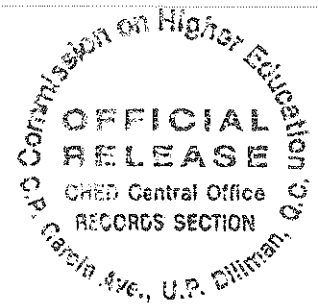Republic of the Philippines
OFFICE OF THE PRESIDENT
COMMISSION ON HIGHER EDUCATION

CHED MEMORANDUM ORDER (CMO)
No. 79
Series of 2017

SUBJECT: POLICIES, STANDARDS AND GUIDELINES FOR THE BACHELOR
            OF TECHNICAL-VOCATIONAL TEACHER EDUCATION (BTVTEd)

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 Technical-Vocational Teacher Education (BTVTEd)** 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 **BTVTEd** program is the preparation of teachers in TLE for Grades 9-10, senior high school for the technical-vocational Livelihood (TVL) track, technical-vocational education and training (TVET), and for higher education institutions offering BTVTEd and other allied programs.

This group of teachers is equipped not only with strong theoretical understanding of teaching and technology, but also with practical exposure in industry. Specifically, the BTVTEd 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 high regard for learning imbued with proper work attitude and values as practiced in industry; and
e. nationally certified trainers in their fields of specialization
f. implementers of TVTE innovative approaches/insights, best practices in the context of K-12 TVL track

ARTICLE II
AUTHORITY TO OPERATE

Section 2   **Government Recognition**

All Higher Education Institutions (HEIs) intending to offer **Bachelor of Technical-Vocational Teacher Education (BTVTEd)** must first secure proper authority from the Commission in accordance with these PSGs. All PHEIs with an existing **Bachelor of Technical Teacher Education (BTTE)** and **Bachelor of Industrial Education (BSIE)** programs are required to shift to an outcomes-based approach based on this PSG. State universities and colleges (SUCs), and local colleges and universities 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   This Article gives 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. A **sample** curriculum is shown in Article V Section 9. 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 as a **sample** which is shown in Article V Section 10.

Using a learner-centered/outcomes-based approach, CHED also determined appropriate curriculum delivery methods shown in Article V Section 11. The sample course syllabus 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 shall 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 Technical-Vocational Teacher Education (BTVTEd) with specialization in:**

a. Automotive Technology
b. Electronics Technology
c. Electrical Technology
d. Mechanical Technology
e. Civil and Construction Technology
f. Welding and Fabrication Technology
g. Heating, Ventilating and Air Conditioning Technology
h. Food and Service Management
i. Garments, Fashion and Design
j. Beauty Care and Wellness
k. Animation
l. Computer Hardware Servicing
m. Computer Programming

n. Animal Production
o. Agricultural Crops Production
p. Fish Processing
q. Fish Capture

5.2. Nature of the Field of Study

The BTVTEd program is an undergraduate teacher education program that equips learners with adequate and relevant competencies in teaching specific area in Industrial Arts or Home Economics or ICT or Agri-Fishery Arts – the four areas of technical and vocational track in the K to 12 Curriculum.

5.3. Program Goals

The BTVTEd program aims to develop highly competent and motivated teachers in technical and vocational education in their area of specialization.

The technical and vocational teacher education curriculum shall impart a body of knowledge, skills, attitudes, values and experiences that will provide prospective Grade 9-10 TLE Teachers, Senior High School teachers for the Tech-Voc Livelihood track, TVET Trainers/Instructors, and faculty members in higher education institutions with the necessary competencies essential for effective teaching. Graduates of BTVTEd are considered to have satisfied the TESDA requirement for Trainers' Methodology.

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

A. A general education component, consistent with CMO No. 20, series of 2013.

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

D. The specialized knowledge and skills are 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 Grades 9-10 TLE, TVET and Senior High School teachers for the Tech-Voc Livelihood track to ensure their competence in trade qualifications, and training and assessment methodologies.

E. 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 setting.

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

5.4. Specific Professions/Careers/Occupations for graduates

After completion of all academic requirements of the program, graduates of the **BTVTEd** should be able to practice the teaching profession in the field of specialization, serve as TVET trainers and assessors, or proceed to practice careers in various sectors of industry as entrepreneurs or as employees.

5.5. Allied Fields

Technical-Vocational Teacher Education is an allied discipline which draws from many of the basic disciplines in the social sciences, science and mathematics, engineering and technology, humanities and other related fields.

Section 6   Program Outcomes

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

6.1.   Common to all programs in all types of schools
The BTVTEd 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)

   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]
   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 (Technical-Vocational Teacher 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 any of the specific fields in technical and vocational education
   c. Apply with minimal supervision specialized knowledge and skills   in any of the specific fields in technical and vocational 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.

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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.*

a. BTVTEd graduates of professional institutions demonstrate a service orientation in one's profession,
b. BTVTEd 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. BTVTEd 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.

Section 7   Performance Indicators

Program Outcomes	Performance Indicators
a. 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.
b. Demonstrate broad, meaningful and coherent knowledge and skills in any of the specific fields in technical and vocational teacher education.	• Demonstrate competence/ and mastery in meaningfully teaching the subject/ area of specialization; • Adapt processes that facilitate the teaching-learning of the subject; • Relate lesson with other lessons in the course and with other disciplines.
c. 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 the subject
d. 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.
e. Manifest a deep and principled understanding of the learning processes and the role of the teacher in facilitating these	• Facilitate learning by applying time-tested principles of learning; • Employ interactive, collaborative, integrative, and reflective teaching-learning activities;

Program Outcomes	Performance Indicators
processes in their students.	• Teach based on sound principles and philosophies of education;
f. 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;
g. 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 the subject/ area of specialization; • 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;
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.	• 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 **BTVTEd** program is composed of General Education Courses, Professional Education Courses, Major Courses, Mandated Courses, Experiential Learning Courses and Industry Immersion.

Section 9   Curriculum

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

Summary of the Bachelor of Technical-Vocational
Teacher Education Program

Courses	No. of Units	Pre-requisite	Total Units
A. General Education Courses (CMO No. 20, series of 2013)			**36**
B. Professional Education Courses			**54**
Foundation Courses/Theories and Concepts Courses	**12**		
1. The Child and Adolescent Learner and Learning Principles	3		
2. The Teaching Profession	3		
3. The Teacher and the Community, School Culture and Organizational Leadership with focus on the Philippine TVET System*	3		
4. Foundation of Special and Inclusive Education	3		
Pedagogical Content Knowledge (PCK) Course	**21**		
5. Facilitating Learner-Centered Teaching: The Learner-Centered Approaches with Emphasis on Trainers Methodology I*	3		
6. The Andragogy of Learning Including Principles of Trainers' Methodology I (Additional Course) *	3		
7. Assessment in Learning 1	3		
8. Assessment in Learning 2 with focus on Trainers Methodology I & II*	3		
9. Technology for Teaching and Learning 1**	3		
10. Curriculum Development and Evaluation with Emphasis on Trainers Methodology II*	3		
11. Building and Enhancing New Literacies Across the Curriculum with Emphasis on the 21st Century Skills*	3		
Experiential Learning Courses	**12**		
12. Field Study 1	3		
13. Field Study 2	3		
14. Practice Teaching	6		
C. Additional Courses	**9**		
15. Technology Research 1 (Methods of Research)	3		
16. Technology Research 2 (Undergraduate Thesis/Research Paper/ Research Project)	3		
17. Work-based Learning with Emphasis on Trainers Methodology	3		
D. Areas of Specialization			**69**
1. Technology for Teaching and Learning 2	3		

Courses	No. of Units	Pre-requisite	Total Units
(TLE)**			
2. Supervised Industrial Training	3		
TLE Introductory Courses		**27 units**	
1. Introduction to Industrial Arts	3		
2. Home Economics Literacy	3		
3. Teaching ICT as an Exploratory course	3		
4. Introduction to Agriculture and Fisheries	3		
5. Entrepreneurship	3		
6. Teaching the Common Competencies in IA	3		
7. Teaching the Common Competencies in HE	3		
8. Teaching the Common Competencies in ICT	3		
9. Teaching the Common Competencies in AFA	3		
36 units of major courses from any of the following areas under IA/HE/ICT/AFA (ex: BTVTEd Major in Automotive Technology)		36	
INDUSTRIAL ARTS *(any of the following Majors with a total of 36 units)*			
Automotive Technology	36		
Electronics Technology	36		
Electrical Technology	36		
Mechanical Technology	36		
Mechanical Technology (Machining)	36		
Civil and Construction Technology	36		
Drafting Technology	36		
Welding and Fabrication Technology	36		
Heating, Ventilating and Air-conditioning Technology	36		
HOME ECONOMICS AND RELATED TRADES *(any of the following Majors with a total of 36 units)*			
Food and Service Management	36		
Garments, Fashion and Design	36		
Beauty Care and Wellness	36		
INFORMATION AND COMMUNICATIONS TECHNOLOGY *(any of the following Majors with a total of 36 units)*			
Computer Programming	36		
Animation	36		
Computer Hardware Servicing	36		
Visual Graphic Design	36		
AGRI-FISHERY and ARTS *(any of the following Majors with a total of 36 units)*			
Agricultural Crops Production	36		
Fish Processing	36		

Courses	No. of Units	Pre-requisite	Total Units
Animal Production	36		
Fish Capture	36		
E. Mandated Courses			**14 units**
Physical Education 1-4	8		
National Service Training Program 1& 2	6		

*Professional Education Courses with integrated TM Courses
**Required TTL Courses aligned with ICT Competency Standards for Teachers (see annexes)

Summary	No. of Units
General Education Courses	36
Professional Education Courses with Additional Technical – Vocational Allied Courses	54
Major Courses	69
Physical Education (PE)	8
National Service Training Program (NSTP)	6
TOTAL	173 UNITS

a. Other additional areas of specialization may be offered by HEIs provided that they follow the prescribed General and Professional Education requirements under this CMO subject to the approval of the Office of Programs and Standards.
b. 240 hours supervised industrial training in areas related to specialization

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 Technical-Vocational Teacher Education

FIRST YEAR			
1st Semester		**2nd Semester**	
GE-Understanding the Self	3	GE-The Contemporary World	3
GE-Readings in Phil History	3	GE-Math, Science and Technology (Elective)	3
GE-Math in the Modern World	3	GE-Arts and Humanities(Elective)	3
GE-Science and Technology	3	GE-Social Sciences and Philosophy (Elective)	3

FIRST YEAR			
1st Semester		**2nd Semester**	
GE-Purposive Communication	3	GE-Ethics	3
GE-Art Appreciation	3	The Child and Adolescent Learner and Learning Principles	3
GE-Life and Works of Rizal	3	The Teaching Profession	3
NSTP 1	3	NSTP 2	3
Physical Education 1	2	Physical Education 2	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 New Literacies Across the Curriculum with Emphasis on the 21st Century Skills	3	Curriculum Development and Evaluation with Emphasis on Trainers Methodology II	3
The Andragogy of Learning Including Principles of Trainers' Methodology I	3	Foundation of Special and Inclusive Education	3
Assessment in Learning 1	3	Assessment in Learning 2 with focus on Trainers Methodology I & II	3
Introduction to Industrial Arts	3	HE Literacy	3
Introduction to AFA	3	Teaching ICT as an Exploratory Course	3
Major 1	3	Major 2	3
Entrepreneurship	3	Physical Education	2
Physical Education	2		
Total	**29**	**Total**	**26**

THIRD YEAR			
1st Semester		**2nd Semester**	
Technology Research 1 (Methods of Research)	3	Technology Research 2 (Undergraduate Thesis/Research Paper/ Research Project)	3
Teaching Common Competencies in IA	3	Teaching Common Competencies in AFA	3
Teaching Common Competencies in ICT	3	Teaching Common Competencies in HE	3
Major 3	3	Major 9	3
Major 4	3	Major 10	3
Major 5	3	Major 11	3
Major 6	3	Major 12	3

THIRD YEAR				
1ˢᵗ Semester			**2ⁿᵈ Semester**	
Major 7	3	Work-based Learning with Emphasis on Trainers' Methodology		3
Major 8	3			
Total	27		Total	24

FOURTH YEAR				
1ˢᵗ Semester			**2ⁿᵈ Semester**	
Field Study 1	3	Teaching Internship/Practice Teaching		6
Field Study 2	3			
Supervised Industrial Training	3			
Total	9		Total	6

Section 10   Curriculum Map

AREA: HOME ECONOMICS

BACHELOR OF TECHNICAL VOCATIONAL EDUCATION
Major in Food Service Management

FSM Major Subjects	PROGRAM OUTCOMES										
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
FSM 111 - Occupational Safety and Health Practices	I	I	D	I	D	P	P	D	D	P	P
FSM 112 - Food Selection, Preparation	I	I	D	I	D	P	P	D	D	P	P
FSM 121 - Meal Management	I	I	D	I	D	P	P	D	D	P	P
FSM 122 - Basic Baking	I	I	D	D	I	P	P	I	D	P	P
FSM 211 - Food Processing, Packaging and Labeling	I	ID	I	O	I	IP	P	D P	ID	D	D P
FSM 212 - Advance Baking	I	I	D	D	I	P	P	I	D	P	P
FSM 221 - International Cuisine	I	I	D	D	D	P	P	I	D	P	P
FSM 222 - Quantity Cookery	P	I	ID	I	D	D P	D P	D P	D	IP	D P
FSM 311 - Cafeteria and Catering Management	P	I	ID	I	D	D P	D P	D P	D	IP	D P
FSM 312 - Bartending and Bar Management	I	I	D	D	D	P	D	D	P	P	P

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 Works
- Discussion
- Exercises/Demonstration
- Interactive Learning
- Collaborative Learning
- Problem-Based Learning
- Project-Based Learning
- Reporting
- Multimedia Presentation
- Reading and Writing
- Library Works
- Field Works
- Interview

Section 12   Sample Syllabi for Selected Core Courses
(Please see attached 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.

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 of 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 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.

B. 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 a separate CHED issuance. 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 BTVTEd program.

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:

a. an admission examination developed and validated by the TEI
b. an admission examination developed and validated by another TEI and used by TEI under a consortium agreement;
c. an admission examination developed and validated by private testing centers and used by TEI for a fee;
d. some other standardized tests for teaching aptitude; or
e. 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

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 Ladderized **Bachelor of Technical Teacher Education (BTTE)** and **Bachelor of Science in Industrial Education** 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

Attachments:
ANNEX A: *SAMPLE COURSE SYLLABUS*
ANNEX B: *DESCRIPTION OF PROFESSIONAL EDUCATION COURSES FOR BTVTEd*
ANNEX C: *DESCRIPTION OF SPECIALIZATION COURSES*
ANNEX D: *ICT COMPETENCY STANDARDS FOR TEACHERS*
ANNEX E: *COURSE SYLLABUS FOR TTL 1 and TTL2 Courses*

ANNEX A
SAMPLE COURSE SYLLABUS

Area: Home Economics

BACHELOR OF TECHNICAL AND VOCATIONAL TEACHER EDUCATION
Major in Food and Service Management

Course Name: FSM 6	Advanced Baking
Course Credits	5 units
Course Description	This course deals with baking both for home and commercial purposes. It emphasizes the baking of breads, pastries, cookies and cakes, and cake decoration. It will also provide skills to students for baking opportunities.
Contact Hours	9 hours/week
Prerequisite	FSM 1, FSM 2 and FSM 4
Course Objectives	This course intends to: 1. enhance students' skills in baking that would help them become productive in the future 2. teach students to apply the proper mixing techniques in baking different recipes 3. enable students to help in their own small ways in the economic development of the country 4. help students develop interest and fulfillment in baking as an occupational possibility 4. develop in student's appreciation of the value of baking

COURSE OUTLINE AND TIME FRAME	
	Course Content/Subject Matter

Week 1-18	Unit 1: History of Baking
	I. Unit I Yeast Bread
	  A. Wheat Flour
	    1. Bread Flour
	    2. All Purpose Flour
	    3. Cake Flour
	  B. Liquid used in Baking
	    1. Milk
	    2. Fruit Juices
	  C. Sugar
	    1. Granular sugar
	    2. confectioner's sugar
	    3. Brown sugar

COURSE OUTLINE AND TIME FRAME	
	Course Content/Subject Matter

	D. Eggs
	   1. Leavening agent
	   2. Flavor
	   3. Nutritive Value
	E. Shortenings
	   1. Lard
	   2. Butter
	   3. Hydrogenated Veg. Oil
	   4. Edible Tallow
	F. Leavening Agents
	   1. Physical leaveners
	   2. Biological
	   3. Chemical Leavening agents
	G. Flavoring
	   1. Cocoa
	   2. Coffee
	H. Pandesal
	
	Unit II. Lean Dough
	  A. Different kinds of Bread
	  B. Characteristics of Lean Dough
	
	Unit III: Basic Sweet Dough
	  A. Chees roll
	  B. Cream Puffs
	  C. Eclaire
	
	Unit IV. Foam Type Cakes
	  A. Sponge Cake
	  B. Meringue
	  C. Angel Cake
	
	Unit V. Chiffon Cake
	  A. Orange Chiffon
	  B. Chocolate Chiffon

COURSE OUTLINE AND TIME FRAME	
	Course Content/Subject Matter

	Unit VI. Specialty Cakes
	  A. Butter Cake
	  B. Chocolate Cake
	  C. Mocha Cake
	  D. Upside down Cake
	
	Unit VII. Cake Icing and Frostings
	  A. Cooked Icing
	  B. Uncooked Icing
	  C. Fondant
	  D. Gum paste

I.   Course No. and Title: FSM 6 - Advanced Baking
      Pre-requisite: FSM 1, FSM 2

Sample Learning Plan

DESIRED LEARNING OUTCOMES (DLO)	COURSE CONTENT/SUBJECT MATTER	TEXBOOKS/ REFERENCES	OUTCOME-BASED TEACHING AND LEARNING (OBTL)	ASSESSMEMT OF LEARNING OUTCOMES		RESOURCE MATERIALS	TIME TABLE
At the end of the unit, the students must have: 1. Determined the nature and characteristics of yeast as a leavening agent. 2. Used the different ways of mixing dough. 3. Enhanced skills and arouse interest in creating variations on the basic recipes for bread.	Unit I **Yeast Bread**	Baticados, H. (1996) Baking Basic and Some Bake Products. Manila Philippines: Rex Bookstore Inc.	Lecture/Discussion Asking Question Demonstration Laboratory Baking utensils and baking equipment				9 hrs. lect.
At the end of the unit, the students must have: 1. Determined the recipe for lean dough. 2. Baked pandesal 3. Enhanced skills and arouse interest in creating variations on the basic recipes for lean dough.	Unit 2: **Lean Dough**	Baticados, H. (1996) Baking Basic and Some Bake Products. Manila Philippines: Rex Bookstore Inc.	Lecture/Discussion Asking Question Demonstration Laboratory Baking Breads	Short test performance test	Pandesal	Chalkboard and lap top and projector Baking utensils and baking equipment	6hrs lect. 12 hrs lab.
At the end of the unit, the students must have: 1. Defined sweet dough. 2. Differentiated lean dough from the sweet dough. 3. Baked ensaymada and	Unit 3: **Basic Sweet Dough**	Baticados, H. (1996) Baking Basic and Some Bake Products. Manila Philippines: Rex Bookstore Inc.	Lecture/Discussion Laboratory Baking Breads	Short test performance test	Ensaymada Hopia	Chalkboard and lap top and projector	6hrs.lect. 12hrs lab

DESIRED LEARNING OUTCOMES (DLO)	COURSE CONTENT/SUBJECT MATTER	TEXBOOKS/ REFERENCES	OUTCOME-BASED TEACHING AND LEARNING (OBTL)	ASSESSMEMT OF LEARNING OUTCOMES		RESOURCE MATERIALS	TIME TABLE
coffee cakes. 4. Enjoyed baking sweet dough recipes.							
At the end of the unit, the students must have: 1. Defined what foam cakes are. 2. Determined the nature and characteristics of foam. 3. Used skillfully beaten egg whites as learning agents in cakes. 4. Baked sponge cakes. 5. Showed interest and enthusiasm in baking sponge cakes	Unit4 Foam Type Cakes	Baking Basic and some Bake Products, Haidee Baticados 1996	Lecture/Discussion Question and answer Brainstorming Cooking and Baking sponge cakes	Short test performance test	Sponge cake Brazos Chocolate cake	Chalkboard and lap top and projector Baking utensils and baking equipment	9hrs lect. 18hrs lab
At the end of the unit, the students must have: 1. Determined the characteristics of chiffon type cakes. 2. Differentiated chiffon types cakes from butter and foam types cakes. 3. Baked chiffon cake. 4. Expressed willingness to accept criticism and suggestions.	Unit 5: Chiffon Type Cake	Baking Basic and some Bake Products, Haidee Baticados 1996	Demonstration Lesson Lecture/Discussion Interactive participation Baking chiffon cakes	Short test performance test	Chiffon cake with cooked icing Marble cake	Chalkboard and lap top and projector Baking utensils and baking equipment	6hrs lect. 18hrs lab
At the end of the unit, the students must have: 1. Generated new ideas and innovation with regard to cake making.	Unit 6: Specialty Cakes	Baking Basic and some Bake Products, Haidee Baticados 1996	Demonstration Lesson Power point presentation Baking cakes apply	Short test performance test	Upside down cake custard cake Butter cake with	Chalkboard and lap top and projector Baking	6hrs lect. 18hrs

DESIRED LEARNING OUTCOMES (DLO)	COURSE CONTENT/SUBJECT MATTER	TEXBOOKS/ REFERENCES	OUTCOME-BASED TEACHING AND LEARNING (OBTL)	ASSESSMEMT OF LEARNING OUTCOMES		RESOURCE MATERIALS	TIME TABLE
2. Baked specialty like chocolate cakes with frosting and butter cakes. 3. Accepted willingly new ideas and contrast criticism in baking specialty cakes.			icing and frosting		uncooked icing	utensils and baking equipment	lab.
At the end of the unit, the students must have: 1. Identified the nature and characteristics of yeast as a leaving agent. 2. Enhanced skills in preparing cakes icings. 3. skillfully applied cake frosting 4. Enjoyed new ways of making decorative effects on icing made on cakes.	Unit 7: Cake Icing/Frosting	Baking Basic and some Bake Products, Haidee Baticados 1996	Lecture/Discussion Demonstration Lesson Baking cakes apply icing and frosting	Short test performance test	Individual Performance of Chiffon cake, flowerets, gum paste and Fondant	Chalkboard and lap top and projector Baking utensils and baking equipment	6hrs lect. 18hrs lab

		Midterms	Finals
Sample Grading System	Quizzes	20%	20%
	Long Exam	20%	20%
	Performance/Projects		
	Performance	30%	30%
	Projects	30%	30%
	Total	**100%**	**100%**

ANNEX B
DESCRIPTION OF PROFESSIONAL EDUCATION COURSES
FOR THE BTVTEd PROGRAM

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	3 hours per meeting/ 54 hours in a semester
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.
Course Credits	3 units
Contact Hours	3 hours per meeting/ 54 hours in a semester
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	3 hours per meeting/ 54 hours in a semester
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	3 hours per meeting/ 54 hours in a semester
Prerequisite	

Course Title:	The Andragogy of Learning including Principles of Trainers Methodology I
Course Description	This course is focused on the application of adult learning principles and learning styles in implementing training programs. The student teacher will be given opportunities to experience the role of a facilitator rather than a lecturer.
Course Credits	3 units
Contact Hours	3 hours per meeting/ 54 hours in a semester
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	3 hours per meeting/ 54 hours in a semester
Prerequisite	

Course Title:	Technology for Teaching and Learning
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	3 hours per meeting/ 54 hours in a semester
Prerequisite	

Course Title:	Assessment of 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.
Course Credits	3 units
Contact Hours	3 hours per meeting/ 54 hours in a semester
Prerequisite	

Course Title:	Assessment of 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. This course 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	3 hours per meeting/ 54 hours in a semester
Prerequisite	Assessment of Learning I

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	3 hours per meeting/ 54 hours in a semester
Prerequisite	

Course Title	Building and Enhancing Literacy Skills 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	3 hours per meeting/ 54 hours in a semester

Course Title	Technology Research I
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. |
Course Credits	3 units
Contact Hours	3 hours per meeting/ 54 hours in a semester
Prerequisite	

Course Title	Technology Research II
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.
Course Credits	3 units
Contact Hours	3 hours per meeting/ 54 hours in a semester
Prerequisite	Technology Research I

Course Title	Work-Based Learning with emphasis on Trainers Methodology
Course Description	This course deals on the different modalities of work-based learning such as, dual training, apprenticeship, on-the-job training and others. It covers the knowledge and skills in establishing the training requirements for trainees, supervising and monitoring work-based training, and evaluating its effectiveness in the attainment of the training programs objectives.
Course Credits	3 units
Contact Hours	3 hours per meeting/ 54 hours in a semester

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	Fields 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	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

Course Title	Supervised Industry Training
Course Description	The Supervised Industrial Training refers to a program that provides monitored training within a specific time frame in an industry setting. On the job training or OJT is the other name for this training modality. One method by which students is given a chance to apply the theories and skills that they have learned from the school. It also helps the students to acquire relevant knowledge and skills by performing in actual work setting.
Course Credits	3 units
Contact Hours	

DESCRIPTION OF SPECIALIZATION COURSES

Area: Industrial Arts

Course Title	BTVTEd Major in Automotive Technology
Course Credits	36 units
Course Description	The Automotive Technology program is designed to prepare the student to perform a wide range of diagnostics, repairs, and preventative maintenance on automobiles and light vehicles. Students have the opportunity to learn in an industry certified facility. Students will have extensive hands-on training in engine overhaul, manual and automatic drive train, front end alignment, brake service and repair, fuel systems, ignition systems, and air conditioning. In addition, the program provides training in electrical and electronic control systems, engine performance diagnosis, and on-board computerized engine control systems diagnosis.
Contact Hours	

Course Title:	BTVTEd Major in Electronics Technology
Course Credits	36 units
Course Description	This course is designed to develop & enhance the knowledge, skills, & attitudes of an Electronic Products Technician, in accordance with industry standards. It covers the basic and common competencies in addition to the core competencies such as Computer System Servicing, assembling electronic products, fabricating PCB modules and installing and servicing consumer and industrial electronic products and systems. It includes Instrumentation and Control Servicing, Mechatronics Servicing and Broad Band Servicing.
Contact Hours	

Course Title:	BTVTEd Major in Electrical Technology
Course Credits	36 units
Course Description	This course is designed to equip individuals with operational skills in Electrical Installation & Maintenance particularly in installing and maintaining electrical wiring, lighting and related equipment/systems in residential houses and buildings. This course also covers the proper operation and maintenance of direct-current systems, alternating current and controls, electrical measuring instruments, electrical safety, short-circuits analysis and troubleshooting. The course covers lighting and alarm system with emphasis on renewable energy and conservation such as Photovoltaic and Solar Panel Technology.
Contact Hours	

Course Title:	BTVTEd Major in Mechanical Technology
Course Credits	36 units
Course Description	This is designed to develop knowledge, desirable attitudes and skills of Machinist. It covers the competencies required to select and use hand and power tools to perform complex bench operations, skills to set up and turn workplace to drawing specifications, such as cutting tapers by offsetting tailstock or using taper attachment; machining components using collets chuck and follower rest; cutting internal Vee and internal and external acme threads; centering work piece, drilling, reaming, boring, knurling and tapping.

It also covers the skills required to set up and mill workpiece to drawing specifications such as indexing, milling splines, equally spaced grooves, 45 degrees, serrations in cylindrical workpiece, spur gear and rack, ratchets, converging faces, large radial slots, internal radii and plain bevel gear. It also covers the skills required to set up and grind workpiece to drawing specifications such as grinding tapers internal and external, internal radii and recess, remove warp and polish components. |
| Contact Hours | |

Course Title:	BTVTEd Major in Civil and Construction Technology
Course Credits	36 units
Course Description	This prepares students to an entry level as building maintenance and repair technician for employment by residential/commercial complexes, residential refurbishment and infrastructure requirements. Instruction and lab experience includes: blueprint reading, basic plumbing, laying out electrical system, masonry job on footings, columns, beams, slabs and steel works, glass and tile setting, flooring, drywall, finished carpentry, roofing repairs and cabinet making. The course also includes Septic Tank, Sewerage System Installation and management.
Contact Hours	

Course Title:	BTVTEd Major in Welding and Fabrication Technology
Course Credits	36 units
Course Description	This course is designed to enhance the knowledge, skills and attitudes of Welder in accordance with industry standards. It covers competencies such as Setting-up Welding Equipment, Preparing Weld Materials, Fitting up Weld Materials, Welding different types of metals using SMAW, GMAW, GTAW, FCAW and SAW.

Welding technology usually works from blueprints or drawings. Welders permanently join metal parts of ships, automobiles, spacecraft, buildings, bridges, and other structures. They apply heat to the pieces to be joined, melting and fusing them to form a permanent bond.

Most welders work for manufactures of durable goods such as |

	boilers, construction equipment, motor vehicles, machinery, ships, appliances, and other metal products. Welders construct bridges, large buildings, pipelines, tunnels, and shipyards.
Contact Hours	

Course Title:	BTVTEd Major in Heating, Ventilating and Air Conditioning Technology
Course Credits	36 units
Course Description	The Heating, Ventilating Air Conditioning and Technology program is designed to train individuals in the field of air conditioning, heating and refrigeration equipment, maintenance and repair and in the use of approved recovery equipment. Individuals satisfying course and competencies have career opportunities in a variety of job classifications such as service and repair of residential and commercial air conditioning and refrigeration systems. This course also covers Mobile and Commercial Air conditioning installation, repair and maintenance.
Contact Hours	

Area: Home Economics

Course Title	BTVTEd major in Food and Service Management
Course Credits	36 units
Course Description	This course is designed to enhance the knowledge, skills and work attitude of food and service managers in accordance to the needs of industry. It covers competencies on food selection and preparation, meal management, basic and advanced baking, food processing, packaging and labelling, International cuisine, quantity cookery, cafeteria and catering management, and bartending and bar management.
Contact Hours	

Course Title	BTVTEd Major in Fashion and Garments and Technology
Course Credits	36 units
Course Description	This course is designed to enhance the knowledge, skills and attitudes of Fashion and Garments Designer in accordance with industry standards. It covers competencies on creating garment design, calculating and procuring garment materials, coordinating garment prototype preparation, supervising garment production, evaluating finished product, packaging of finished garment and promoting fashion products and services.

It includes designing activities allows students to specialize in fashion pre-production processes, including pattern cutting, fittings, grading and sizing, production planning, costing, testing and technical packs. |
| Contact Hours | |

Course Title	BTVTEd Major Hotel and Restaurant Services
Course Credits	36 units
Course Description	This course covers different competencies in Hotel and Restaurant Services and Management. This is designed for students who wish to obtain career opportunities in the hospitality industry. It includes actual Hotel and Restaurant industry exposure and observations where application of technology in learning will constitute the major requirement of the course. Food and Beverage services along with Bread and Pastry Production, quantity Cookery and Bartending as well as Housekeeping form part of the course. Performing Hotel Management Services like Front Office Services, Event Management Services, Tour Guiding and Housekeeping formed the bigger practice in the course. Online and offline researches and field observation on the effectiveness of any supporting material in teaching will be used to enhance and facilitate the delivery of instruction in learning how to teach the process involved in Hotel and Restaurant Services.
Contact Hours	

Course Title	BTVTEd Major in Beauty Care and Wellness
Course Credits	36 units
Course Description	This course is designed to enhance the knowledge, skills and attitudes of beauticians in accordance with industry standards. It covers competencies in pre and post beauty care and wellness services. The course consists of competencies that a person must achieve to perform in enhancing of someone's personal beauty, such as, performing manicure and pedicure, performing hand spa foot spa, body scrubs and massages. It also covers cosmetics applications with additional skills in hair culture.
Contact Hours	

Area: Information and Communication Technology

Course Title	BTVEd Major in Animation
Course Credits	36 units
Course Description	This is an introductory and specialization course which leads to an Animation National Certificate Level II (NC II). It covers Personal Entrepreneurial Competencies (PECs); Environment and Market; five (5) Common Competencies; and one (1) Core Competency that a high school student ought to possess to produce clean-up and in-between drawings. The preliminaries of this specialization course include the following: 1) discussion on the relevance of the course; 2) explanation of key concepts of common competencies; 3) explanation of core competencies relative to the course; and 4) exploration of career opportunities.
Contact Hours	

Course Title	BTVTEd Major in Computer Hardware Servicing
Course Credits	36 units
Course Description	This covers two core competencies: 1) configuring computer systems and services and 2) maintaining computer systems and services. This is designed to enhance the knowledge, desirable values and skills of computer service technicians in accordance with the industry standards. It covers the competencies required in installing, maintaining, configuring, and diagnosing computer systems and networks. It also includes the competencies required to participate in workplace communication, work in team environment, practice career professionalism, and practice occupational health and safety procedures.
Contact Hours	

Area: Agri-Fishery Arts

Course Title	BTVEd Major in Animal Production
Course Credits	36 units
Course Description	This course is designed to enhance the knowledge, skills and desirable attitudes in animal production. It consists of competencies that a person must achieve to raise poultry, raise small ruminants, raise swine and raise large ruminants. It also includes the competencies required to participate in workplace communication, work in team environment, practice career professionalism, and practice occupational health and safety procedures.
Contact Hours	

Course Title:	BTVEd Major in Aquaculture
Course Credits	36 units
Course Description	This course is meant to train the student to assist in aquaculture operations. This course is focused on skills in applying safety measures in farm operation, in the use of farm tools and equipment, in the conduct of pre-operation aquaculture activities; prepare and maintain aquaculture facilities, operate fish nursery and perform fish or shrimp grow-out operations.
Contact Hours	

Course Title:	BTVEd Major in Horticulture
Course Credits	36 units
Course Description	This course is designed to enhance the knowledge, skills and desirable attitudes in horticulture. It covers pre-horticultural farm operations, production of vegetable and fruit bearing crops, postharvest operations of major tropical fruits as well as major lowland and semi-temperate vegetable crops.
Contact Hours	

Course Title	BTVTEd Major in Agricultural Crops Production
Course Credits	36 units
Course Description	This course consists of competencies that a person must achieve in the production of ornamental and agronomic plant such as vegetables, fruits and nuts as well as root crops. They would be undertaking basic crop husbandry and work orientation skills. The course introduced some agricultural innovations such as hydroponics and soil and waste management system.
Contact Hours	

Course Title	BTVTEd Major in Fish Processing
Course Credits	36 units
Course Description	This course is designed for students to develop and enhance their knowledge, skills, and attitudes in Fish-Products Packaging in accordance with industry standards. It covers core and specialized competencies that a learner must achieve to pack fish-products by vacuum packing, poly bagging, bottling and canning. It also covers lessons on Personal Entrepreneurial Competencies (PECS) and Environmental and Market that maximize their skills into a marketable venture.
Contact Hours	

Course Title	BTVTEd Major in Fish Capture
Course Credits	36 units
Course Description	This course is designed to enhance the knowledge, desirable skills and attitudes in fish capture in accordance with industry standards. It covers competencies in applying deckhand skills aboard a fishing vessel, loading and unloading goods/cargo, and assembling and repairing damaged netting. It also includes the competencies required to participate in workplace communication, work in team environment, practice career professionalism, and practice occupational health and safety procedures.
Contact Hours	

ICT COMPETENCY STANDARDS 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)
Domain 4: Technology Tools	
4.1.1 Demonstrate competence in the technical operations of technology tools and systems as	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

COMPETENCIES	PERFORMANCE INDICATORS
they apply to teaching and learning	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, and legal responsibility in the use of technology tools and resources	7.1.1.1 Discuss safety issues in obtaining 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

COMPETENCIES	PERFORMANCE INDICATORS
	online safety and prevent cyberbullying
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.

ANNEX E
OBE Course Syllabus

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 includes ICT Policies and safety issues, media and technology in various content areas, learning theories and principles in the use and design of learning lessons, teaching-learning experiences and assessment tasks that utilize appropriate traditional and innovative technologies with social, ethical and legal responsibility.
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

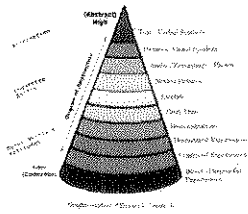| Course Objectives	Summative Assessment Task	Details
1. Explain ICT policies and safety issues as they impact on the teaching-learning process 2. Identify learning theories and principles applied in the design and development of lessons through appropriate media and technologies for teaching and learning 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 portoflio 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 approprotae 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

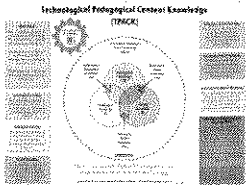|	Desired Learning Outcomes (DLO)	Course Content/Subject Matter	Textbooks/ References	Teaching and Learning Activities (TLAs)	Assessment of Tasks (ATs)	Resource Materials	Time Table
1.	Understand ICT in Education 1.1 Define basic concepts in understanding ICT in Education	Unit 1- Introduction to Technology 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	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.co	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	Use a rating scale for the concept map developed by each group. Pen and Paper	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
	Learning	m/tlb/introduction-to-technology-for-teachers/ http://www.educationscotland.gov.uk/learningandteaching/approaches/ictineducation/roleofictinlearning.asp	students to validate the concept map and conceptual definitions	test		
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.	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	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) • SEAMEO INNOTECH	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
		(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 learning principles and theories that are applied in technology driven teaching-learning models.	Unit 3. Theories and Principles in the Use and Design of Technology Driven Learning Lessons A. Learning Theories and Principles in: 1. Dale's Cone of Experience (with equal attention given to both the Conventional Technology and the Innovative and Emerging Technology for Teaching)	Lucido, P. & Corpuz, B. (2012). Educational technology 1 2nd edition. Lorimar Publishing Co. https://www.youtube.com/watch?v=p-eSxgRetvk	Active Learning with Teacher-Led Discussion on Dale's Cone of Experience and how its principles and theories are utilized in the technology-driven teaching and learning 	Reflection Posted on the online Blog/ 'Classroom-made Twitter Wall'	Online Class Blog or Site/ 'Classroom-made Twitter Wall'	1.5 hours
	2. TPACK (Technology, Pedagogy and Content Knowledge)	TPACK in Two Minutes https://www.youtube.com/watch?v=FaqVSQIZELY Heinich, R. (2003). Instructional media and technologies for learning. (7th edition). Upper saddle, New York: Merril Prentice Hall	Image Analysis: Students analyze and explain the image/diagram. The teacher synthesizes.	Restricted Essay	Video clip Multimedia Projector Computer	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
		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 			
	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

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 exemplar analysis output	A Lesson Plan exemplar	

Desired Learning Outcomes (DLO)	Course Content/Subject Matter	Textbooks/ References	Teaching and Learning Activities (TLAs)	Assessment of Tasks (ATs)	Resource Materials	Time Table
			lesson and discussing the possibilities of technology integration Demonstration: Demonstrate a sample technology-enhanced lesson	Demonstration Guide	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/gafe/	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

3.6 Identify flexible learning through online communications (synchronous / asynchronous modality)	E. Distance Learning
	
	Types of Online Distance Learning
	  ○ Synchronous
	  ○ Asynchronous
		Anderson, J. (2010). ICT Transforming Education A Regional Guide. UNESCO Bangkok Asia and Pacific Regional Bureau for Education
		
		Melton, R. (2002). Planning and Developing Open and Distance Learning A Quality Assurance Approach
		
		unesdoc.unesco.org/images/0012/001284/128463e.pdf
			Forum-Discussion: Conduct a forum on Distance Learning
			
			Demonstration and hands-on exploration on the synchronous and asynchronous online distance learning using the Class Site
				KWL Chart
				• What I Know
				• What I Want to know
				• What I Learned
				
				Checklist
					Teacher-made Class Site (e.g. google site, weebly, etc.)
					
					Skype
					
					KWL Chart template	

Desired Learning Outcomes (DLO)	Course Content/Subject Matter	Textbooks/ References	Teaching and Learning Activities (TLAs)	Assessment of Tasks (ATs)	Resource Materials	Time Table
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 • 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.)	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/viewcontent.cgi?article=1413&context=asdpapers	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 used in the lesson	Reflective narrative or Entries in the 'Classroom Twitter Wall' in the classroom/Blog Created and Administered by the Teacher Self or Peer Evaluation of their assessment	Gibb's Reflection Cycle template Online Class Blog or Site/ 'Classroom-made Twitter Wall' Rubric focusing on the appropriateness of the material in instruction	

Desired Learning Outcomes (DLO)	Course Content/Subject Matter	Textbooks/ References	Teaching and Learning Activities (TLAs)	Assessment of Tasks (ATs)	Resource Materials	Time Table
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/school/teachers/support/Pages/tools.aspx	Students' research on examples of technology-assisted tools in assessment in learning	Reporting and Feedbacking	Assessment tools	1 week
	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	Unit 6. Social, Ethical and Legal Responsibilities in the Use of Technology Tools and Resources A. Digital Citizenship					

Desired Learning Outcomes (DLO)	Course Content/Subject Matter	Textbooks/ References	Teaching and Learning Activities (TLAs)	Assessment of Tasks (ATs)	Resource Materials	Time Table
5.1 Show, give examples, observe social, ethical, and legal responsibility in the use of technology tools and resources	• 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 media for learning*, 8th ed. New Jersey: Pearson Prentice Hall	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 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	Written exam Rubrics assessing research outputs	Computer/ laptop Multimedia projector Computers A Worksheet for *Talk it Out* Scenarios	2 weeks
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 cyberbullying	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/artice/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. Cyberbullying	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 Tuffley, D. (2014). Email etiquette: Netiquette for the information age. Altiora Publications	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
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	
5.9 Join online expert and learning communities	I. Online Communities of Learning e.g. • Facebook • Twitter • Instagram • Webinar	Anderson, J. (2010). ICT Transforming Education A Regional Guide. UNESCO Bangkok Asia and Pacific Regional Bureau for Education	Practicum on sample strategies on how to join experts' learning communities	Rating scale Reflection	Online learning sites Gibb's Reflective Cycle template	2 weeks
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		

Desired Learning Outcomes (DLO)	Course Content/Subject Matter	Textbooks/ References	Teaching and Learning Activities (TLAs)	Assessment of Tasks (ATs)	Resource Materials	Time Table
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 <br> www.safekids.com/kids-rules-for-online-safety <br> www.educationworld.com/a-tech/tech/tech044.shtml <br> www.collegeview.com/articles/artice/smart-students-in-a-digital-world <br> 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 <br> 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 <br> http://www.edtechteacher.org/assessment <br> 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=FagVSQlZELY
	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	**Finals**
		25% – A lesson plan exemplar with an appropriate integration of technology
	40% – Written long exam (Midterm)	30% – Summative Exam (Finals)
	30% – A complete posted reflection notes in the Class Blog	20% - ePortfolio
	or Wikispace / 'Teacher-made Classroom Twitter Wall'	
	30% – Class Active Participation (group work,	25% – Class Active Participation (group work, mini-outputs in tasks, among others)
	mini-outputs in tasks, among others)	
Classroom Policies		

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.	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.

Develop project/problem-based/inquiry-based collaborative plans and activities using technology tools,		

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: 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*	**Unit 1. Using ICT in Developing 21st Century Skills/ICT in the 21st Century Skills** **Sample Learning plans and 21st century skills** **Learning Activities to develop 21st century skills**	Bitter, G. G. and J. M. Legacy. (2008). Using technology in the classroom. USA: Pearson Education, Inc. pp. 242-246	Analysis and critiquing of learning plans in TLE	Critique of learning plans	Paper Pen	2 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.ya hoo.com/search?p= 21st+century+skills &fr=yfp-t-712 http://edglossary.or	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	Computer Projector Learning Plans	2 hrs

		g/21st-century-skills/ https://en.wikipedia.org/wiki/21st_century_skills		Evaluation of learning plans by peers and teachers using the prescribed rubrics. 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 Learning** (use http://www.edutopia.org/blog/pbl-vs-pbl-vs-xbl-john-larmer) -Give time for students to read the article.	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

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 Microsoft Office) in the teaching-learning of TLE Create student outputs using computer application programs as evidence of learning	**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 Adobe Photoshop and Movie Creating student samples using open-ended tools Multimedia Elements (text, graphics, video, audio, animation	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. (2008). Using technology in the classroom. USA: Pearson	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. 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	Synthesis from each group on how to use open ended/productivity tools in the Teaching-Learning for TLE Development of assessment tool Production of digital	Computer Projector	6hrs

		Education, Inc. pp.285-290	pair/group critique and evaluate using the assessment tool.	learning resources to be evaluated by peer and the teacher using a rubric		2 hrs 3 hrs
Establish mechanisms to ensure child online safety and prevent cyberbullying	Podcasting and Using Social Networking Sites in Education Using Mobile Phones in the Classrooms					
				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/bestinenarsus1/selecting-and-use-of-instructional-materials https://www.lynda.com/Higher Education Asia Pte Ltd. Pp 93-116	Presentation for characteristic of appropriate IM's Discussion for the Designs for	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
			Learning Guidelines			
		Bitter, G. G. and J. M. Legacy. (2008). Using technology in the classroom. USA: Pearson Education, Inc. pp. 172-180	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 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/fedback, 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)	http://www.rediscov ercenter.org/pdf/pro moting_creativity1.p df http://www.stancoe. org/cfs/handouts/cu rriculum/pdf/creatin gopenended.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.	Development of instructional material using technology tool to	Computer and other materials needed to produce the IM	3 yrs

	G. **Revisiting of PB learning plan:** incorporating technology tools in preparing IMs in introducing the unit		Check the PB learning plan	Evaluation of developed IM using a rubric. Improved/edited learning plan		
Evaluate the relevance and appropriateness of ICT resources based on the learning context Characterize digital and non-digital resources	Unit 5. ICT resources A. Characteristics of digital and non-digital resources	https://net.educause.edu/ir/library/pdf/EQM0742.pdf	Differentiate Digital and non-digital resources Using 2 Hula Hoops, form a Venn Diagram to compare and contrast digital and non-digital resources	Presentation of Venn Diagram differentiating digital and non-digital resources to be rated by teacher using rubric	Paper Adhesive Tape	3 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/2014/08/22/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/201 5/05/quality_principl es.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 etc…	Evaluation of students revised digital learning resources using a rating scale	Whiteboard/m arker	2 hrs
	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 resources among communities of practice	**Unit 6. Technology tools for collaboration**	Norton, P. and K.	Discuss the features and uses of ICT tools for collaboration and sharing of resources among	Academic paper evaluating web pages	Computer	1 hr.

Identify features and uses of ICT tools for collaboration and sharing of resources among communities of practice	Features and Uses of ICT tools for collaboration and sharing resources	M. Wiburg. (2003). Teaching with technology. Canada: wadsworth/Thomson Learning.	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		Projector	
Determine educational sites and portals suitable to TLE	Effective Teaching and Learning in the Electronic Classroom	pp. 166-174				
	Promoting Collaborative and Transformative Learning in Cyberspace	https://school.quipper.com/en-PH/index.html	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			2hr.
	Becoming Information Users- SSCC (Search, Sort, Create, Communicate)					
	Four Processes Models for Information Use	http://philippines.quipperschool.com/post/103446791422/quipper-schools-effectiveness	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			
Evaluate and compare useful and credible web resources to be shared with other students		http://mongpalatino.com/2012/07/k-12-tesda-in-high-school/	Explore the following sites for examining criteria to judge web pages:			
		http://www.danielgubalane.com/2013/08/k-to-12-curriculum-guides-for-tle.html	Evaluation and Information: http://alexia.lis.uiuc.edu/-janicke/Eval.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-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				
				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	