singapore: Prentice Hall
www.ipophil.gov.ph/images/Patents/IRRs/RepublicAct8293.pdf

OurICT 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/0D8x8BBYUc2V91dVJQQXdVMFVDS2C/edit
Course Requirements	Suggested: A lesson plan exemplar with an appropriate integration of technology Written long exam (Midterm and Finals) ePortfolio • A complete posted reflection notes in the Class Blog or Wikispace / 'Teacher-made Classroom Twitter Wall' Class Active Participation (group work, mini-outputs in tasks, among others)

Grading System	Suggested:
	
	Midterm
	
	40% -- Written long exam (Midterm)
	30% -- A complete posted reflection notes in the Class Blog or Wikispace / 'Teacher-made Classroom Twitter Wall'
	30% -- Class Active Participation (group work, others)
	     mini-outputs in tasks, among others)
	
	Finals
	    25% -- A lesson plan exemplar with an appropriate integration of technology
	30% -- Summative Exam (Finals)
	20% - ePortfolio
	
	25% -- Class Active Participation (group work, mini-outputs in tasks, among

Classroom Policies	

COURSE SYLLABUS FOR TTL2- Technology and Livelihood Education

Course Name	*Technology for Teaching and Learning 2 – (Technology and Livelihood Education)*
Course Credits	3 units
Course Description	TTL 2 is a 3-unit course which will focus on the application, design, production, utilization, and evaluation of Information and Communications Technology (ICT) materials for teaching and learning in particular subject specializations and other related programs aligned to the K to 12 curriculum (Secondary English Language Education, Secondary Filipino Language Education, Secondary Science Education, Secondary Math Education, Secondary Social Science Education, Secondary Values Education, Technology and Livelihood Education).
Contact Hours/week	3 hours/week
Prerequisite	TTL 1
Course Objectives	(PDCA – Plan Develop Check Act)

	1.Use ICT to develop 21st Century Skills: Information, Media and Technology Skills, Learning and Innovation Skills, Life and Career Skills, and Effective Communication Skills. 2. Develop project- and problem-based, collaborative activities using technology tools 3. Use open-ended tools (such as word processing, spreadsheets, presentation software, and authoring tools) in subject specific application 4.Produce learning resources using technology tools in various subject areas 5. Evaluate the relevance and appropriateness of digital and non-digital resources based on the learning context 6.Use technology tools to collaborate and share resources among communities of practice.

COURSE OUTLINE AND TIMEFRAME

	Course Content/Subject Matter
Week 1-3	Using ICT in Developing 21st Century Skills/ICT in the 21st Century Skills
Week 4-5	Problem-Based and Project Based Learning Writing Problem-Based and Project Based
Week 6-10	Productivity Software Applications/Tools for Teaching and Learning
Week 11-13	Characteristics of Good/Appropriate IMs and Technology Tools Producing Learning Resources using Technology Tools
Week 14-16	Digital and Non-Digital Resources
Week 17-18	Technology Tools for Collaboration

Course Objectives	Summative Assessment Tasks	Details
Use ICT to develop 21st century skills: Information, Media and Technology Skills, Learning and Innovation Skills, Life And career Skills, Effective Communication Skills. Develop project/problem-based/inquiry-based collaborative plans and activities using technology tools,	Project/problem/inquiry-based TLE Learning/Unit Plan	The Unit topic chosen from the TLE K to 12 curriculum guide for unit planning should consider the need for technology tools in order to support and promote the development knowledge, skills and attitude from the four TLE sub-course. Students are required to submit only one unit plan for the whole course. Learning plan will be assessed considering the following criteria: • targeted standards/competencies • Objectives • curriculum-framing questions (essential and unit questions) • assessment plan • procedures (student work and technology integration) • overall procedures.

Use open-ended tools to support the development of the project-based collaborative activities in subject specific application,		As evidences of the technology integration in the learning plans, students will compile all student samples and learning resources created in the course. The portfolio should contain the following parts: • cover page • table of contents • Introduction of the TLE mini-courses and the integration of technology • unit plan • samples of TLE learning IMs created throughout the course • reflection on the content and the technology integration experience			
Produce learning resources using technology tools in various subject areas,	Unit Portfolio of TLE learning IMs				
Evaluate the relevance and appropriateness of ICT tools and resources based on the learning context, and		Students will showcase their unit portfolio by having a demonstration teaching of a lesson from their unit where the integration of technology tools are utilized.			
Use technology tools to collaborate and share resources among communities of practice.	Demonstration teaching focus on the identified TLE mini-courses using technology tools and learning resources				

SAMPLE LEARNING PLAN

Desired Learning Outcomes (DLO)	Course Content/ Subject Matter	Textbooks/ References	Teaching and Learning Activities (TLAs)	Assessment Task (ATs)	Resource Materials	Time Table
	Unit 0. Vision, Mission, Core Values, Institutional Outcomes	-University Code -Students Handbook -Bulletin of Information -website	-Present University video clippings -presentation University VMG	Reflection paper on how students could contribute in achieving VMGO of the institution	-video clippings about the University -white board and marker	1 hr
Use ICT to develop 21st Century Skills:	Unit 1. Using ICT in Developing 21st Century Skills/ICT in the	Bitter, G. G. and J. M. Legacy. (2008). Using technology in the		Critique of learning	Paper	2

Information, Media and Technology Skills, Learning and Innovation Skills, Life and Career Skills, and Effective Communication Skills. *AnalyzeTLE learning plans in the context of the 21st century skills*	21st Century Skills Sample Learning plans and 21st century skills Learning Activities to develop 21st century skills	classroom. USA: Pearson Education, Inc. pp. 242-246	Analysis and critiquing of learning plans in TLE	plans	Pen	hrs
Develop the TLE learning plan to develop 21st Century Skills through ICT integration	Selection of competencies requiring ICT integration PB learning plan: integration of 21st century skills	Bitter, G. G. and J. M. Legacy. (2008). Using technology in the classroom. USA: Pearson Education, Inc. pp. 298-308 https://ph.search.yahoo.com/search?p=21st+century+skills&fr=yfp-t-712 http://edglossary.org/21st-century-skills/ https://en.wikipedia.org/wiki/21st_century_skills	Expose the students to the sample learning plan based from the 4A's format Ask the students to improve the existing learning plans on how to integrate ICT	Analysis of sample learning plans Evaluation of Sample Learning Plans Proposal to improve the existing Learning Plans Preparation of Learning Plans integrating competencies on ICT and 21st Century Learning Skills Evaluation of learning plans by peers and teachers using the prescribed rubrics.	Computer Projector Learning Plans	2 hrs

				Presentation of Learning Plans by students in a forum		
Reflect on their own learning using technology tools	Electronic Portfolio		Show an electronic portfolio. Discuss the concept of e-portfolio An electronic portfolio or sometimes called digital portfolio is a collection of electronic evidence assembled and managed by a user, usually on the Web.	Development of an electronic portfolio. Evaluation of electronic portfolio by peers and teachers using a rubric	Students may use this link to guide them in making their e-portfolios: http://www.informationweek.co	2 hrs
Develop project/problem-based/student centered collaborative activities using technology tools Explain problem-based and project-based learning approaches	Unit 2. Developing Problem-based and Project-based Instructional Plans Nature of Problem-based and Project-based approaches Teaching with Projects Project Based-Multimedia Learning Using Technology to Enhance Student Inquiry	https://engage.intel.com/docs/DOC-52038). http://www.slideshare.net/marcomed/deped-k-to-12-lesson-plan-template Williams, M. D. (2000). Integrating technology into teaching and learning. Singapore. Pearson Education Asia Pte Ltd. pp. 18-35	-**Review samples of problem- and or project based unit plans** (see https://engage.intel.com/docs/DOC-52038). Download desired samples and let students review each plans. Provide local Dep-Ed samples of learning plans for further review. Let students formulate concepts on problem- and project-based learning based on the samples reviewed. -**Comparison of the difference of Problem and Project Based**	Formulation of checklist on the elements of problem- and project-based approach as evidence of their understanding of the reviewed unit plans. Comparison and contrast Matrix of Project-based and problem- based learning	Hand-outs	2hr. 2 hrs

			Learning (use http://www.edutopia.org/blog/pbl-vs-pbl-vs-xbl-john-larmer) -Give time for students to read the article.			
Explain parts of a problem-based and project-based learning plan	A. Basic Parts of a Learning Plan/Unit Plan (Deped sample LP may be used) a. Curriculum framing Question	http://www.slideshare.net/marcomed/deped-k-to-12-lesson-plan-template	-students will download Learning Plan template and let them familiarize the parts. Encourage them to share their insights as to the underlying principles behind each components.	Group presentation of learning plans and its components	Learning plan template(hard copy)	2hrs
Develop a problem-based and project-based learning plan	B. Writing a problem-based/project-based learning plan a. Selection of competencies requiring ICT integration	http://www.danielgubalane.com http://www.tda.edu.au http://www.depedbataan.com https://oblioscajovy.wordpress.com	-From the identified mini-courses under TLE curriculum, let students experience in making Learning Plan. Check the given website for the TLE curriculum and training regulations.	Refer to Dep-Ed order no. 73,s. 2012 for the assessment of the learning plan	CD for TESDA training regulations and DEP-ED TLE curriculum	2hrs
Use open-ended tools (such as word processing, spreadsheets, presentation software, and authoring tools) in subject specific application Identify uses of open-ended tools (productivity tools--whether freeware or	**Unit 3. Productivity Software Applications/Tools for teaching and learning** Open-ended tools and their uses in teaching and learning Maximizing the Use of Microsoft Word, Spreadsheets, and Publisher Effective Use of Powerpoint and Presentation	Way, J. and T. Beardon. (2003). ICT and primary mathematics. USA: Open University Press. pp 29-52 https://www.deped.gov.ph/resources/downloads/eclass-record-templates Bitter, G. G. and J. M. Legacy.	Have a thorough review of the MS Office. Ask the students on when and how they can use the different open-ended/productivity tools in the teaching-learning of TLE.	Synthesis from each group on how to use open ended/productivity tools in the Teaching-Learning for TLE Development of	Computer Projector	6hrs

Microsoft Office) in the teaching-learning of TLE Create student outputs using computer application programs as evidence of learning Establish mechanisms to ensure child online safety and prevent cyberbullying	Adobe Photoshop and Movie Creating student samples using open-ended tools Multimedia Elements (text, graphics, video, audio, animation Podcasting and Using Social Networking Sites in Education Using Mobile Phones in the Classrooms	(2008). Using technology in the classroom. USA: Pearson Education, Inc. pp.285-290	Ask the students to design as assessment tool that can evaluate the relevance and appropriateness of digital and non-digital resources to the learning context Instruct the students to produce digital learning resources in TLE by pair or by group and have other pair/group critique and evaluate using the assessment tool.	assessment tool Production of digital learning resources to be evaluated by peer and the teacher using a rubric		2 hrs 3 hrs
				Mid-Term		
Produce learning resources using technology tools in various subject areas Identify various instructional materials (IMs) and technology tools in the teaching of TLE	Unit 4. Producing Learning resources using technology tools A. Human and non-human learning resources/instructional materials B. Technology tools for teaching TLE	http://www.slideshare.net/akosiadako/commonly-used-materials-in-the-classroom http://www.slideshare.net/dramnc72/technology-tools-definitions https://globaldigitalcitizen.org/50-education-technology-tools-every-teacher-should-know-about	Introduce varied learning resources both human and non-human Present technology tools for TLE like videos, course management system(CMS), wikis, discussion forum, on line assessment.	Written Exercises Matrix of learning resources both human and non-human Rubrics for technology tools applied in TLE	Slide presentation by www.slideshare.nt	1hr 3 hrs

Describe characteristics of good/appropriate IMs and technology tools in teaching TLE	C. Characteristics of Good/Appropriate IMs and Technology tools D. Principles of Universal Design for Learning Guidelines E. A Software Review and Selection Process	http://www.slideshare.net/bestinen arsus1/selecting-and-use-of-instructional-materials https://www.lynda.com/Higher Education Asia Pte Ltd. Pp 93-116 Bitter, G. G. and J. M. Legacy. (2008). Using technology in the classroom. USA: Pearson Education, Inc. pp. 172-180	Presentation for characteristic of appropriate IM's Discussion for the Designs for Learning Guidelines Present the different types of educational software like drill-and-practice, integrated learning systems, problem-solving software, reference software, simulation, tool and tutorial softwares. The student may be asked to show how each software is being used. By referring to the characteristics of appropriate technology tools, ask the students to draft an educational	Formulate criteria to determine the appropriateness of IMs and technology tools	Power point presentation by slide share Video clippings by Shea Hanson	2 hrs 1 hr

			software review form taking into account both content and technical considerations. The students may use the following criteria: Content and Technical Information (documentation and supplementary materials, program content, presentation, effectiveness) and Audience Appeal and Suitability (practice/assessment/fed back, ease of use, user interface and media quality)	Design an educational software review form to be rated by the teacher using a rubric			
Create appropriate IMs using technology tools in teaching **TLE**	F. Creating teacher productivity materials using technology tools *(like what? How is this different from open-ended tools which are also technology tools? identify these)* G. **Revisiting of PB learning plan:** incorporating technology tools in preparing IMs in introducing the unit	http://www.rediscovercenter.org/pdf /promoting_creativity1.pdf http://www.stancoe.org/cfs/handout s/curriculum/pdf/creatingopenende d.pdf	Instruct the students to create instructional material using technology tool by pair or by group taking into account the different characteristics of a good IM. Check the PB learning plan	Development of instructional material using technology tool to Evaluation of developed IM using a rubric. Improved/edited learning plan	Computer and other materials needed to produce the IM	3 yrs	
Evaluate the relevance and appropriateness of ICT resources based on	Unit 5. ICT resources A. Characteristics of digital and non-digital resources	https://net.educause.edu/ir/library/p	Differentiate Digital and	Presentation of Venn Diagram	Paper	3	

the learning context Characterize digital and non-digital resources		df/EQM0742.pdf	non-digital resources Using 2 Hula Hoops, form a Venn Diagram to compare and contrast digital and non-digital resources	differentiating digital and non-digital resources to be rated by teacher using rubric	Adhesive Tape	hrs
Determine the relevance and appropriateness of digital and non-digital resources based on the learning context	B. Relevance and appropriateness of digital and non-digital resources	http://www.tonybates.ca/2014/08/2 2/key-characteristics-of-learners-in-a-digital-age-and-their-influence-on-the-design-of-teaching-and-learning/ Bitter, G. G. and J. M. Legacy. (2008). Using technology in the classroom. USA: Pearson Education, Inc. pp. 239-274	Highlight the relevance and appropriateness of digital and non-digital learning resources Ask the students to inspect and analyze lesson exemplars/lesson plans that utilized either digital or non-digital resource or both. Have them determine the appropriateness based on the learning context	Reflection paper on the appropriateness of digital or non-digital resources to the learning plan	Lesson exemplars	2 hrs
Revise digital learning resources in response to varied needs of students	C. Assessment tools for selecting relevant and appropriate digital and non-digital resources	http://mirandanet.ac.uk/wp-content/uploads/2015/05/quality_pr inciples.pdf www.rubistar.com	Instruct the students to revise the lesson exemplars/lesson plans particularly the learning resources based on the different types of learners like multi-grade, monograde, fast learners	Evaluation of students revised digital learning resources using a rating scale	Whiteboard/m arker	2 hrs

			etc...			
	D. **Revisiting of PB learning plan:** integration of the use of digital and non-digital resources and assessment tools in the LP procedure		Revisit of PB Learning Plan			1hr
Develop assessment tool to evaluate relevance and appropriateness of digital and non-digital resources to the learning context Create digital learning resources to enhance teaching-learning			Ask the students to design as assessment tool that can evaluate the relevance and appropriateness of digital and non-digital resources to the learning context Instruct the students to produce digital learning resources in TLE by pair or by group and have other pair/group critique and evaluate using the assessment tool.	Development of rubrics in assessing digital learning resource Finished digital learning resources to be evaluated by peer and the teacher	Computer and other materials needed to make digital learning resources	2 hrs 3 hrs
Use technology tools to collaborate and share	**Unit 6. Technology tools for**		Discuss the features and uses of ICT tools for	Academic paper evaluating web	Computer	1

resources among communities of practice

Identify features and uses of ICT tools for collaboration and sharing of resources among communities of practice

Determine educational sites and portals suitable to TLE

Evaluate and compare useful and credible web resources to be shared with other students | collaboration

Features and Uses of ICT tools for collaboration and sharing resources

Effective Teaching and Learning in the Electronic Classroom

Promoting Collaborative and Transformative Learning in Cyberspace

Becoming Information Users-SSCC (Search, Sort, Create, Communicate)

Four Processes Models for Information Use | Norton, P. and K. M. Wiburg. (2003). Teaching with technology. Canada: wadsworth/Thomson Learning.

pp. 166-174

https://school.quipper.com/en-PH/index.html

http://philippines.quipperschool.com/post/103446791422/quipper-schools-effectiveness

http://mongpalatino.com/2012/07/k-12-tesda-in-high-school/

http://www.danielgubalane.com/2013/08/k-to-12-curriculum-guides-for-tle.html

htt://classroom.google.classroom

Internet Source Validation Project: http://www.stemnet.nf.ca/Curriculum/Validate/valid.html

Checklist for an Informational Web Page: http://www2.widener.edu/Wolfgram -Memorial- | collaboration and sharing of resources among communities of practice.

Request students to make an inventory of educational sites and portals in TLE with short description for each site. Have them show to the class its features and functionalities

Explain that to guide the design of opportunities for students to become information users, effective instruction should help them learn to search for information, sort and judge information, and create and communicate ideas as result of information use

Introduce Kuhlthau's Information-Seeking Model, Eisenberg and Berkowitz's Information Problem-Solving Model, Irving's Information Skills Model, and Stripling and Pitt's Research Process Models

Explore the following sites for examining criteria to judge web | pages | Projector | hr.

2hr. |

		Library/webevaluation/inform.html Cyberguides: http://www.cyberbee.com/guides.html Kathy Schrock's Critical Evaluation Surveys: http://school.discovery.com/schrockguide/eval.html Thinking Critically about World Wide Web Resources: http://www.library.ucla.edu/libraries/college/instruct/web/critical.htm	pages: Evaluation and Information: http://alexia.lis.uiuc.edu/-janicke/Eval.html		
				Final Exam	
Suggested Readings and References	Intel Teach Program Manual World-links module 1, 2 & 3 Educational technology by Paz Lucido, Ph.D. Bitter, G. G. and J. M. Legacy. (2008). Using technology in the classroom. USA: Pearson Education, Inc. Dash, B. C. (2011). A textbook of educational technology. New Delhi: Wisdom Press Lebaron, J. F. and C. Collier (2001). Technology in its place: Successful technology infusion in schools. California: Jossey- Bass Inc. Norton, P. and K. M. Wiburg. (2003). Teaching with technology. Canada: Wadsworth/Thomson Learning. Palloff, R. M. and K. Pratt (2001). Building learning communities in cyberspace. California: Jossey- Bass Inc. Trentin, G. and M. Repetto (2013). Using network and mobile technology to bridge formal and informal learning. Oxford: Chandos Publishing. Way, J. and T. Beardon. (2003). ICT and primary mathematics. USA: Open University Press. Williams, M. D. (2000). Integrating technology into teaching and learning. Singapore. Pearson Education Asia Pte Ltd.				

Course Requirements	Project based Learning Plan	
Grading System	Midterm	Finals
Classroom Policies		