

# Four-Year B.Ed. Course Manual

# **TVET - DESIGN AND REALISATION 1**









The Government of Ghana









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## FOREWORD

These Initial Teacher Education course manuals were developed by a team consisting of members from Colleges of Education and four universities namely the University of Ghana, Kwame Nkrumah University of Science and Technology, University of Education, Winneba, and University for Development Studies. This team was originally constituted by the National Council for Tertiary Education (now the Ghana Tertiary Education Commission) in 2019 to support the delivery of the new B.Ed. curriculum with assistance from T-TEL and UK Aid. The revision, finalization and printing of these manuals took place in 2021 with support from T-TEL and Mastercard Foundation.

The course manuals have been produced for use as general guides for the delivery of the new four-year B.Ed. curriculum in Colleges of Education in collaboration with their affiliated universities. They are designed to support student teachers, tutors and lecturers in delivering a complete B.Ed. course for training student teachers which meet the requirements of the National Teachers' Standards, enabling them to teach effectively in basic schools.

The first section of the manuals is focused on the course information and vision for the B.Ed. curriculum. The second section presents the course details, goal for the subject or learning area, course description, key contextual factors as well as core and transferable skills and cross-cutting issues, including equity and inclusion. The third section is a list of course learning outcomes and their related learning indicators. The fourth section presents the course content which is broken down into units for each week, the topic and sub-strands and their related teaching and learning activities to achieve the learning outcomes and the teaching and learning strategies. This is followed by course assessment components in section five. Each manual contains a list of required reading and references as well as teaching and learning resources. The final section presents course related professional development for tutors and lecturers to be able to use each section of the manual.

Field instructions to guide Supported Teaching in School are integrated into the course manuals to provide the student teacher with guidance in developing teaching throughout the entire period of study to be able to meet the requirements of the National Teachers' Standards (NTS) and the National Teacher Education Curriculum Framework (NTECF). To ensure maximum benefit the course manuals should be used in addition to other resources such as the NTS, NTCEF, National Teacher Education & Assessment Policy and the National Teacher Education Gender Equality and Social Inclusion (GESI) Strategy and Action Plan. This will help to ensure that student teachers learning is integrated within the wider teacher education policy framework.

Professor Mohammed Salifu Director General, Ghana Tertiary Education Commission

## ACKNOWLEDGEMENTS

The course manuals were developed through the collaborative efforts of a team of individuals from Colleges of Education, University of Ghana, Kwame Nkrumah University of Science and Technology, University of Education, Winneba and University for Development Studies. They were produced in association with the Ghana Tertiary Education Commission of the Ministry of Education, Ghana.

A participatory team approach was used to produce these sets of resources for tutors/lecturers, mentors and student teachers. We are grateful to the specialists who contributed their knowledge and expertise.

Special thanks to Professor Jophus Anamuah-Mensah - T-TEL Key Advisor, Dr. Eric Daniel Ananga T-TEL Key Advisor for Curriculum reform and Beatrice Noble-Rogers who provided key editorial, review and content input and facilitated the process of drafting and finalising the course manual.

Patricia Appiah-Boateng and Gameli Samuel Hahomene, served as typesetting and formatting coordinators and designed and produced the illustrations, tables and other graphics which appear in the pages. They spent time and effort designing and redesigning the graphic layout and producing the camera-ready copies resulting in a set of materials that are easy to use, read and reference.

Thanks also goes to all T-Tel staff members who worked to support production of these course manuals, particularly Beryl Opong-Agyei and Gideon Okai. Their frankness and co-operative attitude complimented the team is approach used to produce these manual.

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In addition to all the staff who participated visibly in the development of these materials we would like to acknowledge all those people from the many colleges of education and universities in which we have worked and who have directly or indirectly, shared their views on the curriculum with us.

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### **INTRODUCTION TO COURSE MANUALS**

Welcome to this B.Ed. Course manual.

Following the accreditation of the B.Ed. by the national accreditation Board with its recognition as a world class teacher education curriculum, the decision was taken to support effective implementation through the development of course manuals. the course manuals provide tutors and lecturers with the materials necessary to support teaching each of the B.Ed. courses. The manuals adhere directly to, and emphasise, the principles and standards set out in the NTS, NTECF and in the B.Ed. and will help ensure operationalising the Government's teacher education reform Policy.

The manuals serve the following purposes:

- they are the key educational agreements between the training institution and the student teachers. In this way student teachers know what the expectations are for them and for the training they will receive.
- they lay out the course outcomes, content, strategies, and assessment, thereby providing direction to and consistency in training and B.Ed. implementation among tutors across the country.
- they are explicit documents that provide other institutions with information on which to base transfer/ articulation decisions.

Specifically, they also:

- support coherent lesson planning and teaching which will enable student teachers to achieve the NTS and become good teachers who ensure all pupils' learning whilst offering tutors the flexibility for adaptation for local needs and contexts.
- Provide a lesson by lesson overview of the course, building on and developing the material in the course specifications.
- Inform tutors, student teachers and others working with student teachers about:
  - 1. What is to be taught and why.
  - 2. how it can be taught.
  - 3. how it should be assessed.
- Provide opportunities for student teachers to develop and apply knowledge during supported teaching in school, creating a strong bond between learning in school and in the training institution.
- Reflect the stage of student teacher development, set out in the model for progress across the four years of the B.Ed.
- Can be used as self-study tools by student teachers.
- Ensure that all information necessary to inform teacher training is in one place (serves as reference document).
- The manuals are the basis of the codes and university professional development sessions to ensure Principals, tutors, lecturers and heads of department are fully familiar with the details of: courses, outcomes, content, approaches, assessments and lessons.

Who are course manuals for:

- College of Education Tutors
- Teacher Education University Lecturers
- Student Teachers
- Mentors and Lead Mentors
- All Those with An Interested In Teacher Education.

### **USING THIS MANUAL**

Writers of the manuals engaged widely with colleagues in each subject area at each stage of development. Besides, writers envisaged themselves in varied contexts as they wrote, to suggest methodologies and strategies for teaching the strands which would ensure student teachers are enabled to achieve the learning outcomes. In view of our commitment to creativity, problem solving, collaboration and to lifelong learning, we expect that individual tutors will "own" their manuals and become user-developers. lessons in the manuals will be strands for weekly Pd meetings where tutors/lecturers will situate the lessons in the contexts of their colleges and their student teachers, to maximize the benefits.

It is also expected that tutors will model the best pedagogic practices for student teachers. Key among such practices is the communication of the importance of having a personal teaching philosophy. We expect that tutors and lecturers will explicitly communicate their personal teaching philosophies to their student teachers during the first meeting of every course. in preparation for this, we suggest you set out your personal teaching philosophy and how it will be demonstrated in your teaching using, or adapting, the sample sentence introductions below.

My teaching philosophy is .....

In view of this philosophy, I will facilitate this course by/through .....

### **Course Manual Writing Guide**

#### **Resources for Course Manual Writing**

- Soft copies of the CWG, New Four-Year B.Ed. Curriculum introduction
- Soft and hard copies of the course specifications for the subject for year one and two
- Soft and hard Course Manual Writing Guide (CMWG)
- Relevant subject texts

#### **Target Audience**

- College of Education Tutors
- Teacher Education University Lecturers
- Student Teachers
- Mentors

#### The purpose of course manuals

- To provide a lesson by lesson overview of the course, building on, adapting and developing the material in the course specifications
- To provide a resource to support professional development sessions for tutors/lecturers on how to plan for and teach courses from the New Four-Year B.Ed. Curriculum
- To inform tutors /lecturers, student teachers and others working with student teachers about:
  - what is to be taught and why
  - how it can be taught
  - how it should be assessed
- To support consistency in the implementation of the New Four-Year B.Ed. across institutions who train teachers
- To ensure that all **training** information on skills, processes, and other information necessary to perform the teaching task are together in one place.
- To operationalize the Teacher Education Reform Policy; the requirements of the NTS & NTECF and the Four-Year B.Ed.

#### Guiding principles of course manual writing

- 1. They are written with the learner, the student teacher, in mind: what they will *be able* to cope with and only include what student teachers need to know, understand, be able to do and be as a basic school teacher
- 2. They take in to consideration the learner's, the student teacher's, context and possible barriers to, and enablers for, learning
- 3. They are written with the tutors /lecturers who are going to teach the course in mind. Tutors must be able to adapt and develop the plans in course manuals to fit the context they are teaching in and to support their teaching
- 4. They are aligned to the key principles and practices of the Teacher Education Reform Policy: the NTS, the NTECF and the New Four-Year B.Ed.
- 5. They are written to provide opportunities for student teachers to develop and apply knowledge during supported teaching in school
- 6. They are written to reflect the stage of student teacher development, set out in the model for progress in the New Four-Year B.Ed.
- 7. They are written to support progress in student teacher learning, including building on prior learning from the previous programme or course/s and supporting progress to the next course.
- 8. They are to be used as self-study tools.
- 9. They are written to have the following characteristics: easy to read; uses active voice and avoids jargon; uses bullet points to offset text; uses images

What a teacher educator needs to know, understand and use to inform what they do

- The aims and structure of the education system and Education strategic Plan
- The Basic School Curriculum
- The Inclusion Policy
- The teacher education system: The National Teacher's Standards, the vision for teacher education and the core principles of the New Four-Year B.Ed.
- Andragogy, effective methods and practices for teaching adult learners
- Assessment Literacy. Assessment for, of and as learning -Educative Assessment

Guidance f	Guidance for completing the course manual writing proforma: two sections							
Α. Cou	urse Information							
Title Page								
i.	i. Design and Realisation I							
ii.								
"To transfo	rm initial teacher education and train highly qualified, motivated new teachers who are effective,							
	nd fully prepared to teach the basic school curriculum and so improve the learning outcomes and life							
	all learners they teach as set out in the National Teachers' Standards. In doing this to instil in new							
	e Nation's core values of honesty, integrity, creativity and responsible citizenship and to achieve							
	quitable, high quality education for all learners. "							
iii.	Course Details: as in course specification unless important reason why not							
Pre-	TVET related subjects from WASSCE/National Certificate II (Technical)							
requisite/s								
Co-								
Requisites								
Course	200 Course Credit 3							
Level	Code Value							
Table of co								
	al will include:							
	e goal for the subject or learning area							
	urse description							
-	/ contextual factors							
	re and cross cutting issues, including equity and inclusion							
	urse Learning outcomes							
	urse content							
	aching and learning strategies							
	urse Assessment components							
9. Rea	ading and reference list							
10. Har	ndouts, power points and other resources for lessons							
11. Pla	ns for each lesson in the semester							
Α. Cou	urse information							
1. Go	al for the Subject or Learning Area							
Design and	Realisation I is designed to introduce the student teacher to the concepts of the design process which							
dates back	to the medieval era. The course is also intended for the student teacher to explore the nature of							
	ols and materials use in the design process which involves the description of situations from which							
	re identified and analysed to ensure that relevant designs developed through graphical expressions of							
	lustrations to solve problems in the Technology industries.							
	contextual factors							
	ion system has focused on preparing students for examinations, instead of helping them to develop							
	t industry and entrepreneurial skills which could enable them function successfully in life.							
	urse Description							
	is designed to introduce the student teacher to the concepts, foundations and the ideals of creativity,							
	and graphical expression of solutions to solve problems the design and realisation processes.							
. The course is also intended for the student teacher to explore the various situations within their environment								
from which they can identify the emerging problems. Through guided demonstrations and simulations the								
student teacher will be introduced to foundational manipulative processes/skills in the design and realisation								
mode for effective and efficient solution development. The topics covered are :								
<ul> <li>Foundational history and philosophies of Design and Realization, skills in freehand sketching and rendering.</li> </ul>								
The Design Process.								
	sign Investigation and Generating Possible Solution.							
	e Learning Environment							
	thods and Resources used for Teaching Design and Realization.							
	s will provide the student teacher with the understanding of the knowledge and skills of Design and							
	which are necessary for efficient and effective solution of problems for Technology industries.							

Additionally, student teachers will have firm knowledge base and understanding for designing and making decisions about alternatives solutions. It also prepares the student teacher for work (practitioner) by equipping him/her with the knowledge and skills in problem-solving, critical thinking and creativity. The student teacher is expected to cultivate interest in hands-on learning and develop responsible citizenship to appreciates the dignity of work and contribute to sustainable society. Thus, the. The course will be delivered using the following methods: Discussion, presentations (group/individual), seminar, project work/practical work, demonstrations, brainstorming, simulation, and industrial visits. The following assessment modes will be used: Examination, tests, project work, class assignments and presentations, and portfolio.

As part of the course requirements, the student teachers will be required to undertake various projects and produce artifacts. In the process of designing and producing the artifacts, the student teacher will be introduced to relevant issues of equity and inclusivity within the industry as well as the concept of greening TVET by way of considering recycling, re-designing or re-using waste.

As part of developing teaching, the student teachers are also exposed to observation in the school environment where they are to reflect on their professional practice by engaging positively with colleagues, mentors, learners and other stakeholders and build a portfolio reflecting a better understanding of the JHS learner and the learning environment showing growing comprehension and application of the concepts of inclusivity, equity, access for all learners irrespective of ability, gender or socio-economic status and cultural background. During such reflections, student teachers are to relate their knowledge acquired in Design and Realisation to the school environment. The course is designed to meet the following NTS and NTECF requirements: NTS pg. 14,c, j, 24e, f, 26 j, NTECF pg. 16, 29,33,38.

Core and transferable skills and cross cutting issues, including equity and inclusion

**Core and transferable skills:**Critical thinking, problem solving, communication skills, and use of ICT **Cross-cutting issues**:

This can be found in the course specification. Which core and transferable skills or cross cutting issues will be applied or developed through this course? This needs to be made explicit to student teachers. Are there specific issues to do with equity and inclusion which must be addressed so that all student teachers can fully take part? For example, issues related to gender and mathematics or science.

TOT Example, issues related to genuer and ma	
4. Course Learning Outcomes	5. Learning indicators
By the end of the course, Students teachers	
will be able to	
CLO 1. Demonstrate knowledge and	1.1Do a PowerPoint presentation on the relevant foundational
understanding of the relevant	history and philosophies of design and realization.
foundational history and philosophies of	1.2. Prepare an album of some historic designs.
Design and Realization, skills	1.3. Make a portfolio of Freehand sketches of straight lines, plane
in freehand sketching and rendering	figures, pictorial drawings of objects, tools and equipment.
	1.4. Make an album of drawings showing the following rendering
	techniques: texture, colour, thick and thin lines, tonal shading and
	hatching.
CLO 2. Exhibit knowledge and skills in the	2.1. Prepare a design folio depicting the following:
design process	<ul> <li>list of design activities,</li> </ul>
	<ul> <li>design chart,</li> </ul>
	<ul> <li>illustration of the design process,</li> </ul>
	<ul> <li>statement of the design problem</li> </ul>
	<ul> <li>statement of design brief</li> </ul>
CLO 3. Demonstrate knowledge and	3.1 Prepare a design folio depicting the following:
understanding of Design Investigation	Analysis chart, analysis questions, research design
and generating possible solutions.	and specifications.
	3.2 Make a design folio on initial/ possible solutions.
	3.3 Prepare a design folio depicting the following: Analysis chart,
	analysis questions, research design, specifications, and health
	and safety dimensions of a design
CLO.4. Demonstrate knowledge and	4.1 Produce video/still pictures and report on the observation
understanding of the learning	and reflections on the learning environment.
environment	

CLO 5. Demonstrate knowledge and skills in the methods and resources used for teaching Design and Realization	<ul> <li>5.1. Produce a portfolio of teaching resources, teaching syllabus curriculum, lesson order, scheme of work, lesson plan and information sheet.</li> <li>5.2Student led discussion on the following methods of teaching Design and Realization:</li> <li>o Demonstration</li> <li>o Illustration</li> <li>o Discussion</li> <li>o Brainstorming</li> <li>o Project</li> </ul>

6. Co	6. Course content							
		wide an outline of the acac	demic and / or practical content of the					
			of the intended learning outcomes. The					
name of ea	ch unit in the course should be br	<i>iefly</i> set out – the name shou	uld make it clear what the unit is about.					
Unit	Торіс	Sub-topic (If any)	Teaching and learning activities to					
			achieve the learning outcome					
1			Through face-to-face interaction,					
	Foundational history and	Self-Introduction	Tutor/lecturer and student-teachers					
	philosophies of Design and	(If Tutor is new to the	introduce themselves					
	Realization, skills in	Class)						
	freehand sketching and		Tutor/Lecturer initiates discussion on					
	rendering	Introduction to the	the course manual emphasizing on the					
		Design and Realization	objectives, learning outcomes, course					
		Course Manual	content and reference material					
		•						
		•	Tutor facilitates student teachers					
		Relevant Previous	revision of their knowledge of the					
		Knowledge	lesson from pre-tertiary					
			Tutor facilitates student teachers					
			revision of previous lesson on					
			Interrelatedness of TVET and Social					
			Studies					
		BriefHistory of	Tutor facilitates student teachers					
		Design.	revision of previous lesson on					
		Philosophical	Interrelatedness of TVET and Social					
		Foundations of Design .	Studies					
			Teacher facilitate student teacher transition to the new lesson with					
			the use of <b>'know-want to know</b> and learnt' (KWL					
			Tutor guides student teachers using					
			shower thought discussions on the					
			relevant foundational history and					
			philosophies in design and realization.					
			Tutor will use <b>pre- video recordings</b>					
			from sources (YouTube, Khan Academy, Coursera, Udemy, MOOCs)					
			to discuss history and Philosophies of					
			Design and Realization.					
2	The Design Process	Activities in	Review students' knowledge					
		Designing	on different places in the					
		<ul> <li>Drawing of Design</li> </ul>	community around them					
		Chart	where problems can be					
		Illustration of Design	identified.					
		Process	They also have seen people					
		Situation and Brief	with special physical needs					
		<ul> <li>Ethics of designing</li> </ul>	and challenges.					
			• Invite two or three groups to					
			share on what they listed as					
			teacher writes on the					

			whiteboard.
3	Design Investigation and Generating Possible Solution	<ul> <li>Initial Solution</li> <li>Selecting and</li> <li>Development of selected solution</li> </ul>	Set Induction: Introduce the lesson by revising on Situation and the brief. Tutor uses Interactive lecture to make brief presentation on the Analysis bubble chart. Guide students to pose analysis questions. Use simulations and pre- video recordings from sources (YouTube, Khan Academy, Coursera, Udemy, MOOCs) to demonstrate and discuss the methods of presenting initial/possible solutions (Isometric, Oblique) with annotations. Tutor use interactive lecture to discuss how to protect and preserve the health of humans and the environment.
4	The Learning Environment	Classroom learning environment (lecture halls, workshops, laboratories	Tutor guide student teachers in groups s to take video /still pictures of the Classroom learning environment eg. lecture halls, workshops, laboratories etc. Tutor guide student teachers in groups to outline ways of maintaining these facilities in the classroom learning environment.
5	Methods and Resources Used for Teaching Design and Realization	Institutional environment (libraries, seminar rooms, auditorium, cafeteria, etc.	Set Induction by reviewing areas constituting the Institutional learning environment. Tutor guide student teachers in groups to take video /still pictures of the institutional learning environment eg. libraries, seminar rooms, auditorium, cafeteria, etc

#### 7. Course Assessment Components

In the course specification. The NTS and the NTECF require a move away from largely examination-based assessment to strategies to enable assessment of student teachers' skills, knowledge and understanding against the learning outcomes and through these the against the NTS

- There should be a maximum of 3 assessment components per 3 credit-course; to avoid over loading student and tutors/ lecturers
- The learning outcomes to be assessed by each assessment component should be identified.
- Each assessment component should explicitly reference the NTS or aspects of the NTS it will assess.
- Each assessment component should include:
- The category or type, for example: written, coursework or practical, teaching, examination, collaborative

project or presentation, poster, TLM

• The type of assessment: of, for and /or as.

- An indication of the size of each assessment component (e.g. duration of exams, word limit of written submissions, length of presentations; whether presentations have an individual or group etc.).
- The weighting of each assessment component should be expressed as a % of total course mark (overall in each course: 60% continuous assessment of course work, 40% examination of course work).

Each assessment should be manageable and relevant to supporting the student teachers' development.

The guidance on assessing student teachers from the NTS, the NTECF the CWG and the New Four Year B.Ed. should be used.

#### Summary of Assessment Methods

Component 1: Examination

Assessment Type: Assessment of Learning

Category of Assessment: Written Examination

Maximum Duration: 3 hours

Students teachers are assessed by summative examination on:

Foundational history and philosophies of Design and Realization, skills in freehand sketching and rendering. The Design Process.

Design Investigation and Generating Possible Solution.

Learning Outcomes Assessed: CLO 1; CLO 2 & CLO 3; NTS pg. 14(c & j); pg. 24 (e & f); pg. 26 (j)

Weighting: 40%

Component 2: Continuous Assessment 1

Assessment Type: Assessment for and as Learning

**Category of Assessment:** 

#### Student teachers assessed through **Presentations** and **Reports**on:

The Design Process

Design Investigation and Generating Possible Solution.

The Learning Environment

Methods and Resources used for Teaching Design and Realization.

#### Learning Outcomes Assessed: CLO 2; CLO 3 & CLO 4; NTS pg. 14 (b)

Weighting: 30%

#### Component 3: Continuous Assessment 2

Student teachers assessed through Portfolio and Project Work on:

The Design Process

Design Investigation and Generating Possible Solution.

The Learning Environment

Methods and Resources used for Teaching Design and Realization.

# Learning Outcomes Assessed: CLO 2; CLO 3; CLO 4 & CLO ; NTS pg. 12 (a, b & c); pg. 13 (c); pg. 14 (b) Weighting: 30%

#### 8. Teaching and learning strategies

Detail in this section should show how the total learning hours will be used to achieve the intended learning outcomes, to provide a guide to the teaching and learning strategies to be used. Each teaching strategy should be selected as most appropriate to achieving the learning outcomes. This may include team teaching or additional tutors. As stated in the B.Ed. experiential learning and interactive teaching approaches are encouraged Discussion, presentations (group/individual), seminar, project work/practical work, demonstrations, brainstorming, simulation, and industrial visits

#### 9. Required Reading and reference list

e or two compulsory texts which must be made available to the student teachers and a SHORT list of 5 relevant references. These lists should be annotated with the key value of each text. Use APA style of writing.

Amoakohene, S.K. et al (1998). *Technical skills and drawing for teacher training Book 2 (Tools and processes and methodology*). Accra: Unimaxin association with Macmillan Educ. Ltd. Cambridge University Press.

ioakohene, S.K. et al (2008). *Basic design and technology*. Accra: Unimax Macmillan Educ. Ltd. wler, P. & Hershey, M. (1998). *Craft, design and technology*. Glasgow: Harper Collins.

10. Teaching and Learning Resources

Instructional resources required to support learning during the course e.g.: TLMs, lab and workshop equipment, videos, projectors

Basic Designing tools and equipment, Designing materials (sketch pad, design sheets, card boards, pens, pencils, crayons, design brushes, erasers etc.)

Course related professional development for tutors/ lecturers

This is not included the course manual but professional development needs must be identified to ensure all tutors / lecturers are prepared to teach the course identify any specific topics or issues which may be challenging for tutors / lecturers.

Year of B.Ed.	2	Semester	1	Plac	e of lessor	in semeste	r 1 <sub>2</sub> :	<b>1</b> 2 3 4 5 6 7 8 9 10 11 12		
Title of Lesson Lesson description	teacher	skills in freehaThis lesson airphilosophies ofcapacity to idetechnical dominterest in harThis first lessocomponents ofStudent-teach	Foundational history and Philosophies of Design and Realization, skills in freehand sketching and rendering.Lesson Duration180 minutesThis lesson aim to help learners to understand the relevant foundational history and 							
knowledge, prior (assumed) Possible barriers in the lesson		• They g • Desig • Tutor Philo: • Learn	<ul> <li>They also do some sketches of objects</li> <li>Designing and Realization not studied at the pre- tertiary level</li> <li>Tutors of Designing and Realization not having enough information on history and Philosophies of *design</li> </ul>							
Lesson Delivery – support students		Face-to-face ☑	Pract Activi		Work- Based	Seminars	Independent Study	e-learning opportunities	Practicu m	
<ul> <li>achieving the out</li> <li>Lesson Delivery</li> <li>mode of delivery</li> <li>support student to</li> <li>achieving the</li> <li>outcomes.</li> <li>Purpose for to</li> <li>what you</li> <li>students to</li> <li>serves as ba</li> <li>learning out</li> <li>expanded vo</li> <li>the description</li> <li>Write in full</li> <li>the NTS addr</li> </ul>	– mai chosen t ceachers i learnin the lessor want th achieve sis for th comes. A ersion c on. aspects c	o and p n Use p g MOO n, The purpose and philoso c, Isometric, Obl n n f	<ul> <li>and philosophies in design and realization.</li> <li>Use pre- video recordings from sources (YouTube, Khan Academy, Coursera, Udemy, MOOCs) to discuss history and Philosophies of Design and Realization</li> </ul> The purpose of this lesson is to introduce student teachers to the relevant foundational history							
<ul> <li>Learning Out the lesson, pi developed fro course specif</li> <li>Learning indi- each learning</li> </ul>	cked and om the ication cators for	_	Learning Outcomes Learning Indicators inclusivity, equity and addressing diversity. H will these be addressed developed.						core and lls, ty and rsity. How	
		CLO 1. Demonstrate knowledge and understanding of the relevant foundational history and philosophies of Design and Realization, skills in freehand sketching and rendering.1.1Do a PowerPoint presentation on the relevant foundational history and philosophies of design and realization.• creativity • critical thinking • diversity and inclusivity,1.2. Prepare an album of some historic designs.• creativity • critical thinking • diversity and inclusivity,2.1 Make and display sample free hand sketches• skills in renderio objects						d literacy, ching of		

	CLO 2. Apply the knowledge in making preliminary free hand sketches					
Topic Foundational history and	Topic Sub-topic	Stage/Ti me	Teaching and learning activities to achieve learning outcomes: depending on delivery mode selected. Teacher led, collaborative group work or independent study Teacher Activity			
philosophies of Design and			Teacher Activity	Student / tetivity		
Realization, skills in freehand sketching and rendering	<ul> <li>Self-Introduction (If Tutor is new to the Class)</li> <li>Introduction to the Design and Realization Course Manual</li> </ul>	Stage 1 - 30 min	Self-Introduction (If Tutor is new to the Class) Through face-to-face interaction, Tutor and student-teachers introduce themselves Introduction to the Design and Realization Course	Self-Introduction (If Tutor is new to the Class) Student-teachers do self- introduction (Tutor/Lecturers and student-teachers) Introduction to the Design and Realization Course Manual		
	•		Manual Tutor initiates discussion on the course manual emphasizing on the	Student-teachers discuss the manual and what they expect to learn after studying the course		
	Relevant Previous Knowledge		objectives, learning outcomes, course content and reference material.	Introduction Students answer questions and do brief discussions		
			Introduction Tutor facilitates student teachers revision of their knowledge of the lesson from pre-tertiary through questions eg: What are some of the events that brought about the present day Design and Realisation process? Tutor facilitates student teachers revision of previous lesson on Interrelatedness of TVET and Social Studies	Student teachers use Shower thoughts to revise their knowledge and understanding gained from <i>Interrelatedness of</i> <i>TVET and Social Studies s</i> Student teachers fill first two columns of Know-want to know and learnt (KWL) form and share to class with respect to what they already about the topic and what they want to learn from the lesson.		
	Brief History of		Teacher facilitate student teacher transition to the new lesson with the use of 'know-want to know and learnt' (KWL			
	Design.     Philosophical	Stage 2 - 60 min	Discussion & Video presentation Tutor guides student teachers using shower thought discussions on the	<b>Discussion &amp; Video presentation</b> Students teachers discuss the relevant foundational history and philosophies in design and realization.		
			relevant foundational history and philosophies in design and realization. OR Tutor will use pre- video	Student teachers write down important points. Student teachers engage in discussions and do power point		
	Foundations of Design.		recordings from sources (YouTube, Khan Academy, Coursera, Udemy, MOOCs)	presentation on relevant history and philosophies of design and realization.		
	Design.		Coursera, Udemy, MOOCs) to discuss history and	realization.		

			Philosophies of Design and	
			Realization	
		Stage 3 -	Discussion & Video	
		40 min	Tutor will use pre- video	Discussion & Video Presentation
	Characteristics		recordings from sources	Student teachers discuss pictures
	of Historical		(YouTube, Khan Academy,	of historical designs
	Foundation		Coursera, Udemy, MOOCs)	
			to discuss pictures of	
		Stage 4	historical designs Group Discussion	Group Discussion
		– 40	Tutor guide students in	Student teachers in groups think,
		min	groups to discuss the	pair and share on the
			distinctive characteristics of	characteristics of historical
			historical designs.	designs. student teachers in
				groups design and using
				PowerPoint, present on the
				distinctive characteristics of some
				historical designs
		Stage 5 -	Reflection . Tutor ask	Students reflect on the
		10 min	student teachers to reflect	philosophies of design and
			on the lesson by preparing	realization.
			albums on some historical	Also reflect on the unique characteristics of historical
			designs using internet facilities	designs. Students teacher
			lacinties	illustrate their reflection in
				groups by preparing albums on
				some historical designs using the
				internet .
Lesson assessments –	In lesson assessme		с. I. I	
evaluation of learning: of, for and as learning within	Assessment type:	Assessment	for and as Learning	
the lesson (linking to	Category of Asses	sment:		
learning outcomes)			erstanding of the relevant fou	undational history and philosophies
	-		ition, skills in freehand sketching	
	$M_{ai}$ = $h_{ai} = (400)$			
	Weighting (40%) Learning Outcome	s assessed:	L03	
	In lesson assessme			
	Assessment type:	Assessment	for and as Learning	
	1		f allowers an historical desires (	
			of albums on historical designs. Dint presentation on characteris	
	CLO1	up rowerro	on presentation on characteris	
		n by studen	t teachers.	
	Weighting (60%)			
	Learning Outcome			
Teaching Learning	1. Computers (I		PCs)	
Resources	2. Interactive b			
	<ol> <li>Internet facil</li> <li>Sketch pads</li> </ol>	ity		
	5. Different typ	es of pencil	S	
Required Text (core)				Accra: Unimax Macmillan Educ. Ltd.
Additional Deading List				chnology. Glasgow: Harper Collins.
Additional Reading List			<ol> <li>Technical Skills and Drawi technology), Accra. UnimaxFale</li> </ol>	ng for Teacher Training Book 1
			Glencoe Publishing.	3, 3. 1 . Et al. (1330). TECHIOOBY
CPD Needs			nalysis and discussion on charac	cteristics of historical designs
	b) Man	ipulating of	Interactive Board	
			s / group Discussions (THEME 3)	
	d) Port	folio Buildir	ng in Design and Realization	

Year of B.Ed.	2	Semest	ter	1	Place of	f lesson in se	emester	1 <b>2</b> 3 4 5 6 7 8 9 10 11 12		8 9 10 11 12
Title of Lesson		Design	and R	ealizatio	and Philos n, skills in t ing.	-	Lesson	Duration	180 mir	nutes
Lesson description	n	The stu show researd teache of ade The les	sketching and rendering.The student teacher must present a design folio showing the situation and brief and show evidence of adequate research into the problem and generate ideas for the solution to the problem. The student teacher must present a design folio showing the situation and brief and show evidence of adequate research into the problem and generate ideas for the solution to the problem. The student teacher must present a design folio showing the situation and brief and show evidence of adequate research into the problem and generate ideas for the solution to the problem. The lesson will introduce the learner to the skills needed to generate the initial ideas and render them.							
Previous student knowledge, prior (assumed)	learning	•	They	are fam	iliar with li	een introduc nes, curves,	and colour v	vork from	the pre-te	-
Possible barriers t in the lesson	o learnin	•	pers	pective α culty in ι	Irawings.					e, isometric and nique in rendering
Lesson Delivery – support students achieving the out	in	Face- to- face ☑	Pract Activ		Work- Based Learning	Seminars	Independe Study 🗹	Independent e-learnin Study  opportun Ӣ		Practicum
Lesson Delivery mode of delivery support student achieving the outcomes.		to b) in	<ul> <li>b) Use pre- video recordings from sources (YouTube, Khan Academy, Coursera, Udemy, MOOCs) to discuss and demonstrate the methods of presenting objects in freehand</li> </ul>						oursera, Udemy, ects in freehand	
<ul> <li>Purpose for what you students to serves as ba learning out expanded ver description.</li> <li>Write in full the NTS addres</li> </ul>	want the achiev sis for the comes. A rsion of the aspects	ne e, ne b) Nn ne	objects in freehand sketches( Isometric, Oblique and Perspective) in design and realization							
<ul> <li>Learning Outo the lesson, pi developed fro course specifi</li> <li>Learning india each learning</li> </ul>	cked and om the ication cators for		Learning Outcomes Learning Indicators Learning						g issues - core ansferable skills, wity, equity and ssing diversity. will these be ssed or	
		knowle unders relevar history philoso and Re freeha	CLO 1. Demonstrate knowledge and understanding of the relevant foundational history and philosophies of Design and Realization, skills in1.3. Make a portfolio of Freehand sketches of straight lines, plane figures, pictorial drawings of objects, tools and equipment.• creativity • critical thinking • diversity and inclusivity,1.4. Make an album of drawings showing philosophies of Design and Realization, skills in1.4. Make an album of drawings showing texture, colour, thick and thin lines, tonal• creativity • critical thinking • diversity and inclusivity,						tical thinking versity and clusivity, ormation literacy, ills in sketching of jects ills in rendering of	

<b>Topic</b> Foundational history and Philosophies of Design and Realization, skills in freehand	Topic Sub-topic	Stage/Time	Teaching and learning activities to achieve learning outcomes: depending on delivery mode selected. Teacher led, collaborative group work or independent studyTeacher ActivityStudent Activity					
sketching and rendering.	Freehand sketching and Rendering.	Stage 1 - 15 min	Tutor facilitates student teachers revision of previous knowledge on some historical designs and types of lines, curves, and colour work from the pre-tertiary.	Student teachers answer question and do brief discussions on lines and colour wheel.				
		Stage 2 - 60 min	Tutor will use <b>pre- video</b> <b>recordings</b> from sources (YouTube, Khan Academy, Coursera, Udemy, MOOCs) to discuss and teach skills in presenting object in freehand sketching in oblique, isometric and perspective.	<ul> <li>Students are guided to sketch in freehand objects in oblique, isometric and perspective.</li> <li>Students make portfolio of freehand sketches of pictorial drawings of objects, tools/ equipment</li> </ul>				
		Stage 3 - 50 min	Tutor will use <b>pre- video</b> <b>recordings</b> from sources (YouTube, Khan Academy, Coursera, Udemy, MOOCs) to discuss techniques in rendering objects i.e. texture, colour, thick and thin lines, tonal shading and hatching.	Students are guided to render the freehand sketches ofobjects in oblique, isometric and perspective and present an album.				
		Stage 4 - 45 min	Teacher guides students to critic the albums prepared on freehand sketches and render	Students display and critic the albums of their friends.				
		Stage 5 - 10 min	Reflection and Closure.					
Lesson assessments – evaluation of learning: of, for and as learning within the lesson (linking to learning outcomes)	Component 1 As Category of Ass 1. freeha 2. Individu isometi 3. Learnin 4. Weight 5.	<ol> <li>Individual presentation of albums on freehand sketches of objects in oblique, isometric and perspective.</li> <li>Learning outcomes assessed :LO1</li> <li>Weighting (40%)</li> </ol>						
	Component 2 Assessment type: Assessment for and as Learning Component 2: Continuous Assessment 1 Category of Assessment: Student teachers assessed through observation and contribution to class discussions, Oral Presentations, as well as portfolio and album on the lesson: 1. Students present portfolio of freehand sketches of pictorial drawings of objects,							
	<ul> <li>tools/ equipment CLO1</li> <li>Individual presentation of albums on freehand sketches ofobjects in oblique, isometric and perspective.CLO1</li> <li>Reflection by student teachers</li> </ul>							
		ing Outcomes assent nting (60%)	ssed: LO1					

Tooching Loorning Posserross	1 Computers (Lantons or PCs)						
Teaching Learning Resources	1. Computers (Laptops or PCs)						
	2. Interactive boards						
	3. Internet facility						
	4. Sketch pads						
	5. Different types of pencils						
	6. Different types of colour pencils, pens, water colours						
Required Text (core)	Amoakohene, S.K. et al (2008). Basic design and technology. Accra: Unimax Macmillan Educ.						
	Ltd. Fowler, P. & Hershey, M. (1998). Craft, design and technology. Glasgow: Harper Collins.						
Additional Reading List	Amoakohene, S.K. et al (1998). Technical Skills and Drawing for Teacher Training Book 1						
Ū.	(Graphic						
	communication and technology), Accra. UnimaxFales, J. F. et al. (1998). Technology today and tomorrow. Peoria: Glencoe Publishing.						
CPD Needs	Documentary Analysis of object in oblique, isometric and perspective.						
	<ul> <li>Portfolio Building in Design and Realization</li> </ul>						
	<ul> <li>Skills in pictorial drawings</li> </ul>						
	<ul> <li>Skills in rendering</li> </ul>						

Year of B.Ed.	2	Semester	1	Place of lesso	n in semeste	123	1 2 <b>3</b> 4 5 6 7 8 9 10 11 12				
Title of Lesson			The Design Process Lesson Duration								
Lesson description		around the identify, in domains. T hands-on le	This lesson is aimed at making student teachers responsible and sensitive to problems around them. It is designed to lay the foundation for student teachers to build capacity to identify, investigate and analyze problems around them relating to the various technical domains. Thus, it emphasizes problem-solving skills, critical thinking, creativity and interest in hands-on learning.								
Previous student knowledge, prior (assumed) Possible barriers t	learning	They also h	Students see problems in different places in the community around them. They also have seen people with special physical needs and challenges. Students inability to describe situations clearly and correctly								
in the lesson	U learning			describe situation	s clearly and	conectly					
Lesson Delivery – support students the outcomes			Practica Activity		Seminars	Independent Study	e-learning opportunities ☑	Practicu m			
Lesson Delivery – of delivery chosed student teachers the learning outco	n to supp in achievi	ort b) Pr ing c) Us M	b) Practical demonstration of Preparing design folio on situation and design brief.								
<ul> <li>Purpose for what you students to serves as ba learning out expanded ve description.</li> <li>Write in full the NTS address</li> </ul>	want t o achie asis for t ccomes. rsion of t aspects	he     2.     Be       ve,     3.     Be       he     4.     St       An     5.     St       he     3.     St	<ol> <li>Be able to identify problems in the community</li> <li>Be able to describe the situation</li> <li>State the design brief</li> </ol>								
<ul> <li>Learning Out the lesson, pi developed fro course specif</li> <li>Learning indice each learning</li> </ul>	come for cked and om the ication cators for			Learning Indicat	ors	i t i a	dentify which cro ssues - core and cransferable skills nclusivity, equity addressing divers will these be addu developed.	and ity. How			
	CLO 2. Exhibit knowledge and skills in the design process			<ul> <li>design</li> <li>illustration</li> <li>procession</li> <li>statem problem</li> </ul>	esign activiti chart, tion of the de s, ent of the de	es, esign sign	<ul> <li>Gender and divissues address</li> <li>Child needs</li> <li>Critical thinkin solving,</li> <li>communication addressed thr class/group division</li> </ul>	sed ng, problem on skills ough			

Topic The Design Process	Topic Sub-topic	Stage/Time	Teaching and learning activ outcomes: depending on Teacher led, collaborative gr study	delivery mode selected. oup work or independent
			Teacher Activity	Student Activity
	Activities in Designing • Drawing of Design Chart • Illustration of Design Process • Situation and Brief • Ethics of designing	Stage 1 - 15 min	<ul> <li>Review students' knowledge on different places in the community around them where problems can be identified.</li> <li>They also have seen people with special physical needs and challenges.</li> <li>Invite two or three groups to share on what they listed as teacher writes on the whiteboard.</li> </ul>	<ul> <li>a) Students brainstorm in groups and list as many as possible areas in the community where they can identify problems</li> <li>b) Small groups share what they listed.</li> </ul>
		Stage 2 - 30 min	Teacher takes students through the two ways of presenting the design process or chart: Cyclical and flow chart	Students watch and draw Cyclical and flow charts of the design process on A-3 sheets
		Stage 3 - 30 min	<ul> <li>Tutor guides student- teachers to present areas identified with problems into bubble chart eg School, Hospital, Lorry park, Market,</li> <li>Tutor guides students to prepare bubble chart for persons with special needs eg. Toddlers, amputee, aged</li> <li>Teacher guides students to critic the bubble charts</li> </ul>	<ul> <li>Student-teachers draw bubble chart for the places identified.</li> <li>Student- teacher draw bubble chart for persons with special needs eg. Toddlers, amputee, aged</li> <li>Student display and critic the bubble chart of their friends</li> </ul>
		Stage 4 - 60 min	Discuss with students how to state the situation or write the problem statement in different areas and with different persons	Students teachers use think-pair share to engage each other in discussion and write problem statements
		Stage 5 - 35 min	<ul> <li>Discuss with students how to state the design brief.</li> <li>Discuss relevance of ethics in designing stressing values of integrity and honesty</li> </ul>	<ul> <li>Students use think- pair share in small groups and write design brief for different situations.</li> <li>Student teachers engage in discussion on relevance of ethics in designing.</li> </ul>
		Stage 6 - 10 min	Reflection and Closure.	Students assemble their sheets together to present as mini folio.

Lesson assessments – evaluation of learning: of, for and as learning within the lesson (linking to learning outcomes)	Component 1 Assessment type: Assessment of Learning Category of Assessment: quiz						
	<ol> <li>folio on design process, bubble chart, situation and brief CLO2</li> <li>.</li> <li>Learning outcomes assessed :LO2</li> <li>Weighting (40%)</li> </ol>						
	Component 2 Assessment type: Assessment for and as Learning Component 2: Continuous Assessment 1 Category of Assessment: Student teachers assessed through observation and contribution to class discussions, Oral Presentations, as well as portfolio and album on the lesson:						
	<ol> <li>Students present folio on design process, bubble chart, situation and brief CLO2</li> <li>Reflection by student teachers.</li> <li>Learning Outcomes assessed: LO2</li> </ol>						
	Weighting (60%)						
Teaching Learning Resources	<ul> <li>Computers,</li> <li>Drawing Instrument</li> <li>Drawing Sheets</li> <li>Sketch pads</li> <li>Pencils</li> <li>ruler</li> </ul>						
Required Text (core)	Amoakohene, S.K. et al (2008). Basic design and technology. Accra: Unimax Macmillan Educ. Ltd. Fowler, P. & Hershey, M. (1998). Craft, design and technology. Glasgow: Harper Collins.						
Additional Reading List	Amoakohene, S.K. et al (1998). Technical Skills and Drawing for Teacher Training Book 1 (Graphic communication and technology), Accra. Unimax Fales, J. F. et al. (1998). Technology today and tomorrow. Peoria: Glencoe Publishing.						
CPD Needs	<ul> <li>a) Skills in stating situation clearly</li> <li>b) Skills in stating brief correctly</li> <li>c) Ethics in design</li> </ul>						

Year of B.Ed. 2	Semester	Semester 1 Place of I			lesson in semester 123			4567891	0 11 12		
Title of Lesson	-	Design Investigation and Generating Possible SolutionLesson Duration180 minutes									
Lesson description	show evide research int aims at intr	The student teacher must present a design folio showing the situation and brief and show evidence of adequate research into the problem and generate ideas for the solution to the problem. The lesson aims at introducing students to analysis of the problem, methods of collecting and analysing data in designing and stating of specification in designing.									
Previous student teacher knowledge, prior learning (assumed)	Student tea stated desi	Student teachers have identified places and persons with needs and described situation a stated design briefs to identified problems.									
Possible barriers to learning the lesson Lesson Delivery – chosen to support students in achievi	Face-to-	Praction Activit	cal V	escribii /ork- ased		investig <mark>inars</mark>		pendent	ating possible so e-learning opportunities	Practicum	
the outcomes Lesson Delivery – main m of delivery chosen to supp student teachers in achiev the learning outcomes.	ort ch ing • Gu	<ul> <li>Leaning</li> <li>Face to Face Interactive lecture to make brief presentation on the Analysis bubble chart</li> <li>Guide students pose analysis questions.</li> </ul>								sis bubble	
<ul> <li>Purpose for the less what you want students to achies serves as basis for learning outcomes. expanded version of description.</li> <li>Write in full aspects of NTS addressed</li> </ul>	the 2. St ve, 3. Us the 4. Stu An 5. Ex the	<ol> <li>Students pose analysis questions.</li> <li>Use methods of collecting and analysing data in designing</li> <li>Students state specification to the situation</li> </ol>									
<ul> <li>Learning Outcome for lesson, picked and developed from the course specification</li> <li>Learning indicators for each learning outcome</li> </ul>		Learning Outcomes			Learning Indicators			isso ski ado the	Identify which cross-cutting issues - core and transferable skills, inclusivity, equity and addressing diversity. How will these be addressed or		
	knowledge understand Investigatio	knowledge andthe• pro-understanding of Designfollowing: Analysis chart,• corInvestigation andanalysisgenerating possiblequestions, research design and						Critical thinking problem solvin communicatior	g,		
<b>Topic</b> Design Investigation and	Topic Sub-topi	c   5	Stage/T	ime	Teaching and learning activit outcomes: depending on deliver led, collaborative group work or			ery mode select r independent s	ed. Teacher		
Generating Possible Solutio	Previous Knowledge	Previous Stage 1 - 15		15	Teacher ActivityIntroduction:Introduce the lesson by revising on Situation and the brief.eg:What is the situation of your environment?What are some of the challenges prevailing in your environment?		Engage stud lesson introd	ctivity ents in			

	Analysis	Stage 2 - 40	Interactive lecture	Interactive lecture				
	questions	min	Tutor uses Interactive lecture to	Students contribute to				
	<ul> <li>Design</li> </ul>		make brief presentation on the	the discussion and draw				
	Research		Analysis bubble chart	bubble chart and state				
	report		Guide students pose analysis questions.	their analysis questions.				
	<ul> <li>Specificat ions</li> </ul>	Stage 3 - 60						
	10110	min	Tutor ues pre-recorded video	Students teachers use				
			guide students in groups to	think –pair share to				
			discuss methods of collecting	engage each other in				
			and analysing data in designing.	discussion and present in small groups				
				methods of collecting				
			Tutor use pre- video recordings	and analysing data in				
			from sources (YouTube, Khan	designing.				
			Academy, Coursera, Udemy, MOOCs) to discuss the	Student teachers use				
			relevance of analysis to the	pre- video recordings from sources (YouTube,				
			designer and use guide student	Khan Academy,				
			teachers to use the methods to	Coursera, Udemy,				
			investigate into the situation	MOOCs) to discuss				
			identified and analyse them.	therelevance of analysis to the designer and use				
				methods to investigate				
				into the situation				
				identified and analyse				
		Stage 4 - 60	Tutor illustrate with <b>pre-</b>	them. Student teachers use				
		min	recorded video from sources	pre- recorded video				
			(YouTube, Khan Academy,	from sources (YouTube,				
			Coursera, Udemy, MOOCs) to	Khan Academy,				
			discusshow specifications are stated and discuss it relevance	Coursera, Udemy, MOOCs) to discuss				
			to the designer.	statement of				
				specification for their				
				situation.				
				Student in groups				
				discuss and present on relevance of				
				specification				
		Stage 5 - 5	Reflection and closure	Students				
		min		reflect on the				
				lesson				
				through questions				
				and answers				
Lesson assessments –	Component 1 A	ssessment type	e: Assessment of Learning					
evaluation of learning: of, for and as learning within the	Category of Ac	sessment: quiz						
lesson (linking to learning			investigation and specification.					
outcomes)	b) on Analysis, investigation and specification on the problem							
	-	Learning outcomes assessed :LO3						
	Weighting (40%)							
	Component 2 A	Assessment type	e: Assessment for and as Learning					
	Component 2:	Continuous Asso	-					
	Category of Ass			o alaaa diacuusiana - Oust				
			ough observation and contribution to olio and album on the lesson:	o class discussions, Oral				
	<ul> <li>Presentations, as well as portfolio and album on the lesson:</li> <li>a) Groups discussion and presentation on relevance of analysis, investigation and</li> </ul>							
	specifi			-				

	<ul> <li>b) Presentation of mini folio on Analysis, investigation and specification on the problem</li> <li>c) Reflection by student teachers</li> <li>Learning Outcomes assessed: LO3 Weighting (60%)</li> </ul>
Teaching Learning Resources	Drawing board, AutoCAD software, Computers, Drawing Instrument, different types of pencils, Drawing Sheets, etc.
Required Text (core)	Amoakohene, S.K. et al (2008). Basic design and technology. Accra: Unimax Macmillan Educ. Ltd. Fowler, P. & Hershey, M. (1998). Craft, design and technology. Glasgow: Harper Collins.
Additional Reading List	Amoakohene, S.K. et al (1998). Technical Skills and Drawing for Teacher Training Book 1 (Graphic Communication and technology), Accra. UnimaxFales, J. F. et al. (1998). Technology today and tomorrow. Peoria: Glencoe Publishing.
CPD Needs	<ul><li>a) Skills in analysing situation</li><li>b) Knowledge in research/ investigation (THEME 8)</li></ul>

Year of B.Ed.	2	Semester	1	Place o	of lesson in semester 1 2 3 4 <b>5</b> 6 7 8 9 10 1			9 10 11 12		
Title of Lesson		Desi Solut	-	tigation a	nd Generatin	g Possible	Lesson Duration	180 minutes		
Lesson descriptio	n	show evidence research into th	e of ade ne probl	equate em and ge	nerate ideas	for the solu	ing the situation and tion to the problem. Th Selection of idea and I	ne lesson aims at		
Previous student knowledge, prior (assumed) Possible barriers	learning to	Student teacher can sketch objects, tools and equipment in Freehand ( oblique, isometric								
learning in the less Lesson Delivery – support students achieving the out	chosen to in	-	tical	Work- Based	Seminars	deas. Independe Study 🗹	ent e-learning opportunities	Practicum		
Lesson Delivery mode of delivery support student t achieving the outcomes.	<ul> <li>main</li> <li>chosen to</li> </ul>	ideas Demonstrate a	Leaning         Leaning           Use simulations and pre- video recordings on sketches of initial and development of selected ideas           Demonstrate and discuss initial and development of selected ideas           Class discussion on rendering of initial and developed ideas							
<ul> <li>Purpose for t what you students to serves as bas learning out expanded v the descriptio</li> <li>Write in full the NTS addr</li> </ul>	want the achieve sis for the comes. Ar ersion of on. aspects of	Selection of idea and Development of Selected idea Render the initial and development of selected ideas.								
Learning Out the lesson, pi developed fro course specif	cked and om the	Learning Outco	omes		Learning Indicators	an an	entify which cross-cutt d transferable skills, ir d addressing diversity addressed or develop	clusivity, equity How will these		
<ul> <li>Learning indi each learning</li> </ul>	cators for	CLO 3. Demon knowledge and understanding Investigation ar possible solutio	d of Desi nd gene	gn	Make a desi folio on initia possible Solutions	gn • al/	<ul> <li>Gender and disability issues addressed</li> <li>Child needs</li> <li>Critical thinking, problem solving,</li> <li>communication skills addressed through class/group discussion</li> </ul>			
Topic       Topic       Stage/Time       Teaching and learning activities to ach outcomes: depending on delivery mode sel led, collaborative group work or independent         Design Investigation and       Sub-topic       Stage/Time       Teaching and learning activities to ach outcomes: depending on delivery mode sel led, collaborative group work or independent					lected. Teacher study					
Solution	Generating Possible Solution		Stage min	21 - 15	Introduction Introduce t by talking all previous less	he lesson bout the	Introduction: Engage students in introduction	lesson		
		Initial Solutions	Stage min	2 - 60	Simulation Video Reco Use simulat pre- video recordings sources	<b>rding</b> ions and	Simulation & Pre-V Student teacher dis initial/possible solur annotations. Student select a sol development.	scuss and sketch tions and write		

	Development		(YouTube, Khan				
	of selected		Academy,				
	solution		Coursera, Udemy,				
			MOOCs)				
			to demonstrate and discuss				
			the methods of				
			presenting				
			initial/possible				
			solutions				
			(Isometric, Oblique)				
		Stage 3 - 60	with annotations Tutor use simulations	Student teachers reflect on			
		min	and pre- video	simulations and use pre- video			
			recordings from	recordings from sources			
			sources	(YouTube, Khan Academy,			
			(YouTube, Khan	Coursera, Udemy, MOOCs)			
			Academy,	to discuss and develop selected			
			Coursera, Udemy, MOOCs) to	ideas with annotations.			
			demonstrate and				
			discuss development of				
			selected ideas and				
		Stage 4 25	writing of annotations.	Chudont toochans was des the initial			
		Stage 4 - 35 min	Tutor pre- video recordings from	Student teachers render the initial ideas and development of selected			
			sources	ideas.			
			(YouTube, Khan	Student teachers present mini			
			Academy,	folios on rendered Initial ideas and			
			Coursera, Udemy,	Developed ideas.			
			MOOCs) to guide students to render the				
			initial ideas and				
			Developed ideas.				
		Stage 5 - 10	Reflection and closure	Students reflect on the lesson			
		min		through questions and answers			
Lesson assessments –	Component 1 As	ssessment type:	Assessment of Learning				
evaluation of learning: of, for and as learning within	Category of Ass	essment: quiz					
the lesson (linking to	a) Initial io	•					
learning outcomes)		oment of selecte	d idea				
	c) Render	-	<b>h</b>				
	Learning outcom Weighting (40%)		5				
	-		Assessment for and as Lea	rning			
	Component 2: C		sment 1				
	Category of Asso		ugh observation and contri	bution to class discussions, Oral			
			io and album on the lessor				
		-		tial ideas and developed ideas			
	<ul> <li>b) Reflection by student teachers</li> <li>Learning Outcomes assessed: LO3</li> </ul>						
	-	nes assessed: LO nting (60%)	3				
Teaching Learning			vo Computere Duquie 1	atrumont different turner of your "			
Teaching Learning Resources	Drawing board, Drawing	AULOCAD SOTTWA	are, computers, Drawing Ir	nstrument, different types of pencils,			
Resources	Sheets, etc						
Required Text (core)		K. et al (2008). B	asic design and technology	. Accra: Unimax Macmillan Educ. Ltd.			
	Fowler, P. & Her	shey, M. (1998).	Craft, design and technolog	gy. Glasgow: Harper Collins.			

Additional Reading List	Amoakohene, S.K. et al (1998). Technical Skills and Drawing for Teacher Training Book 1						
	(Graphic Communication and technology), Accra. UnimaxFales, J. F. et al. (1998).						
	Technology today and tomorrow. Peoria: Glencoe Publishing.						
CPD Needs	Application of skills in freehand sketching						

Year of B.Ed.	2	Semest	er 1	Place	of lesson in	semester	1 2 3 4 5 <b>6</b> 7	89101112		
	Design Investigation and Generating 180									
Title of Lesson		lesson Duration								
Lesson description	า			ressing the i	dentified pro	oblem in the e	nvironment, the stu	dent teacher must		
	-			-			onsidering recycling,			
		using waste. Students will discuss and describe the concept of greening TVET by of con								
		different	methods of	recycling, re	e-designing c	or re-using of w	vaste.			
Previous student	ha a ch a u	Chudouto	and late of			ion of dociona				
knowledge, prior		Students	See Iols of V		si the activit	ies of designer	5			
(assumed)	icariiig									
Possible barriers t	:0	Limited k	nowledge ir	n design inve	stigation and	d generating p	ossible solutions			
learning in the les	son		0	0	0	0 01				
Lesson Delivery –	chosen	Face-	Practical	Work-	Seminars	Independent	t e-learning	Practicum		
to support studen		to-face	Activity	Based		Study	opportunities			
achieving the outo	comes	Ø		Leaning						
Lesson Delivery	– main	1. \	l Video Docui	Mentary Ana	lysis: Watch	ing/Listening	Describing and Conr	ecting to real life		
mode of delivery				p Discussion		ing/listening,				
to support	student		Group Prese	-	-					
teachers in achie	ving the									
learning outcome	s.									
Purpose for					-		entary played in clas			
lesson, what the stude							designing or re-using g: recycling, re-desig			
achieve, se				sign and real			s. recycling, re-desig			
basis for the				- Sh ana real						
outcomes.	An									
expanded ve	ersion of									
the description										
Write in full	-									
of the NTS ad							I de estifica de la			
Learning Outo the lesson, pice								h cross-cutting and transferable		
developed fro		Learning						/ity, equity and		
course specifi		Outcome	S	Learning Ir	ndicators			versity. How will		
Learning indic							these be add	-		
for each learn	ning						developed.			
outcome		CLO 3.		•	-	depicting the	<ul> <li>critical th</li> </ul>	-		
		Demonstrate following: Analysis chart, analysis problem solving,								
		knowledge and understanding ofquestions, research design, specifications, and health and safety• diversity and inclu • information litera								
		Design		-	s of a design		<ul> <li>informati</li> <li>safety of</li> </ul>	on literacy,		
		Investigat	tion and					people the environment		
		-	g possible							
		solutions								

Торіс	Topic Sub-topic	Stage/Time	Teaching and learning activities to achieve learning outcomes: depending on delivery mode selected. Teacher led, collaborative group work or independent study				
Design Investigation and Generating Possible	Sub-topic		Teacher Activity	Student Activity			
Solution	Health and Safety	Stage 1 - 15 min	Previous Knowledge Tutor facilitates previous knowledge of students on how the environment is being wasted through the activities of designers	Previous Knowledge Students contribute to discussion and take notes of important points.			
		Stage 2 - 25 min	Simulations & Pre- video Recording Use simulations and pre- video recordings from sources (YouTube, Khan Academy, Coursera, Udemy, MOOCs) to discuss the methods of recycling, re-designing or re-using of waste as well as safe disposal of waste, also look at "cannibalization"	Simulations & Pre- video Recording Student teachers use pre- video recordings from sources (YouTube, Khan Academy, Coursera, Udemy, MOOCs) to discuss the methods of recycling, re-designing or re-using of waste as well as safe disposal of waste			
		Stage 3 - 50 min	Interactive Lecture & Discussion Tutor use interactive lecture to discuss how to protect and preserve the health of humans and the environment	Interactive Lecture & Discussion Student teachers discuss how to protect and preserve the health of humans and the environment.			
		Stage 4 - 80 min	Simulations & Pre- video Recording	Simulations & Pre- video Recording			
			Use simulations and pre- video recordings from sources (YouTube, Khan Academy, Coursera, Udemy, MOOCs) to discuss the merits of recycling, re-designing or re-using of waste as well as safe disposal of waste as concept of greening TVET.	Student teachers think-pair share and present on the merits of recycling, re- designing or re-using of waste as well as safe disposal of waste as concept of greening TVET			
		Stage 5 - 10 min	Reflection and Closure				
Lesson assessments – evaluation of learning: of, for and as learning within the lesson (linking to learning outcomes)	<ul> <li>Component 1 Assessment type: Assessment of Learning</li> <li>Category of Assessment: quiz         <ul> <li>a) methods of recycling, re-designing or re-using of waste as well as safe disposal of waste</li> <li>b) protection and preservation of the health of humans and the environment</li> <li>Learning outcomes assessed :LO3</li> <li>Weighting (40%)</li> </ul> </li> <li>Component 2 Assessment type: Assessment for and as Learning</li> <li>Component 2: Continuous Assessment 1</li> <li>Category of Assessment:</li> <li>Student teachers assessed through observation and contribution to class discussions, Oral</li> <li>Presentations, as well as portfolio and album on the lesson:</li> </ul>						

	<ul> <li>b) Small group presentation on protection and preservation of the health of humans and the environment</li> <li>c) Peer Assessment of Group Presentation</li> <li>d) Reflection by student teachers</li> </ul>									
	Learning Outcomes assessed: LO3									
	Weighting (60%)									
Teaching Learning	1. Computers (Laptops or PCs)									
Resources	2. Interactive boards									
	3. Internet facility									
Required Text (core)	Amoakohene, S.K. et al (2008). Basic design and technology. Accra: Unimax Macmillan Educ. Ltd. Fowler, P. & Hershey, M. (1998). Craft, design and technology. Glasgow: Harper Collins.									
Additional Reading List	Amoakohene, S.K. et al (1998). Technical Skills and Drawing for Teacher Training Book 1									
-	(Graphic Communication and technology), Accra. UnimaxFales, J. F. et al. (1998). Technology									
	today and tomorrow. Peoria: Glencoe Publishing.									
CPD Needs	Group presentation (THEME 4)									

Year of B.Ed.	2	Semester		1 Pla	ace of lesson in semester			emester	123456789101112				
Title of Lesson			The Learning Environment							Les	son Duration 180 minutes		
Lesson description			Students will understand the learning environment showing growing comprehension and application of the concepts of inclusivity, equity, access for all learners irrespective of ability, gender or socio –economic status and cultural background.										
Previous student teacher knowledge, prior learning (assumed)			Student teachers use the Classroom learning environment eg. lecture halls, workshops, laboratories										
Possible barriers to learning in the lesson		Limited knowledge of the teaching of Designing as a subject in the learning enviroment											
Lesson Delivery – chosen to support students in achieving the outcomes		Face- to- face ☑	Practical Activity	Ва	ork- sed aning	Sen	ninars⊠	Indepe ndent Study		earning portunities	Practicum		
<ul> <li>Lesson Delivery – main mode of delivery chosen to support student teachers in achieving the learning outcomes.</li> <li>Purpose for the lesson, what you want the students to achieve, serves as basis for the learning outcomes. An expanded version of the description.</li> <li>Write in full aspects of the NTS addressed</li> </ul>			<ul> <li>Face-to-face Class / Group Discussions on classroom learning environment paying attention to safety, disability friendly, inclusivity and diversity</li> <li>Group Presentations</li> <li>Group production of videos / still pictures of the classroom learning environment.</li> <li>Students to produce videos / still pictures on the classroom learning environment</li> <li>Students to build reports on the classroom learning environment</li> <li>Students reflect and assess each other's videos and pictures</li> </ul>										
<ul> <li>Learning Outcome for the lesson, picked and developed from the course specification</li> <li>Learning indicators for each learning outcome</li> </ul>			Learning Outcomes CLO.4. Demonstrate knowledge and understanding of the learning environment			Learning Indicators Produce video/still pictures and report of the observation and			on is	Identify which cross-cutting issues - core and transferable skills, inclusivity, equity and addressing diversity. How will these be addressed or developed. • critical thinking and problem solving, • diversity and inclusivity,			
		reflections on the learning environment				ent.	<ul> <li>information literacy,</li> <li>safety of people</li> <li>safety of the environment</li> </ul>						
Topic The Learning Environment		Sub-τορις			Stage/Time Work or in Teacher A		Teaching and learning activities to achieve learning outcomes: depending on delivery mode selected. Teacher led, collaborative group work or independent study						
								ity Student Activity Introduction					
			Classro		Stage 1 - 15 min		Introduction Set Induction by reviewing areas constituting the classroom learning environment.		Engage students in lesson introduction				
					Stage 2 - 45 min		Group Discussion& Video Tutor guides student teachers in groups to take video /still pictures of the		Group Discussion& Video Student teachers in groups take pictures of the environment paying attention to				

			Classroom learning	safety, disability						
			environment eg.	friendly facilities,						
			lecture halls,	inclusivity and diversity.						
			workshops, laboratories,	uiversity.						
		Stage 3 -45	Group Discussion	Group Discussion						
		min	Tutor guide student	Students in their						
			teachers in groups to	groups engage in						
			discuss ways of	discussion on how to						
			maintaining these	maintain the classroom						
			facilities in the	learning environment.						
			classroom learning environment.							
		Stage 4 - 60	Video Presentation	Video Presentation						
		min	Ask students to	Students present their						
			present their videos/	videos/ still pictures						
			still pictures.	for peer assessment						
		Stage 5 - 15 min	Reflection and closure	Students reflect on						
				the lesson						
				through						
				questions						
Lesson assessments – evaluation of	Component 1 Accor	smont type: As	sessment of Learning	and answers						
learning: of, for and as learning										
within the lesson (linking to learning	Category of Assess	-								
outcomes)		-	nese facilities in the classro	oom learning						
	environme d) protection	-	on of the classroom learnin	g environment						
	d) protection and preservation of the classroom learning environment									
	Learning outcomes Weighting (40%)	Learning outcomes assessed :LO3 Weighting (40%)								
	Component 2 Assessment type: Assessment for and as Learning									
	Component 2: Continuous Assessment 1									
	Category of Assessment: Student teachers assessed through observation and contribution to class discussions,									
	Oral Presentations, as well as portfolio and album on the lesson:									
	<ul> <li>a) Groups presentation of videos/ still pictures of the classroom learning environment (THEME 3)</li> </ul>									
			on Methods of maintaini	ng the facilities in the						
		learning enviror								
		ps presentation vironment(THE	onprotection and preserv	ation of the classroom						
		sment of Group								
	Reflection by stude									
	Looming Outrant	accord. 102								
	Learning Outcomes Weightin									
		- ( <u></u> ,,,								
Teaching Learning Resources	1. Computers	(Laptops or PCs	5)							
	2. Interactive									
Required Text (core)	3. Internet facility Amoakohene, S.K. et al (2008). Basic design and technology. Accra: Unir									
Required Text (core)	Amoakonene, S.K. Macmillan		ic design and technology.							
			rshey, M. (1998). Craft,	design and technology.						
		Harper Collins.								
Additional Reading List	Training Book 1 (0	Graphic commu	Fechnical Skills and Draw nication and technology), today and tomorrow. Pe	Accra. Unimax						
	raics, J. F. et al. (19	Sol. Lechnolog	today and tomorrow. Pe	ona. Giencoe Fublishing.						

CPD Needs	<ul> <li>Organising Class Discussions (Panel, Symposia, Debate, etc.)(THEME 3)</li> <li>Video production skills (THEME 5)</li> <li>Photography skills (THEME 5)</li> </ul>
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Year of B.Ed.	2	Semester	1	Pla	ce of l	esson in sen	nester	1 2	1 2 3 4 5 6 7 <b>8</b> 9 10 11 12		
Title of Lesson		The Learning	The Learning Environment Lesson Duration								
Lesson descriptio	n	Students will understand the learning environment showing growing comprehension and application of the concepts of inclusivity, equity, access for all learners irrespective ability, gender or socio –economic status and cultural background.									
Previous student knowledge, prior (assumed)		Student teachers use the Institutional environment (libraries, seminar rooms, a cafeteria, etc.)								ms, auditorium,	
Possible barriers t in the lesson	to learning	Limited know	ledge of t	he lear	ning e	environment	teaching c	lesign pr	ocess.		
Lesson Delivery – support students achieving the out	in comes	to-face Act ☑	ictical tivity 🗹	Wor Base Lear		Seminar s 🗹	Independ Study		-learning pportunities ]	Practicum	
Lesson Delivery mode of delivery support student t achieving the outcomes.	chosen to	atter Grou	ntion to sa up Present	afety, d tations	lisabil	ity friendly, i	nclusivity a	nd diver	ng environme rsity nal learning er		
<ul> <li>Purpose for t what you students to serves as ba learning out expanded v the description</li> <li>Write in full the NTS addr</li> </ul>	want the achieve sis for the comes. An ersion o on. aspects o	• Stud • Stud	lents to bu	uild rep	orts c	s / still pictu on the institu s each other	tional envi	ronment		nent	
<ul> <li>Learning Out the lesson, pi developed fro course specif</li> <li>Learning indi</li> </ul>	come for cked and om the ication	Learning Out	comes		Lear	ning Indicat	ors	- cor inclu dive	e and transfe isivity, equity rsity. How wil	and addressing II these be	
each learning		CLO.4. Demo knowledge ar understandin learning envir	nd Ig of the	duce video/still pictures and report on the observation and reflections on the learning environment.			C     C     S     C     C     C     C     C     C     C	<ul> <li>addressed or developed.</li> <li>critical thinking and problem solving,</li> <li>diversity and inclusivity,</li> <li>information literacy,</li> <li>disability friendly</li> <li>safety of the environment</li> </ul>			
The Learning Envi	ironment	Topic Sub-top		Stage/ e	'Tim	outcomes:	depending prative gro	ing act g on deli	ivities to a ivery mode so or independe	chieve learning elected. Teacher	
		Previous Kno	Previous Knowledge min				ntroductio eas constitu ional learn	uting	Introductio Engage stud introductio	dents in lesson	
		Institutional environment (libraries, seminar roon auditorium, cafeteria, etc	ns,	Stage min	2-45	Group Disc Tutor guide in groups pictures of learning en libraries, se auditorium	ussion& Vi e student to to take vic the institu vironment eminar rooi	eachers leo /still tional eg. ms,	Students te groups take environmer attention to disability fr	e pictures of the nt paying	

[	C+-	age 3-60	Group Discussion	Group Discussion				
	mi	-	Tutor guide student teachers	Students in their groups will				
			in groups to discuss ways of maintaining the institutional	engage in brainstorming on how to maintain the				
			learning environment eg.	institutional learning				
			libraries, seminar rooms,	environment eg. libraries,				
			auditorium, cafeteria, etc	seminar rooms, auditorium,				
				cafeteria, etc				
	Sta	age 4-45	Video Presentation	Video Presentation				
	mi	in	Tutor guides student	Students present their				
			teachers to present their	videos/ still pictures for				
			videos/ still pictures of the	peer assessment				
			institutional learning environment eg. libraries,					
			seminar rooms, auditorium,					
			cafeteria,					
	Sta	age 5-15	Closure	Closure				
	mi	-	Reflection and closure	Students reflect				
				on the lesson				
				through				
				questions and				
Lesson assessments –	Component 1 Assessmen	t type: Ac	constant of Loorning	answers				
evaluation of learning: of,	Component i Assessmen	t type. As	sessment of Learning					
for and as learning within	Category of Assessment:	auiz						
the lesson (linking to		-	al learning environment eg. libra	ries, seminar rooms,				
learning outcomes)	auditorium, cafeteria, etc							
	Learning outcomes assessed :LO4							
	Weighting (40%)							
	Component 2 Assessment type: Assessment for and as Learning Component 2: Continuous Assessment 1							
	Category of Assessment:							
	Student teachers assessed through observation and contribution to class discussions, Oral							
	Presentations, as well as portfolio and album on the lesson:							
	a) Small group videos/ still pictures of the institutional learning environment eg.							
	libraries, seminar rooms, auditorium, cafeteria							
	b) Peer Assessment of Group videos/ still pictures							
	c) Reflection by student teachers							
	Learning Outcomes assess	sed: LO4						
	Weighting (60%)							
Teaching Learning								
Resources								
Required Text (core)	-	-	c design and technology. Accra: aft, design and technology. Glas					
Additional Reading List			Fechnical Skills and Drawing f					
	(Graphic	, 2-27.						
		nology), A	ccra. UnimaxFales, J. F. et al. (	1998). Technology today and				
	tomorrow. Peoria: Glenco	e Publishi	ng.					
	Video production		THEME 1, 5)					
CPD Needs	<ul> <li>Photography on</li> </ul>	skills						

Year of B.Ed.	2	Semester	1	Place of le	Place of lesson in semester			3 4 5 6 7 8	9 10 11 12		
Title of Lesson				rces Used for	Teaching Desig	gn and	Lesso		3 hours		
Lesson descriptio	teacher	As part of principles mentor an student te mentors, of the lea of the co Student-t	RealizationDurationAs part of developing teaching, the student teacher is also exposed to the foundational principles and methods of teaching Design and Realization at JHS, co-plan/co-teach with a mentor and inspire learners and others in his/her practice school to do same. In addition, the student teacher is to reflect on his/her professional practice by engaging their colleagues, mentors, learners and other stakeholders and build a portfolio reflecting understanding of the learner and the learning environment showing growing comprehension and application of the concepts of inclusivity, equity.Student-teachers are:								
knowledge, prior (assumed) Possible barriers		• 1	hey also kn		ching and learr	_		-			
in the lesson		5		Constitute and	d Realization no		eu at the	pre-tertiary			
Lesson Delivery – support students the outcomes			Practical Activity	Work- Based Leaning	Seminars	Indepe Study	endent	e-learning opportuniti ☑	Practicum ies		
<ul> <li>Lesson Delivery – of delivery chose student teachers the learning outco</li> <li>Purpose for</li> </ul>	n to supp in achiev omes.	ort learning R ing Use pre- v to discuss curriculur	Resources T video record , prepare au n teaching a	LM for teachi dings from so nd present a and learning F	ng design base	d subjec e, Khan e charac for teac	cts and th Academy cteristics ching des	ne JHS Curricu /, Coursera, L of the JHS tea ign based sul	Jdemy, MOOCs) aching bjects.		
<ul> <li>what you students to serves as be learning our expanded verdescription.</li> <li>Write in full the NTS address</li> </ul>	want f o achie asis for f tcomes. rsion of f aspects	the learning F ve, JHS Curric the An the	Resources T		ng design base				U		
<ul> <li>Learning Out the lesson, pi developed fro course specif</li> <li>Learning indi</li> </ul>	cked and om the ication cators for		Learning Outcomes       Learning Indicators       Identify which cross-cutting issues - core and transferable skills, inclusivity, equity and addressing diversity. How will these be addressed or developed.								
each learning	outcome	Demonstr knowledg skills in t methods resources	e and he and used for Design and	teach teach curric schem	ce a portfolio o ing resources, ing syllabus ulum, lesson or ne of work, less nd informatior	rder, son	<ul><li>diver</li><li>infor</li><li>skills</li></ul>	ivity al thinking sity and inclu mation litera in sketching in rendering	cy, of objects		

Торіс	Topic	Stage/Time	outcomes: depending or	activities to achieve learning delivery mode selected. Teacher work or independent study				
Methods and Resources Used for Teaching Design and	Sub-topic		Teacher Activity	Student Activity				
Realization	Resources: JHS Curriculum, TLM for	Stage 1 - 10 min	Tutor facilitates student teachers revision of previous knowledge on BEd teaching curriculum	Student teachers answer question and do brief discussions.				
	teaching design based subjects	Stage 2 - 60 min	Tutor uses <b>Interactive</b> <b>lecture</b> to make brief presentation on the JHS teaching curriculum. OR	Student teachers listens, contribute to discussions and write down important points.				
			Tutor will use <b>pre- video</b> <b>recordings</b> from sources (YouTube, Khan Academy, Coursera, Udemy, MOOCs) to discuss JHS teaching curriculum	Student teachers engage in discussions and do power point presentation on the teaching curriculum				
		Stage 3 - 40 min	Tutor will use <b>pre- video</b> <b>recordings</b> from sources (YouTube, Khan Academy, Coursera, Udemy, MOOCs) to discuss the characteristics of the JHS teaching curriculum	Student teachers prepare and present a Portfolio on the characteristics of the JHS teaching curriculum.				
		Stage 4 - 60 min	Tutor guide students in groups to discuss characteristics of the types of teaching and learning materials.	Student teachers engage in discussions and do PowerPoint presentation on characteristics of types of teaching and learning materials				
		Stage 5 - 10 min	Reflection and Closure.	Students reflect on the characteristics of types of teaching and learning materials				
Lesson assessments – evaluation of learning: of, for and as learning within the	Component 1 Assessment type: Assessment of Learning							
lesson (linking to learning outcomes)	5 Chara	acteristics of type	teaching curriculum es of teaching and learning n	naterials				
		ection by student comes assessed: 1%)						
	Component 2 Assessment Type: Assessment for and as Learning Component 2; Continuous Assessment 1 Category of Assessment: Student teachers assessed through observation and contributions to class discussion, Oral Presentations such as Power-Point presentations, as well as portfolio on the lesson: 1 Group presentation of Portfolio on the characteristics of the teaching curriculum							
	<ul> <li>CLO5</li> <li>Small Group PowerPoint presentation on characteristics of types of teaching and learning materials CLO5</li> <li>Reflection by student teachers</li> </ul>							
	Learning Outc Weighting (60	omes assessed: %)	LO5					

Teaching Learning Resources	<ol> <li>Computers (Laptops or PCs)</li> <li>Interactive boards</li> <li>Internet facility</li> </ol>
Required Text (core)	Amoakohene, S.K. et al (2008). Basic design and technology. Accra: Unimax Macmillan Educ. Ltd. Fowler, P. & Hershey, M. (1998). Craft, design and technology. Glasgow: Harper Collins.
Additional Reading List	Amoakohene, S.K. et al (1998). Technical Skills and Drawing for Teacher Training Book 1 (Graphic Communication and Technology), Accra. UnimaxFales, J. F. et al. (1998). Technology today and tomorrow. Peoria: Glencoe Publishing.
CPD Needs	<ul> <li>e) Documentary Analysis and discussion on characteristics of teaching curriculum (THEME 3)</li> <li>f) Manipulating of Interactive Board</li> <li>g) Organising Class / group Discussions (THEME 3)</li> <li>h) Portfolio Building on types of teaching and learning materials</li> </ul>

Year of B.Ed.	2	Semester	1	Place of les	er 1	123456789 10 11 12						
Title of Lesson		Methods a Realization										
Lesson description	n	and metho inspire lear is to reflect and other	As part of developing teaching, the student teacher is also exposed to the foundational principles and methods of teaching Design and Realization at JHS, co-plan/co-teach with a mentor and inspire learners and others in his/her practice school to do same. In addition, the student teacher is to reflect on his/her professional practice by engaging their colleagues, mentors, learners and other stakeholders and build a portfolio reflecting understanding of the learner and the learning environment showing growing comprehension and application of the concepts of inclusivity.									
Previous student knowledge, prior (assumed)		• Fa	Student-teachers are: • Familiar with the JHS Curriculum									
Possible barriers t in the lesson	to learnin	g • De	esigning a	nd Realization n	ot studied at th	ne pre- terti	ary level					
Lesson Delivery – support students achieving the out	in	Face-to- face ☑	Practica Activity	-	Seminars	Independe Study		-learning pportunities	Practicum			
Lesson Delivery mode of delivery support student achieving the outcomes.	r chosen t teachers learnin	in Sheet. ig Use pre- vi discuss, pro- work, job c	esources: <b>deo reco</b> epare anc ard and i	eractive lecture lesson order, sch rdings from sour l present a Portfon nformation shee	neme of work, ces (YouTube, olio on the cha t.	job card an Khan Acade racteristics	d informa my, Cour of the les	ation rsera, Udemy, sson order, scł	MOOCs) to neme of			
<ul> <li>Purpose for what you students to serves as ba learning out expanded ver description.</li> <li>Write in full the NTS addr</li> </ul>	want the achiev sis for the comes. A rsion of the aspects	e learning Re e, sheet ne ne		s lesson is to intro characteristics o				-				
<ul> <li>Learning Out the lesson, pi developed fro course specif</li> <li>Learning indi</li> </ul>	cked and om the ication	Learning Outcomes	Outcomes Learning indicators inclusivity, equity and addressing diversity. How will these be									
each learning	; outcome	Demonstra knowledge skills in th methods a resources o for teachin Design and	CLO 5.5.1. Produce a portfolio of teaching resources, teaching syllabus knowledge and skills in the resources used for teaching Design and Realization• creativity e critical thinking • diversity and inclusivity, • information literacy, • skills in preparing lesson order scheme of work, lesson plan, information sheet									

Торіс	Торіс	Stage/Time		ctivities to achieve learning livery mode selected. Teacher						
Methods and Resources	Sub-topic		Teacher Activity	Student Activity						
Used for Teaching Design and Realization	Resources: JHS Curriculum, TLM for teaching design based	Stage 1 - 10 min	Tutor facilitates student teachers revision of previous knowledge on JHS Curriculum and Teaching and learning resources(TLM)	Student teachers answer question and do brief discussions.						
	subjects	Stage 2 - 60 min	Tutor uses Interactive lecture to make brief presentation on the characteristics of the lesson order and the scheme of work.	Student teachers listen, contribute to discussions and write down important points.						
			OR Tutor will use <b>pre- video</b> <b>recordings</b> from sources (YouTube, Khan Academy, Coursera, Udemy, MOOCs) to discuss characteristics, merits and demerits of the lesson order and the scheme of work.	Student teachers engage in discussions and do power point presentation on characteristics, merits and demerits of the lesson order and scheme of work.						
		Stage 3 - 40 min	Tutor will use <b>pre-video</b> <b>recordings</b> from sources (YouTube, Khan Academy, Coursera, Udemy, MOOCs) to discuss the similarities and differences between lesson order and scheme of work.	Student teachers prepare and present a Portfolio on the similarities and differences between lesson order and scheme of work.						
		Stage 4 - 60 min	Tutor guide students in groups to discuss characteristics, merits and demerits of the job card and information sheet.	Student teachers engage in discussions and do PowerPoint presentation on characteristics, merits and demerits of the job card and information sheet						
		Stage 5 - 10 min	Reflection and Closure.	Students reflect on the characteristics of the lesson order, scheme of work, job card and information sheet						
Lesson assessments – evaluation of learning: of,	Component 1 A	Assessment typ	e: Assessment of Learning							
for and as learning within the lesson (linking to	Category of As	<b>sessment</b> : quiz								
learning outcomes)	schem 2. Charao inform 3. Reflec	<ul> <li>scheme of work.</li> <li>2. Characteristics of characteristics, merits and demerits of the job card and information sheet.</li> <li>3. Reflection by student teachers.</li> <li>Learning Outcomes assessed: LO5</li> </ul>								
	Component 2 Assessment Type: Assessment for and as Learning									

	Component 2; Continuous Assessment 1								
	Category of Assessment:								
	Student teachers assessed through observation and contributions to class discussion, Oral								
	Presentations such as Power-Point presentations, as well as portfolio on the lesson:								
	1. Group presentation of Portfolio on the characteristics, merits and demerits of the lesson order and scheme of work CLO5								
	2. Small Group PowerPoint presentation on characteristics, merits and demerits of job card and information sheet CLO5								
	3. Reflection by student teachers								
	Learning Outcomes assessed: LO5								
	Weighting (60%)								
Teaching Learning Resources	1. Computers (Laptops or PCs)								
	2. Interactive boards								
	3. Internet facility								
Required Text (core)	Amoakohene, S.K. et al (2008). Basic design and technology. Accra: Unimax Macmillan Educ. Ltd. Fowler, P. & Hershey, M. (1998). Craft, design and technology. Glasgow: Harper Collins.								
Additional Reading List	Amoakohene, S.K. et al (1998). Technical Skills and Drawing for Teacher Training Book 1 (Graphic communication and technology), Accra. UnimaxFales, J. F. et al. (1998).								
	Technology today and tomorrow. Peoria: Glencoe Publishing.								
CPD Needs	1. Documentary Analysis and discussion on characteristics, merits and demerits of the								
	lesson order and scheme of work								
	<ol> <li>Portfolio Building on characteristics, merits and demerits of job card and information sheet</li> </ol>								

Year of B.Ed.	2	Semester	1	Place of lesson in semester	1 2 3 4 5 6 7 8 9 10 <b>11</b> 12
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Title of Lesson	Methods an Realization		s Used	for Tea	ching Design	and		sson Iration	3 hours	
Lesson description Previous student teacher knowledge, prior learning (assumed)	As part of developing teaching, the student teacher is also exposed to the foundational principle and methods of teaching Design and Realization at JHS, co-plan/co-teach with a mentor and ins learners and others in his/her practice school to do same. In addition, the student teacher is to reflect on his/her professional practice by engaging their colleagues, mentors, learners and other stakeholders and build a portfolio reflecting understanding of the learner and the learn environment showing growing comprehension and application of the concepts of inclusivity, equity. Student-teachers are: • Familiar with the characteristics of the lesson order, scheme of work, job card information sheet									
Possible barriers to learning in the lesson	• Dif	ficulty in Des	signing	g and Re	alization lesso	on methods a	and resc	ources		
Lesson Delivery – chosen to support students in achieving the outcomes		Practical Activity	Wor Base Lean	d	Seminars	Independe Study		-learning pportunities	Practicum	
Lesson Delivery – main mode of delivery chosen to support student teachers in achieving the learning outcomes.	learning Res Use <b>pre- vic</b>	sources: less <b>leo recordin</b>	on pla <b>gs</b> fror	n or for m source	nat es (YouTube, I	Khan Academ	ny, Cour	relevant teachi rsera, Udemy, I nd demerits of	MOOCs) to	
<ul> <li>Purpose for the lesson, what you want the students to achieve, serves as basis for the learning outcomes. An expanded version of the description.</li> <li>Write in full aspects of the NTS addressed</li> </ul>					uce student t n plan or forn		ne relev	ant teaching a	nd learning	
<ul> <li>Learning Outcome for the lesson, picked and developed from the course specification</li> <li>Learning indicators for</li> </ul>	Learning Outcomes Learning Indicators					Identify which cross-cutting issue - core and transferable skills, inclusivity, equity and addressing diversity. How will these be addressed or developed.				
each learning outcome	CLO 5. Demonstrate knowledge and skills in the methods and resources used for teaching Design and Realization5.1. Produce a portfolio of teaching resources, teaching syllabus curriculum, lesson order, scheme of work, lesson plan, job card and information sheet• creativity • critical thinking • diversity and in • skills in prepar scheme of wo lesson plan, job							itical thinking versity and inclu- nformation liter kills in preparin cheme of work,	acy, g lesson order, ard and	
Торіс	Topic Sub-topic	Stage/Ti	ime	depending on delivery mode			ities to achieve learning outcome selected. Teacher led, collaborati			
Methods and Resources Used for Teaching Design				Teach	er Activity			Student A	ctivity	
and Realization	Resources: JHS Curriculum, TLM for	Stage 1 - min	10	teache knowle	acilitates stud rs revision of edge on lesso e of work, les	previous n order,		ent teachers and o brief discussi	-	

evaluation of learning: of, for and as learning within the lesson (linking to learning outcomes)	and do peer presentation of a lesson.       and do peer presentation of a lesson.         Stage 5 - 10 min       Reflection and Closure.       Students reflect on the characteristics of the lesson plan         Component 1 Assessment type: Assessment of Learning       Category of Assessment: quiz       1.         Characteristics, merits and demerits of the lesson plan.       2.       Reflection by student teachers.         Learning Outcomes assessed: LO5       Weighting (40%)       Component 2         Component 2       Assessment for and as Learning Component 2; Continuous Assessment 1         Category of Assessment:       Student stop of the lesson plan.         Student teachers assessed through observation and contributions to class discussion, Oral Presentations such as Power-Point presentations, as well as portfolio on the lesson:         1.       Group presentation of Portfolio on the characteristics, merits and demerits of the lesson plan.					
	<ol> <li>Small Group peer presentation of sample lesson plan. CLO5</li> <li>Reflection by student teachers</li> <li>Learning Outcomes assessed: LO5</li> <li>Weighting (60%)</li> </ol>					
	Learning Out					
	plan. CLO5 2. Small Group peer presentation of sample lesson plan. CLO5 3. Reflection by student teachers Learning Outcomes assessed: LO5					

CPD Needs	1. Documentary Analysis and discussion on characteristics, merits and demerits of the lesson plan.
	2. Manipulating of Interactive Board
	3. Organising Class / group Discussions
	4. Portfolio Building on characteristics, merits and demerits of lesson plan.

Year of B.Ed.	2	Semester1Place of lesson in semester1 2 3 4 5 6 7 8 9 10 1				10 11 12			
Title of Lesson		Methods and Resources Used for Teaching Design and RealizationLesson Duration3 hours						3 hours	
Lesson description	n	As part of developing teaching, the student teacher is also exposed to the foundational principle and methods of teaching Design and Realization at JHS, co-plan/co-teach with a mentor and inspire learners and others in his/her practice school to do same. In addition, the student teacher is to reflect on his/her professional practice by engaging their colleagues, mentors, learners and other stakeholders and build a portfolio reflecting understanding of the learner and the learning environment showing growing comprehension and application of the concepts of inclusivity, equity.					ntor and udent teacher s, learners rner and the		
Previous student knowledge, prior (assumed)		<ul> <li>Student-teachers are:</li> <li>Familiar with the characteristics of the lesson plan or format</li> </ul>							
Possible barriers to learning in the less		• De	signing and I	Realization r	ot studied at	the pre- te	ertiary l	level	
Lesson Delivery – to support studer achieving the out	nts in	Face-to- face ☑     Practical     Work- Based     Seminars     Independent     e-learning     P       Leaning     Eased     Study     Deportunities     Deportuni					Practicum		
<ul> <li>lesson, wh want the stu achieve, se basis for the outcomes.</li> <li>expanded ve the descriptic</li> <li>Write in full of the NTS ad</li> </ul>	y chosen student eving the s. or the at you idents to rves as learning An ersion of on. aspects idressed	Resources: Use <b>pre- vic</b> discuss, pre Teaching M The purpos	Use Interactive lecture to make brief presentation on the relevant teaching and learning Resources: Teaching Methods Use pre- video recordings from sources (YouTube, Khan Academy, Coursera, Udemy, MOOCs) to discuss, prepare and present a Portfolio on the characteristics, merits and demerits of the Teaching Methods The purpose of this lesson is to introduce student teachers to the relevant teaching and learning Resources: characteristics of the Teaching Methods						
Learning Out the lesson, pi and develope the course specification	cked	Learning Outcomes       Learning Indicators       - core and transferable ski         Learning Indicators       inclusivity, equity and add         diversity. How will these b       addressed or developed.					ble skills, id addressing hese be		
Learning indi- for each learn outcome		CLO 5. Den knowledge in the metl resources u teaching De Realization	and skills hods and sed for	follov	stration ion on	of	•	creativity critical thinking diversity and incl information liter skills in using the methods of teac	racy, e different

Торіс	Topic Sub-topic	Stage/Time	Teaching and learning activities to achieve learning outcomes: depending on delivery mode selected. Teacher led, collaborative group work or independent study			
Methods and Resources Used for Teaching Design			Teacher Activity	Student Activity		
and Realization	Teaching Methods	Stage 1 - 10 min	Tutor facilitates student teachers revision of previous knowledge on lesson plan.	Student teachers answer question and do brief discussions.		
		Stage 2 - 60 min	Tutor uses <b>Interactive</b> <b>lecture</b> to make brief presentation on the types and characteristics of Teaching Methods. OR	Student teachers listen, contribute to discussions and write down important points.		
			Tutor will use <b>pre- video</b> <b>recordings</b> from sources (YouTube, Khan Academy, Coursera, Udemy, MOOCs) to discuss characteristics of the Teaching Methods.	Student teachers engage in discussions and do power point presentation on characteristics, of the Teaching Methods.		
		Stage 3 - 40 min	Tutor will use <b>pre- video</b> <b>recordings</b> from sources (YouTube, Khan Academy, Coursera, Udemy, MOOCs) to discuss the, merits and demerits of Teaching Methods	Student teachers prepare and present a Portfolio on the merits and demerits of the Teaching Methods		
		Stage 4 - 60 min	Tutor guide students in groups to prepare sample lesson plan and do peer presentation of a lesson using an identified method.	Student teachers engage in preparation of sample lesson plan and do peer presentation of a lesson using an identified method.		
		Stage 5 - 10 min	Reflection and Closure.	Students reflect on the characteristics of the lesson plan		
Lesson assessments – evaluation of learning: of, for and as learning within the lesson (linking to learning outcomes)	Component 1 Assessment type: Assessment of Learning Category of Assessment: quiz Characteristics, merits and demerits of the Teaching 1. Methods. 2. Reflection by student teachers. Learning Outcomes assessed: LO5 Weighting (40%) Component 2 Assessment Type: Assessment for and as Learning					
	<ul> <li>Component 2; Continuous Assessment 1</li> <li>Category of Assessment:</li> <li>Student teachers assessed through observation and contributions to class discussion, Oral</li> <li>Presentations such as Power-Point presentations, as well as portfolio on the lesson: <ol> <li>Group presentation of Portfolio on the characteristics, merits and demerits of the lesson plan. CLO5</li> <li>Small Group peer presentation of sample lesson plan. CLO5</li> <li>Reflection by student teachers</li> </ol> </li> <li>Learning Outcomes assessed: LO5 Weighting (60%)</li></ul>					

Teaching Learning	1. Computers (Laptops or PCs)
Resources	2. Interactive boards
incoourieco	3. Internet facility
	5. Internet identy
Required Text (core)	Amoakohene, S.K. et al (2008). Basic design and technology. Accra: Unimax Macmillan Educ. Ltd.
	Fowler, P. & Hershey, M. (1998). Craft, design and technology. Glasgow: Harper Collins.
Additional Reading List	Amoakohene, S.K. et al (1998). Technical Skills and Drawing for Teacher Training Book 1
	(Graphic
	communication and technology), Accra. UnimaxFales, J. F. et al. (1998). Technology today and
	tomorrow. Peoria: Glencoe Publishing.
CPD Needs	1. Documentary Analysis and discussion on characteristics, merits and demerits of the
	Teaching Methods.
	2. Manipulating of Interactive Board
	3. Organising Class / group Discussions
	4. Portfolio Building on characteristics, merits and demerits of Teaching Methods.
Course Assessment	
	Component 1:Subject Portfolio Assessment ( overall score = 30%)
	Selected items of students work ( 3 of them=10% each)
	Written Assignment
	Group Presentation
	Individual Presentation
	Midterm
	assessment/Quiz=20%
	Reflective Journal
	=40%
	Organisation of the Portfolio=
	10% (how it is presented/ organized)
	Weighting :30%
	Assesses Learning Outcomes ; CLO 1,2,3,4,5 and 6
	Component 2 : Subject Project(30% overall assessment)
	Task student teachers to design a survey instrument to collect data on their peers
	perception of various ATR beliefs. Should be analysed and the outcome used to
	create a poster to be presented during the 11 <sup>th</sup> lesson.
	<ul> <li>Introduction; clear statement of aim and purpose= 10%</li> </ul>
	<ul> <li>Methodology : what the student has done and why= 20%</li> </ul>
	<ul> <li>Substantive or main sections</li></ul>
	<ul> <li>Conclusion</li></ul>
	Assesses Learning Outcomes ; CLO 2,3,4 and 6
	Assesses learning buttomes, eto 2,3,4 and 0
	Component 3: End of Semester Examination =40%
	Assesses Learning Outcomes ; CLO 1,2,3,4,5 and 6
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