YEAR 2

# Senester2

# Four-Year B.Ed. Course Manual

# **Technology Leadership and Management**









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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, University of Ghana, Kwame Nkrumah University of Science and Technology, University of Education, Winneba, and University of Development Studies. This team was constituted to support the delivery of the new B.Ed. Curriculum as part of Ghana's teacher education reforms supported by T-TEL with assistance from UK Aid and overseen by the National Council for Tertiary Education (NCTE).

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 meets the requirements of the National Teachers' Standards (NTS), thus enabling them to teach effectively in basic schools.

The structure and sequence of the manuals follows a process developed through collaboration by key stakeholders. The first section is focused on the Course Information and Vision for the New Four-Year 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 which will be addressed through the course. 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-topics 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. The relevant aspects of the National Teachers' Standards to be assessed through each assessment are identified. Each course is accompanied by the required reading and reference lists 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.

In all, there are 12 lessons for each course manual. The set of first year manuals present the general courses for the beginning teacher. The second, third and final year manuals deal with specialisms and specialist programmes for student teachers. The different manuals for each successive year cover beginning teaching, developing teaching, embedding teaching and extending teaching.

Field instructions to guide Supported Teaching in School are integrated into the course manuals to provide the student teacher with the nucleus of practicing and developing teaching throughout the entire period of study to be able to meet the requirements of the 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, Assessment Policy and Inclusion Policy. This will help to ensure that learning by student teachers' is integrated within the wider teacher education policy framework.

Professor Mohammed Salifu Executive Secretary National Council for Tertiary Education

### A. Course Information

Title Page

#### . The vision for the New Four-Year B.Ed. Curriculum

To transform initial teacher education and train highly qualified, motivated new teachers who are effective, engaging and fully prepared to teach the basic school curriculum and so improve the learning outcomes and life chances of all learners they teach as set out in the National Teachers' Standards. In doing this to instil in new teachers the Nation's core values of honesty, integrity, creativity and responsible citizenship and to achieve inclusive, equitable, high quality education for all learners

ii. Co	urse Details						
Course	Techr	Technology Leadership and management					
name							
Pre-	None						
requisite							
Course	200	Course		Credit Value	3	Semester	2
Level		Code					
Table of sou							

Table of contents

## 1. Goal for the Subject or Learning Area

Inservice ICT teachers normally do a whole lot more than teach ICT. They normally manage laboratories, make inputs to acquisition of ICT equipment, staff and software both for teaching and school administration. The primary goal of the subject is to equip student teachers with requisite skills to enable them support technology leadership and management and to enhance the effectiveness of ICT resources that may be available in schools

### 2. Key contextual factors

There is a high awareness of ICTs and high mobile communication device ownership in the Ghanaian society. Most students and teachers have interest and experience in using these devices for social and personal interactions. There is however low technology leadership and management capacity to sustain the existing infrastructure in schools since most Ghanaian schools, particularly in the public school's system, can be categorised as low technology-rich learning environment. Most schools lack computing facilities whilst with some schools not having electricity supply. Schools with some facilities do not favour people with disability. There is also a low capacity for Effective ICT teaching and Integration.

Inadequate support: Most schools have inadequate technical support and teachers also lack institutional support in their use of ICT for teaching and learning, inadequate teaching and learning materials in ICT and inadequate Professional technology training opportunities and capacity building

There is the need to have competent ICT staff who can lead in the planning, deployment and management of ICT facilities and to ensure they are inclusive.

# 3. Course Description

This course designed to introduce student teacher's role of leadership as it relates to the implementation of information and communications technology in schools. ICT teachers normally have a dual role of teaching ICT as a subject and supporting others to use of ICTs to work effectively. The course will therefore adopt a practical hand-on approach to introduce students to leadership and management concepts and processes. Students teachers will prepare leadership and management documents such as strategic plans for IT, budgets for IT projects, job descriptions and appraisal for IT staff. In doing so, the course will employ face to face interactive discussions and some authentic instructional teaching methods to enable student teachers produce some management artefacts. A mix of traditional and authentic assessment methods will be used to assess student teachers.

(National Teachers' Standard: 1a, 1b, 2c, 2e, 3a, 3b, 3c, 3e, 3h, 3d, 3i, 3k, 3p, 3n/NTECF: Pillar 1, 2 & 3, crosscutting issues; Core skills, Assessment, Professional values and attitudes).

## 4. Core and transferable skills and cross cutting issues, including equity and inclusion

**Digital literacy** of student teachers will be enhanced by giving them opportunities to surf and present information across units using various digital tools

**Critical thinking** is developed in student teachers when they collect data, analyse and reflect on interventions.

**Collaboration** is fostered through assigning group projects and presentation of various topics across units and encouraging a healthy school-community relationship

**Communicative skills** of student teacher would be enhanced through the examination, interrogation and presentation of their misconceptions and philosophies

**Personal development & Enquiry skills in action research** would be fostered acquiring skills for collecting data, analysing and initiating interventions for individual children and small groups.

Respect for diversity and Individual differences would be engendered in student teachers by applying appropriate

interventions, examining and reflecting their usefulness Honesty and Accountability would be fostered by stating the regulations regarding fair use as well as, presentation of a project report on compliance with acceptable use policies and other guidelines. **Course Learning** Indicators Outcomes **CLO1:** Demonstrate 1.1 Explain the concepts of technology leadership in a written forme.g. examination, report, knowledge and and quiz. understanding of the basic 1.2 Explain the concepts of technology management in a written form e.g. examination, concepts of technology report, and quiz. leadership and management 1.3 Distinguish between the concepts of technology leadership and technology management and their impact on in a written form e.g. examination, report, and quiz. organisational effectiveness and efficiency. NTS: 1b, 1c, 1e, 1f, 1g, 2c, 2e / NTECF: Pillar 1, 2 & 3 crosscutting issues; Core skills, Assessment, Professional values and attitudes). **CLO2:** Demonstrate 2.1 Explain the concept of a business model in a written form e.g. examination, report, and knowledge and understanding of business Explain the impact of ICT in educational services in a written form e.g. examination, report, modelling and the impact of and quiz. ICT in educational service deliver NTS: 1b, 1c, 1e, 1f, 1g, 2c, 2e / NTECF: Pillar 1, 2 & 3 crosscutting issues; Core skills, Assessment, Professional values and attitudes). **CLO3:** Demonstrate 3.1 Explain the concepts of strategic management in a written form e.g. examination, report, knowledge and and quiz. understanding of corporate Conduct strategic planning for an ICT strategy in a written report. and IT strategic management planning. NTS: 1b, 1c, 1e, 1f, 1g, 2c, 2e / NTECF: Pillar 1, 2 & 3 crosscutting issues; Core skills, Assessment, Professional values and attitudes). **CLO4:** Apply the basic 4.1 Conduct a job analysis and create a recruitment plan in a written form e.g. examination, concepts of human report. resources management including recruitment 4.2 Explain the process of selection selection and performance 4.3 Plan an employee performance appraisal in a written form e.g. examination, report. monitoring. NTS: 2c, 2e, 3a, 3b, 3e / **NTECF:** Pillar 1, 2 & 3 crosscutting issues; Core skills, Assessment, Professional values and attitudes). **CLO5:** Apply the basic 5.1 Develop a budget for an IT project or operations and present a written report. concepts of financial management including 5.2 Perform a cost analysis of an IT project or operations and present a written report. costing and budgeting. NTS: 2c, 2e, 3a, 3b, 3e /

NTECF: Pillar 1, 2 & 3 crosscutting issues; Core skills, Assessment, Professional values and attitudes).	
clo6: Demonstrate knowledge and understanding of the basic concepts managing procurement including recruitment Ghana's Public Procurement Act (Act 663) NTS: 1b, 1c, 1e, 1f, 1g, 2c, 2e/ NTECF: Pillar 1, 2 & 3 crosscutting issues; Core skills, Assessment, Professional values and attitudes).	6.1 Explain some basic concepts of procurement management including the public procurement act, in a written form e.g. examination, report, and quiz.
cLO7: Demonstrate knowledge and understanding of the basic concepts marketing management including marketing mix NTS: 1b, 1c, 1e, 1f, 1g, 2c, 2e/ NTECF: Pillar 1, 2 & 3 crosscutting issues; Core skills, Assessment, Professional values and attitudes).	7.1 Explain some basic concepts of marketing management including the marketing mix in a written form e.g. examination, report, and quiz.
CLO8: Demonstrate knowledge and understanding of IT management best practices and standards.  NTS: 1b, 1c, 1e, 1f, 1g, 2c, 2e/ NTECF: Pillar 1, 2 & 3 crosscutting issues; Core skills, Assessment, Professional values and attitudes).	8.1 Explain concepts of some IT management best practices and standards including:  a. ISO 27000  b. IT Infrastructure Library  Present answers in a written form e.g. examination, report, and quiz.

6.	Course Content		
Unit/ Week	Topic	Sub-topic (if any)	Teaching and learning activity to achieve the learning outcomes
1	Introduction to Technology Leadership and Management	1.1 Concepts of Technology leadership 1.2 Concepts of Technology Management	Use interactive multimedia presentations to introduce student-teacher to concepts. Seminars (Talk for Learning) & interactive discussions (Games) to further examine the concept, video analysis (e.g. From YouTube) to elaborate the systems development process. These strategies must respond to inclusivity and equity (i.e. ICT as a tool for expanding learning to diverse learners e.g. People with visual impairment, dyslexia, dysgraphia). Identify the instances when personal, cultural, and institutionalized discrimination are creating and/ or sustaining disadvantages for some student-teachers.
2	Business Models	2.1 Concepts of business models (Partners, Key resources, Key activities, offer, customer relationships, customer segments) 2.2 Emerging ICT business models and the sharing economy and education	Use interactive multimedia presentations to introduce student-teacher to concepts. Seminars (Talk for Learning) & interactive discussions (Games) to further examine the methodologies and methods, video analysis (e.g. From YouTube) to elaborate methodologies identify differences, the advantages/disadvantages etc of the various methodologies.
3	IT strategy and tactics, I	<ul> <li>3.1 Developing an IT strategy for Education</li> <li>3.2 Relationship between IT strategy and corporate strategy</li> </ul>	Use Project-/problem- Based (Individual/Group Work) to analyse and design solution(s) for an identified educational problem. Use inquiry-based learning (Questioning) seminars (Talk for Learning), interactive discussions (Games), interactive multimedia presentations, tutorial and practical sessions, video analysis e.g. YouTube to discuss systems analysis and design techniques. These strategies must respond to inclusivity and equity (i.e. ICT as a tool for expanding learning to diverse learners e.g. People with visual impairment, dyslexia, dysgraphia). Identify the instances when personal, cultural, and institutionalized discrimination are creating and/ or sustaining disadvantages for some student-teachers.
4	IT strategy and tactics II	4.1 Strategic planning process	Use Project-/problem- Based (Individual/Group Work) to analyse and design solution(s) for an identified educational problem. Use inquiry-based learning (Questioning) seminars (Talk for Learning), interactive discussions (Games), interactive multimedia presentations, tutorial and practical sessions, video analysis e.g. YouTube to discuss systems analysis and design techniques. These strategies must respond to inclusivity and equity (i.e. ICT as a tool for expanding learning to diverse learners e.g. People with visual impairment, dyslexia, dysgraphia). Identify the instances when personal, cultural, and institutionalized discrimination are creating and/ or sustaining disadvantages for some student-teachers.
5	Managing Human Resources, I	5.1 Job Analysis 5.2 Recruitment IT staff	Use interactive multimedia presentations, tutorial and practical sessions, video analysis e.g. YouTube to introduce students to programming concepts. Use inquiry-based learning (Questioning), seminars (Talk for Learning), interactive discussions (Games) to support deeper understanding of programming concepts Students to continue the Project-/problem- Based (Individual/Group Work) work from the previous unit by developing the application designed earlier using knowledge of programming concepts covered the unit.

6	Managing Human Resources II	Selecting IT staff	Use interactive multimedia presentations, tutorial and practical sessions, video analysis e.g. YouTube to introduce students to programming concepts. Use inquiry-based learning (Questioning), seminars (Talk for Learning), interactive discussions (Games) to support deeper understanding of programming concepts Students to continue the Project-/problem- Based (Individual/Group Work) work from the previous unit by developing the application designed earlier using knowledge of programming concepts covered the unit.
7	Managing Human Resources III	Performance Appraisal of IT staff	Use interactive multimedia presentations, tutorial and practical sessions, video analysis e.g. YouTube to introduce students to programming concepts. Use inquiry-based learning (Questioning), seminars (Talk for Learning), interactive discussions (Games) to support deeper understanding of programming concepts Students to continue the Project-/problem- Based (Individual/Group Work) work from the previous unit by developing the application designed earlier using knowledge of programming concepts covered the unit.
8	2. Managing Finance, I	2.1 Costing IT projects	Use interactive multimedia presentations, tutorial and practical sessions, video analysis e.g. YouTube to introduce students to programming concepts. Use inquiry-based learning (Questioning), seminars (Talk for Learning), interactive discussions (Games) to support deeper understanding of programming concepts Students to continue the Project-/problem- Based (Individual/Group Work) work from the previous unit by developing the application designed earlier using knowledge of programming concepts covered the unit.
9	3. Managing Finance II	8.1 Budgeting for IT projects	Use interactive multimedia presentations, tutorial and practical sessions, video analysis e.g. YouTube to introduce students to programming concepts. Use inquiry-based learning (Questioning), seminars (Talk for Learning), interactive discussions (Games) to support deeper understanding of programming concepts Students to continue the Project-/problem- Based (Individual/Group Work) work from the previous unit by developing the application designed earlier using knowledge of programming concepts covered the unit.

10	4. Managing Procurement	4.1 Procurement Processes 4.2 Public Procurement Act (Act 663) 7.3 Outsourcing vs. Insourcing of IT services	Use interactive multimedia presentations to introduce student-teachers to Basic robotics concepts. Seminars (Talk for Learning) & interactive discussions (Games) to further examine the models, video analysis (e.g. From YouTube) to examine models identify Components of robots (Simulation, sensors, actuators, controllers, Feedback for control  These strategies must respond to inclusivity and equity (i.e. ICT as a tool for expanding learning to diverse learners e.g. People with visual impairment, dyslexia, dysgraphia). Identify the instances when personal, cultural, and institutionalized discrimination are creating and/ or sustaining disadvantages for some student-
11	5. Managing the IT client (Marketing)	5.1 The concept of marketing The marketing mix (Product, Price, Place, Promotion, People, Physical evidence, Process)	Use interactive multimedia presentations to introduce student-teachers to systems deployment models and related concepts.  Seminars (Talk for Learning) & interactive discussions (Games) to further examine the models, video analysis (e.g. From YouTube) to examine models identify differences, the advantages/disadvantages etc of the various models.
12	6. IT  Management Best Practices.	6.1 ISO 27000 Information Security Management 6.2 ITIL Information Technology infrastructure library Service Level Agreement	Use interactive multimedia presentations to introduce student-teacher to system maintenance concepts. Seminars (Talk for Learning) & interactive discussions (Games) to further examine the concepts, video analysis (e.g. From YouTube) to elaborate application of the concepts, identify differences, etc of the various concepts.

- 7. Teaching and Learning Strategies
- Individual and group presentations
- Concept cartoons and concept maps
- Cooperative learning
- Think-pair-share
- Talk for learning approaches- always, sometimes, never true, convince yourself, convince a friend; pyramid discussion etc
- 8. Course Assessment Components

### **Component 1:** Portfolio Assessment: (30% overall score)

- Selected items of students work (3 of them 10% each)- 30%
- Midterm Assessment 20%
- Reflective Journal 40%
- Organisation of subject portfolio 10% (how it is presented/organized)

## **Summary of Assessment Method:**

Create e-portfolios to contain but not limited to

- a. Two (2) Documents from project using Leadership and management concepts including IT strategic plans, project budgets, IT recruitment, selection & appraisal documents etc.
- b. reflective notes of their observation during school visit relating to various technology leadership and management concepts.
- Presentations from Video Analysis, individual and group work on technology leadership and management concepts.
- d. One (1) test/ Assignment/group work/quiz/class exercise to evaluate their understanding of technology leadership and management concepts

Weighting: 30%

### Assesses Learning Outcomes: CLO 1, CLO 2, CLO 3, CLO 4, CLO 5, CLO 6, CLO 7, CLO 8

## **Component 2: Subject Project (30% overall semester score)**

- Introduction a clear statement of aim and purpose of the project 10%
- Methodology: what the student teacher has done and why to achieve the purpose of the project 20%
- Substantive or main section 40%
- Conclusion 30%

### **Summary of Assessment Method:**

i. Project-/problem-/inquiry-based assessment: Identify, investigate and develop various management documents like IT strategic plans, project budgets, IT recruitment, selection & appraisal documentsetc

Weighting: 30%

Assesses Learning Outcomes: CLO 3, CLO 4, CLO 5, CLO 6, CLO 7, CLO 8

# Component 3: End of Semester Examination – 40% overall

## **Summary of Assessment Method:**

A written assessment to assess student teacher's knowledge and understanding the various concepts of technology leadership and management

Weighting: 40 %

## Assesses Learning Outcomes: CLO1, CLO2

Required Reading and Reference List

Bolman, L. G., & Deal, T. E. (2011). Leading with soul: An uncommon journey of spirit. San Francisco: Jossey-Bass.

Dorf, R. C. (1999). The technology management handbook. Boca Raton, FL: CRC Press.

Dyson, J. R. (2010). Accounting for Non-Accounting Students (8<sup>th</sup> Ed.) Essex: Pearson Education Ltd

Holtsnider, B. & Jaffe, B. D. (2012) IT Manager's Handbook (3rd Ed.) Morgan Kaufmann Publishers

Stredwick, J. (2005). An Introduction to Human Resources Management (2<sup>nd</sup> Ed). Burlington, MA: Elsevier Ltd

# 2. Additional Reading List

Kotler, P. & Armstrong, G. (2017) Principles of Marketing (17th Ed. Pearson

Laudon, K. C. and Laudon, J.P. (2014). Managing information systems: managing the digital firm (13th Ed.) Pearson.

Sivatahanu, P. A. (2005). Technology leadership: A revolution in the making. New York: McGraw Hill.

Wilton, N. (2016) An Introduction to Human Resource Management, Sage Edge

Selected articles and online resources (youtube.com, MOOCs: Khan Academy, TESSA, Udemyetc)

## 3. Teaching and Learning resources

- Smartphones
- Laptops

- Desktop computers
- Tablets
- TV and Radio
- Open Educational Resources (Including: YouTube, MOOCS-Udemy/coursera, khan academy, TESSA)
- The iBox (CENDLOS)
- Productivity tools
- Subject based application software
- Instructional Laboratories (with multimedia equipment and smartboards)

# 4. Course related professional development for tutors/lecturers

- Development of Concept Maps/ Concept cartoons Charts/ technical/action research report writing.
- Appreciating the place of Cross cutting issues in the CLOs and Teaching -Learning Activities/ Assessment component requirement for active learning/ model teaching to reflect the desired TPCK students – teachers requires to learn for teaching.

Year of B.Ed. 2 Semester 2 Place of lesson in semester 12345678910 11 12

Title of Lesson							3 Hours
Lesson description	In this lesson, Student teachers will examine the meaning of leadership and management in relation to technology. It assumes some student-teachers has some leadership and management experience from their participation in families, associations and clubs in their day life. The lesson introduces the concepts needed and progresses understand technology leadership and management. This first lesson introduces student teachers to the course learning outcomes and the 3 assessment components of the course. (National Teachers' Standard: 1a, 1b, 3b, 3c, 3e, 3d, 3n/NTECF: Pillar crosscutting issues; Core skills, Professional values and attitudes).  Student teachers have taken the Introduction to Information and Communications Technology course.						
teacher knowledge, prior learning (assumed) Possible barriers to learning in the						erstanding of how orga	
lesson  Lesson Delivery – chosen to support students in achieving the outcomes	Face-to-face [ √]	Practical Activity	Work- Based Leaning	Seminars [ $\forall$ ]	Independent Study [ v]	e-learning opportunities [ V ]	Practicum
Lesson Delivery – main mode of delivery chosen to support student teachers in achieving the learning outcomes.	Face-to-face — Both teacher and student-led approaches such as discussions of varying kinds should be used.  e-learning opportunities -Student teachers would watch videos on YouTube/videos about responsible use of technology systems.  Seminars — Both individual and group presentation of projects should be encouraged.  Group work: put student teachers in small groups to examine various issues both in a face to face class and also online. Create a social media group for each group (e.g. Facebook, WhatsApp, Telegram) to enable them interact outside class using their mobile or any other suitable device  Independent study: any of the above methods will include an element of independent study to enable student personally engage with relevant content. Tutors to direct student teachers to Open Educational Resources (e.g. YouTube, MOOCS-Udemy/coursera, khan academy, TESSA) to support independent						
<ul> <li>Overarching outcome, 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>	study.  Student Teache Demonstrate k management.	nowledge a		_	-	ts of technology leade	rship and
• Learning Outcome for	Learning Outco	omes		Learning Inc	licators	Identify which cros core and transferab	_

the lesson, picked and developed from the course specification • Learning indicators for each learning outcome	CLO1: Demonstrate knowledge and understanding of the basic concepts of technology leadership and management and their impact on organisational effectiveness and efficiency.  NTS: 1b, 1c, 1e, 1f, 1g, 2c, 2e / NTECF: Pillar 1, 2 & 3 crosscutting issues; Core skills, Assessment, Professional values and attitudes).		<ol> <li>1.4 Explain the concepts of technology leadership in written form e.g. examination, report, and quiz.</li> <li>1.5 Explain the concepts of technology management in a written form e.g. examination, report, and quiz.</li> <li>1.6 Distinguish between the concepts of technology leadership and technology leadership and technology management in a writter form e.g. examination, report, and quiz.</li> </ol>	and inclusion, develop critical thinking, problem solving, creativity, collaboration skills and reflective practice.
Topic Title:	Sub-topic	Stage/time	depending on the	rning activities to achieve outcomes delivery mode selected. Teacher-led up work or independent.
			Teacher Activity	Student Activity
	Introduction	30 mins	Questioning: Tutor uses questioning to introduce the Course Manual and review student teacher's experience with a leadership and management in technology. (PDG Theme 2)	Questioning: Student teacher answers questions and explores their experience on how they have encountered management and leadership in the past relating to technology.
	Introduction to Technology leadership	45 Mins	Groupwork Tutor gives student teachers a definition of management. Class is then put into small diverse groups to discuss how software can support learning.	Groupwork Student teachers take the definition of leadership and discuss in their groups and note the key concepts/words of the definition drawing from their own experiences.
	Introduction to technology management	45 Mins	Groupwork Tutor gives student teachers a definition of management. Class is then put into small diverse groups to discuss how software can support learning.	Groupwork Student teachers take the definition of leadership and discuss in their groups and note the key concepts/words of the definition drawing from their own experiences.
	Difference between leadership and management	40 Mins	Talk for learning Tutor leads student teachers to do a group presentation of their findings during their discussion. The presentation will focus on explaining the meaning of the two terms differences and instances of their occurrence.	Talk for learning Student teachers do a group presentation of their findings during their discussion focusing their presentation on explaining the meaning of the two terms differences and instances of their occurrence.

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	Lesson Closure	20 Mins	Questioning: questioning to s recap the concep the lesson		<b>Questioning:</b> Student teacher responds to questions to summarise and recap the concepts covered for the lesson.
Lesson assessments –	Summary of Asse	essment Meth	od:		
evaluation of learning:	Assessment for I	earning:			
of, for and as learning	Wiki on "Differer	nces in technol	ogy leadership and	management in	education" to go into
within the lesson	portfolio.				
	Assesses Learnin	-			
		_	_		cepts of technology
	-	_	•	rganisational eff	ectiveness and efficiency.
	Assessment to a	_	NTS:		
	NTS: 1b, 1c, 1e, 1	lf, 1g, 2c, 2e			
Instructional Resources	i. Smartphones				
	ii. Laptops				
	iii. Desktop comp	outers			
	iv. Tablets	deers			
	v. TV and Radio				
		onal Resources	(Including: YouTube	e. MOOCS-Udem	ny/coursera, khan academy,
	TESSA)		(	,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	vii. The iBox (CEN	IDLOS)			
	viii. Productivity				
	ix. Subject based		ftware		
	=		th multimedia equi	pment and smar	tboards)
Required Text (core)	Bolman, L. G., &	Deal, T. E. (201	1). Leading with so	ul: An uncommo	n journey of spirit. San
		o: Jossey-Bass			
	Dorf, R. C. (1999)	. The technolog	gy management hai	ndbook. Boca Ra	ton, FL: CRC Press.
Additional Reading List	Holtsnider, B. & J	laffe, B. D. (201	.2) IT Manager's Ha	ndbook (3rd Ed.)	Morgan Kaufmann
	Publishe	ers			
	Sivatahanu, P. A.	(2005). Techno	ology leadership: A	revolution in the	making. New York: McGraw
	Hill.				
CPD needs	Need for semina	r on systems de	evelopment		
	Developing Wikis	5			
	Participating in a	community of	practice/conference	es and accessing	online magazines (E-zines) &
	journals to obtain	n up to date co	ntent on systems de	evelopment lifed	ycle.
	Team teaching a	nd lesson obse	rvation to improve i	nstructional stra	tegies & practices.
	Supporting stude	nt-teachers in	collaborating in des	igning and deve	loping a wiki.

Year of B.Ed. 2 Semester 2 Place of lesson in semester 12 3 4 5 6 7 8 9 10 11 12

Busine	ss Models						3
							Hours
In this	lesson, Stud	dent teach	ers will exam	nine the concept	ts of a business mode	el, its compoi	nents and
emergi	ng models.						
Studen	t teachers l	have exper	ienced vario	us organisation:	s and how they satisf	y their stake	holders.
Some s	tudent tea	chers migh	t not unders	stand how organ	isations operate		
				J	·		
Face-	Practical	Work-	Seminars	Independent	e-learning	Practicum	
to-	Activity	Based	[1]	Study [ V]	opportunities		
face	[]	Leaning		, , ,	[1]		
[1]							
		l .					
Face-to	o-face – Bo	th teacher	and studen	t-led approache	es such as discussion	s of varying	kinds should
be use	d.						
e-learn	ing opport	<b>unities -</b> Stu	udent teach	ers would watch	videos on YouTube/	videos abou	t
respon	sible use of	technolog	y systems.				
Semina	ars – Both i	ndividual a	nd group pr	esentation of pr	ojects should be ence	ouraged.	
				-	-	_	e to face
-	-						
						-	-
_	•			_	•		
-						•	•
	•	-					•
		. •	,	,,	,	., , ,	
	Some s  Face-to- face [ v ]  Face-to- face [ v ]  Face-to- face independent	Face-to-face — Bobe used. e-learning opport responsible use of Seminars — Both in Group work: put sclass and also onli Telegram) to enable student per Educational Resources.	In this lesson, Student teacher emerging models.  Student teachers have expersions student teachers might to-Activity face [ ]	In this lesson, Student teachers will exame emerging models.  Student teachers have experienced various some student teachers might not understood to a comparison of the face [ ]	In this lesson, Student teachers will examine the concept emerging models.  Student teachers have experienced various organisations.  Some student teachers might not understand how organ.  Face-to-face   Practical to-Activity   Based Leaning   [v]   Study [v]    Face-to-face   Both teacher and student-led approache be used.  e-learning opportunities -Student teachers would watch responsible use of technology systems.  Seminars - Both individual and group presentation of presonable work: put student teachers in small groups to exactlass and also online. Create a social media group for each teacher study: any of the above methods will include enable student personally engage with relevant content. Educational Resources (e.g. YouTube, MOOCS-Udemy/contents)	In this lesson, Student teachers will examine the concepts of a business mode emerging models.  Student teachers have experienced various organisations and how they satisf some student teachers might not understand how organisations operate  Face- Practical Work- Seminars Independent to- Activity Based [ V ] Study [ V ] opportunities [ V ]  Face-to-face — Both teacher and student-led approaches such as discussion be used. e-learning opportunities -Student teachers would watch videos on YouTube/responsible use of technology systems. Seminars — Both individual and group presentation of projects should be encogroup work: put student teachers in small groups to examine various issues I class and also online. Create a social media group for each group (e.g. Facebot Telegram) to enable them interact outside class using their mobile or any oth Independent study: any of the above methods will include an element of incenable student personally engage with relevant content. Tutors to direct studeducational Resources (e.g. YouTube, MOOCS-Udemy/coursera, khan acaden	In this lesson, Student teachers will examine the concepts of a business model, its componency models.  Student teachers have experienced various organisations and how they satisfy their stakes are student teachers might not understand how organisations operate  Face- Practical Activity Based Leaning

•	Overarching	Student teachers wil	l:				
	outcome, what you	Stadent teachers Will	••				
	want the students to	Be able to demonstra	ate how ICTs a	re used to affect how organ	isational s	services especially	
	achieve, serves as	educations delivered to stakeholders. NTS: 1a, 1d, 2c, 2e/NTECF: Pillar 1& 3					
	basis for the learning						
	outcomes. An						
	expanded version of						
•	the description. Write in full aspects						
•	of the NTS						
	addressed						
•	Learning Outcome	Learning Outcomes		Learning Indicators	Identify	which cross cutting	
	for the lesson,				1	- core and transferable	
	picked and				skills, i	nclusivity, equity and	
	developed from the					ing diversity. How will	
	course specification				these	be addressed or	
•	Learning indicators for each learning	CIO2. Domonstrata	ra ovula da a	2.2 Evalain the concept	develop	ea? trategies will respond to	
	outcome	<b>CLO2:</b> Demonstrate I and understanding o	_	2.2 Explain the concept of a business model		ty and equity (i.e. ICT as	
		modelling and the im		in a written form		or expanding learning to	
		in educational service	•	e.g. examination,		learners e.g. People with	
		NTS: 1b, 1c, 1e, 1f, 1	_	report, and quiz.	visual	impairment, dyslexia,	
		NTECF: Pillar 1, 2 & 3		Explain the impact of ICT	dysgrapl		
		crosscutting issues;		in educational services	instance	- I/	
		Assessment, Profess	ional values	in a written form e.g.	-	and institutionalized	
		and attitudes).		examination, report, and quiz.		nation are creating and/ nining disadvantages for	
				quiz.		udent-teachers	
То	pic Title:			Teaching and le		ctivities to achieve	
	•			_	_	the delivery mode	
		Sub-topic					
		Sub-topic	Stage/time			laborative group work	
		Sub-topic	Stage/time	selected. Teach or independent			
		Sub-topic	Stage/time			Student	
		Recap of previous	Stage/time 20 Mins	or independent	<b>.</b>		
		·	-	or independent Teacher Activity Face-to-Face: Discussion	<b>.</b>	Student Activity Face-to-Face: Student	
		Recap of previous	-	Teacher Activity  Face-to-Face: Discussion developed from the lesson. Tutor leads brains	of wikis previous storming	Student Activity Face-to-Face: Student teachers present the wikis developed from	
		Recap of previous	-	Teacher Activity  Face-to-Face: Discussion developed from the lesson. Tutor leads brains session to recap the con	of wikis previous storming cepts of	Student Activity  Face-to-Face: Student teachers present the wikis developed from the previous lesson.	
		Recap of previous	-	Teacher Activity  Face-to-Face: Discussion developed from the lesson. Tutor leads brains	of wikis previous storming cepts of	Student Activity  Face-to-Face: Student teachers present the wikis developed from the previous lesson. They take part in the	
		Recap of previous	-	Teacher Activity  Face-to-Face: Discussion developed from the lesson. Tutor leads brains session to recap the con	of wikis previous storming cepts of	Student Activity  Face-to-Face: Student teachers present the wikis developed from the previous lesson.	
		Recap of previous	-	Teacher Activity  Face-to-Face: Discussion developed from the lesson. Tutor leads brains session to recap the con	of wikis previous storming cepts of	Student Activity  Face-to-Face: Student teachers present the wikis developed from the previous lesson. They take part in the brain storming session	
		Recap of previous	-	Teacher Activity  Face-to-Face: Discussion developed from the lesson. Tutor leads brains session to recap the con	of wikis previous storming cepts of	Student Activity  Face-to-Face: Student teachers present the wikis developed from the previous lesson. They take part in the brain storming session to discuss the	
		Recap of previous week  Concepts of	-	Teacher Activity  Face-to-Face: Discussion developed from the lesson. Tutor leads brains session to recap the con leadership and management.  Face-to-face:	of wikis previous storming cepts of ent.	Student Activity  Face-to-Face: Student teachers present the wikis developed from the previous lesson. They take part in the brain storming session to discuss the concepts of leadership and management.  Face-to-Face & e-	
		Recap of previous week	20 Mins	Face-to-face: Tutor-led discussion on cu	of wikis previous storming cepts of ent.	Student Activity  Face-to-Face: Student teachers present the wikis developed from the previous lesson. They take part in the brain storming session to discuss the concepts of leadership and management.  Face-to-Face & e-learning	
		Recap of previous week  Concepts of	20 Mins	Face-to-face: Tutor-led discussion on cuthe meaning of business in	of wikis previous storming cepts of ent.	Student Activity  Face-to-Face: Student teachers present the wikis developed from the previous lesson. They take part in the brain storming session to discuss the concepts of leadership and management.  Face-to-Face & e-learning Student teachers surf	
		Recap of previous week  Concepts of	20 Mins	Face-to-face: Tutor-led discussion on cuthe meaning of business in Using Creative Activity  Face-to-face:  Tutor deads brains session to recap the concleadership and management of the concleadership and management of the meaning of business in Using Creative Approaches.	of wikis previous storming cepts of ent.	Student Activity  Face-to-Face: Student teachers present the wikis developed from the previous lesson. They take part in the brain storming session to discuss the concepts of leadership and management.  Face-to-Face & e-learning Student teachers surf the internet with their	
		Recap of previous week  Concepts of	20 Mins	Face-to-face: Tutor-led discussion on cuthe meaning of business in	of wikis previous storming cepts of ent.  rrent nodel. s (such e paly,	Student Activity  Face-to-Face: Student teachers present the wikis developed from the previous lesson. They take part in the brain storming session to discuss the concepts of leadership and management.  Face-to-Face & e-learning Student teachers surf	
		Recap of previous week  Concepts of	20 Mins	Face-to-face: Tutor-led discussion on cuthe meaning of business musing Creative Approaches as, games, storytelling, rol	of wikis previous storming cepts of ent.  rrent nodel. s (such e paly,	Student Activity  Face-to-Face: Student teachers present the wikis developed from the previous lesson. They take part in the brain storming session to discuss the concepts of leadership and management.  Face-to-Face & e-learning Student teachers surf the internet with their mobile phones for the	
		Recap of previous week  Concepts of	20 Mins	Face-to-face: Tutor-led discussion on cuthe meaning of business nusing Creative Approaches as, games, storytelling, rol songs and modelling) PD 6	of wikis previous storming cepts of ent.  rrent nodel. s (such e paly,	Student Activity  Face-to-Face: Student teachers present the wikis developed from the previous lesson. They take part in the brain storming session to discuss the concepts of leadership and management.  Face-to-Face & e-learning Student teachers surf the internet with their mobile phones for the meaning of business model. Student teachers report their	
		Recap of previous week  Concepts of	20 Mins	Face-to-face: Tutor-led discussion on cuthe meaning of business nusing Creative Approaches as, games, storytelling, rol songs and modelling) PD 6	of wikis previous storming cepts of ent.  rrent nodel. s (such e paly,	Student Activity  Face-to-Face: Student teachers present the wikis developed from the previous lesson. They take part in the brain storming session to discuss the concepts of leadership and management.  Face-to-Face & e-learning Student teachers surf the internet with their mobile phones for the meaning of business model. Student teachers report their findings through small	
		Recap of previous week  Concepts of	20 Mins	Face-to-face: Tutor-led discussion on cuthe meaning of business nusing Creative Approaches as, games, storytelling, rol songs and modelling) PD 6	of wikis previous storming cepts of ent.  rrent nodel. s (such e paly,	Student Activity  Face-to-Face: Student teachers present the wikis developed from the previous lesson. They take part in the brain storming session to discuss the concepts of leadership and management.  Face-to-Face & e-learning Student teachers surf the internet with their mobile phones for the meaning of business model. Student teachers report their findings through small group presentations	
		Recap of previous week  Concepts of	20 Mins	Face-to-face: Tutor-led discussion on cuthe meaning of business nusing Creative Approaches as, games, storytelling, rol songs and modelling) PD 6	of wikis previous storming cepts of ent.  rrent nodel. s (such e paly,	Student Activity  Face-to-Face: Student teachers present the wikis developed from the previous lesson. They take part in the brain storming session to discuss the concepts of leadership and management.  Face-to-Face & e-learning Student teachers surf the internet with their mobile phones for the meaning of business model. Student teachers report their findings through small	
		Recap of previous week  Concepts of	20 Mins	Face-to-face: Tutor-led discussion on cuthe meaning of business nusing Creative Approaches as, games, storytelling, rol songs and modelling) PD 6	of wikis previous storming cepts of ent.  rrent nodel. s (such e paly,	Student Activity  Face-to-Face: Student teachers present the wikis developed from the previous lesson. They take part in the brain storming session to discuss the concepts of leadership and management.  Face-to-Face & e-learning Student teachers surf the internet with their mobile phones for the meaning of business model. Student teachers report their findings through small group presentations	
		Recap of previous week  Concepts of business models  Components of a business	20 Mins 40 Mins	Face-to-face: Tutor-led discussion on cuthe meaning of business musing Creative Approache as, games, storytelling, rol songs and modelling) PD Games 1.  Face-to-face: Tutor shows student teach	of wikis previous storming cepts of ent.  rrent nodel. s (such e paly, Guide	Student Activity  Face-to-Face: Student teachers present the wikis developed from the previous lesson. They take part in the brain storming session to discuss the concepts of leadership and management.  Face-to-Face & e-learning Student teachers surf the internet with their mobile phones for the meaning of business model. Student teachers report their findings through small group presentations PD Guide Theme 4.  Face-to-Face & e-learning	
		Recap of previous week  Concepts of business models  Components of a business model Partners,	20 Mins 40 Mins	Face-to-face: Tutor-led discussion on cuthe meaning of business musing Creative Approaches as, games, storytelling, rol songs and modelling) PD Game 1.  Face-to-face: Tutor Shows student teach business model canvas to	of wikis previous storming cepts of ent.  rrent nodel. s (such e paly, Guide	Student Activity  Face-to-Face: Student teachers present the wikis developed from the previous lesson. They take part in the brain storming session to discuss the concepts of leadership and management.  Face-to-Face & e-learning Student teachers surf the internet with their mobile phones for the meaning of business model. Student teachers report their findings through small group presentations PD Guide Theme 4.  Face-to-Face & e-learning Student teachers	
		Recap of previous week  Concepts of business models  Components of a business model Partners, Key resources,	20 Mins 40 Mins	Face-to-face: Tutor-led discussion on cuthe meaning of business must as, games, storytelling, rol songs and modelling) PD G. Theme 1.  Face-to-face: Tutor shows student teach business model canvas to the various components of the surious components of the surious components of the surious components of the various components of	of wikis previous storming cepts of ent.  rrent nodel. s (such e paly, Guide	Student Activity  Face-to-Face: Student teachers present the wikis developed from the previous lesson. They take part in the brain storming session to discuss the concepts of leadership and management.  Face-to-Face & e-learning Student teachers surf the internet with their mobile phones for the meaning of business model. Student teachers report their findings through small group presentations PD Guide Theme 4.  Face-to-Face & e-learning Student teachers engages in discussions	
		Recap of previous week  Concepts of business models  Components of a business model Partners,	20 Mins 40 Mins	Face-to-face: Tutor-led discussion on cuthe meaning of business musing Creative Approaches as, games, storytelling, rol songs and modelling) PD Game 1.  Face-to-face: Tutor Shows student teach business model canvas to	of wikis previous storming cepts of ent.  rrent nodel. s (such e paly, Guide	Student Activity  Face-to-Face: Student teachers present the wikis developed from the previous lesson. They take part in the brain storming session to discuss the concepts of leadership and management.  Face-to-Face & e-learning Student teachers surf the internet with their mobile phones for the meaning of business model. Student teachers report their findings through small group presentations PD Guide Theme 4.  Face-to-Face & e-learning Student teachers	

	relationships, customer segments		relate to each other using discussions. Tutor allows students teachers a few minutes to go online to check the role of various components	mobile phones for information on the role of the various components of a business model. Student teachers report their findings through small group presentations.		
	Emerging ICT business models and the sharing economy and education	60 Mins	e-learning & Face-to-face Tutor shows a video on how some business models work. E.g. the brick and mortar/click and mortar and online organisations and their impact on education e.g. distance learning, MOOCs. Student teachers then discuss in their groups the types of business models which circumstances they will be effective in supporting learning.	e-learning & Face-to- face Student teacher watches a video on types of business model then discuss in their groups how they affect education. They also discuss and under which circumstances they will be effective.		
	Lesson Closure	20 Mins	Questioning: Tutor uses questioning to summarise and recap the concepts covered for the day and tasks students to write reflective notes on the design issues relating to multimedia authoring	Questioning: Student teacher responds to questions to summarise and recap the concepts covered for the day write reflective notes on the how ICTs affect educational organisations		
Lesson assessments –	Summary of Assessm	nent Method:				
evaluation of learning:		-	eachers to write reflective notes on ho			
of, for and as learning	that educational orga	anisations use	to serve their patrons. Reflective note	es to go into portfolio.		
within the lesson	Accorded Lagrania Co	ıtaamas:				
	Assesses Learning Ou		d understanding of business modelling	and the impact of ICT		
		_	a understanding of business modelling	s and the impact of ici		
	in educational service deliver					
	Assessment to aim a		rs·			

Instructional Resources	i. Smartphones
	ii. Laptops
	iii. Desktop computers
	iv. Tablets
	v. TV and Radio
	vi. Open Educational Resources (Including: YouTube, MOOCS-Udemy/coursera, khan academy,
	TESSA)
	vii. The iBox (CENDLOS)
	viii. Productivity tools
	ix. Subject based application software
	x. Instructional Laboratories (with multimedia equipment and smartboards)
Required Text (core)	Laudon, K. C. and Laudon, J.P. (2014). Managing information systems: managing the digital firm
	(13th Ed.) Pearson.
	Business model canvas
Additional Reading List	Selected articles and online resources (youtube.com, MOOCs: Khan Academy, TESSA, Udemyetc)
CDD	No ad fan anning yn hweig ar yn dala
CPD needs	Need for seminar on business models
	Writing reflective notes
	Participating in a community of practice/conferences and accessing online magazines (E-zines) &
	journals to obtain up to date content.
	Team teaching and lesson observation to improve instructional strategies & practices.
	Supporting student teachers in collaborating in designing and developing a wiki.

Year of B.Ed. 2 Semester 2 Place of lesson in semester 12 2 4 5 6 7 8 9 10 11 12

Year of B.Ed.	2	Semester	2	Place o	f lesson in se	mester	We	ek 3	
Title of Lesson		IT strategy a	and tactics.					Lesson	3
								Duration	Hours
Lesson descrip	tion	In this less	on, studen	t teachers w	ill examine	what ICT strateg	y and	tactics are. I	t assumes
		students-tea	achers have	e no prior org	ganisational s	trategy experiend	ce and	introduces th	e concepts
		needed and	l progresse:	s to support ι	ınderstanding	g. (National Tead	chers' S	Standard: 1a,	1b, 3b, 3c,
		3e, 3d, 3n/I	NTECF: Pilla	r crosscutting	issues; Core	skills, Profession	al value	s and attitude	es).
Previous stude	ent	Student tea	chers have	completed pi	rior lesson on	how organisatio	n work	to deliver val	ue to their
teacher knowl	edge,	stakeholder	'S						
prior learning									
(assumed)									
Possible barrie	ers to	Some stude	nt teachers	might not ha	ve good unde	rstanding of prior	r lesson	s on business	models.
learning in the	lesson								
Lesson Deliver	y –	Face-to-	Practical	Work	Seminars	Independent	e-lear	ning	Practicum
chosen to supp	oort	Face [ √]	work [√]	Based	[√]	Study []	oppor	tunities [√]	[]
students in acl	nieving			Leaning []					
the outcomes									
Lesson Deliver	y – main	Face-to-Fac	e: lecturett	e, discussions	and other tal	k for learning app	roache	s should be er	nployed
mode of delive	ery	Practical Ac	<b>tivity:</b> Indiv	idual and gro	up activities ii	nvolving surfing th	ne inter	net for curren	t
chosen to supp	oort	_		aping educati					
student teache	ers in	E-learning o	pportuniti	es: informatio	n and other r	elated material w	ould be	e gleaned from	n the
achieving the l	earning			ones and othe	•				
outcomes.		_	•		• .	to examine vario			
		class and also online. Create a social media group for each group (e.g. Facebook, WhatsApp,							
						sing their mobile	-		
		_	-	•		ill include an elem		•	•
			•			ontent. Tutors to			
				(e.g. YouTube	, MOOCS-Ude	emy/coursera, kh	an acac	lemy, TESSA) t	o support
		independen	it study.						

•	Overarching	Student teachers will:							
	outcome, what								
	you want the	Demonstrate understanding of corporate level, business level and information technology strategy							
	students to	and how they are linked with each other. NTS: 1a, 1d, 2c, 2e/NTECF: Pillar 1& 3							
	achieve, serves as								
	basis for the								
	learning								
	outcomes. An								
	expanded version								
	of the description.								
•	Write in full								
	aspects of the NTS								
	addressed								
•	Learning	Learning Outcomes	Learning Indicators	Identify which cross cutting					
	Outcomes for the		_	issues – core and					
	lesson, picked and			transferable skills,					
	developed from			inclusivity, equity and					
	the course	addressing dive							
	specification			will these be addressed or					
•	Learning			developed?					
	indicators for each	CLO3: Demonstrate	Explain the concepts of strategic	These strategies will					
	learning outcome	knowledge and understanding	management in a written form	respond to inclusivity and					
	_	of corporate and IT strategic		equity (i.e. ICT as a tool for					
		management planning.		expanding learning to					
		NTS: 1b, 1c, 1e, 1f, 1g, 2c, 2e		diverse learners e.g. People					
		, , , , ,		with visual impairment,					
				dyslexia, dysgraphia).					
				Identify the instances when					
				personal, cultural, and					
				institutionalized					
				discrimination are creating					
				and/ or sustaining					
				disadvantages for some					
				student-teachers					
Ц				Student-teachers					

Week 1	Sub-topic	Time and stage	Teaching and learning activities to achieve outcomes depending on the delivery mode selected. Teacher-led collaborative group work or independent.				
Topic Title:			Teaching Activities:	Student Activity			
·	Recap of previous week	30 mins	Face-to-Face: Discussion of wikis developed from the previous lesson. Tutor leads brain storming session to recap the concepts of business models	Face-to-Face: Student teachers present the wikis developed from the previous lesson. They take part in the brain storming session to recap the concepts of business model.			
	Introduction to Organisational Strategy for Education	40 mins	Face to face: Tutor uses s short interactive lecture to introduce student teacher to what an organisational strategy is.	Face to face: Student teacher listen to interactive lecture and engages by asking and answering questions.			
	Relationship between IT strategy and corporate/business level strategy	50 mins	Face-to-face: Tutor shows student teachers short interactive lecture to explain what corporate, business level and IT strategy are and how they link with each other.  Seminar: Tutor lead student teachers to discuss the rational for the linkages of the various strategies.	Face-to-Face Students teachers listen and interact with peers and tutor in short interactive lecture to explain what corporate, business level and IT strategy are and how they link with each other.  Seminar: Student teachers engage in class discussion of the rational for the linkages of the various strategies.			
	Examples of IT strategy and their impact	40 Mins	Talk for learning: Tutor leads class to explore and discuss IT strategies used by various organisations including educational institution and schools to achieve their goals. Tutor breaks student teachers into small diverse groups and tasks them to identify an IT strategy and how it can support their STS school to achieve their goals	Talk for learning: student teacher engages in class to explore and discuss IT strategies used by various organisations including educational institution and schools to achieve their goals. In their groups, student teachers to identify an IT strategy and how it can support their STS school to achieve their goals			
	Lesson Closure	20 Mins	Questioning: Tutor uses questioning to summarise and recap the concepts covered for the lesson. Tutor tasks student teachers to write reflective notes	Questioning: Student teacher responds to questions to summarise and recap the concepts covered for the lesson.			
Lesson assessments – evaluation of learning: of, for and as learning within the lesson	In-lesson and Formative Assessment:  Assessment for learning: Individual and group presentations on which IT strategy will be suitable at an STS school and how it can improve teaching and learning.  Assessment as learning: Individual reflective notes on how IT strategies can help schools achieve their goals. Reflective notes to go into portfolio						
	core skills to be development	eloped: critical	thinking, collaboration and communica	tive skills, personal			
	Assesses Learning O	utcomes:					

	<b>CLO3:</b> Demonstrate knowledge and understanding of corporate and IT strategic management planning.
	Assessment to aim at achieving NTS:
	1b, 1c, 1e, 1f, 1g, 2c, 2e
Instructional	i. Smartphones
Resources	ii. Laptops
	iii. Desktop computers
	iv. Tablets
	v. TV and Radio
	vi. Open Educational Resources (Including: YouTube, MOOCS-Udemy/coursera, khan academy,
	TESSA)
	vii. The iBox (CENDLOS)
	viii. Productivity tools
	ix. Subject based application software
	x. Instructional Laboratories (with multimedia equipment and smartboards)
Required Text	Laudon, K. C. and Laudon, J.P. (2014). Managing information systems: managing the digital firm (13th
(core)	Ed.) Pearson.
Additional	Selected articles and online resources (youtube.com, MOOCs: Khan Academy, TESSA, Udemyetc)
Reading List	Selected articles and offine resources (youtube.com, Moocs. Khair Academy, 1235A, Odemyetc)
CPD needs	Accessing online resources in magazines(E-zines) & journals to obtain up to date content on IT
CFD fieeus	strategies
	Writing reflective notes
	Participating in a community of practice/conferences and accessing online magazines (E-zines) &
	journals to obtain up to date content.
	Team teaching and lesson observation to improve instructional strategies & practices.
	Supporting student teachers in collaborating in designing and developing a wiki.

Year of B.Ed. 2 Semester 1 Place of lesson in semester 12345678910 11 12

Title of Lesson	IT strategy	and tactics II				Lesson Duration	3 Hours			
Lesson description	In this les	son Student	teachers	will go throi	igh the strategi	c planning process. Th				
				_	•	: 1a, 1b, 3b, 3c, 3e, 3d,				
		crosscutting issues; Core skills, Professional values and attitudes).								
Previous student	Student te	Student teachers know what corporate level/business level & IT strategy is								
teacher knowledge,										
prior learning										
(assumed)										
Possible barriers to	Some stud	dent teachers	might not	have a good	l understanding	of what strategy is				
learning in the										
lesson				I			T			
Lesson Delivery –	Face-to-	Practical	Work-	Seminars	Independent	e-learning	Practicum			
chosen to support	face [ v]	Activity	Based	[]	Study []	opportunities				
students in		[1]	Leaning			[1]				
achieving the										
outcomes  Lesson Delivery –	Eace to fo	co - Roth tos	ocher and	ctudent lad	annroachos suc	l h as discussions of var	l ving kinds should			
main mode of	be used.	ice – Both tea	aciiei aiiu	student-ieu	approacties suc	ii as uiscussioiis oi vai	yilig kilius siloulu			
delivery chosen to		onnortunitie	s -Studen	t teachers w	ould watch vide	os on YouTube/videos	ahout			
support student		lity issues bet				os on rourabe, viacos	about			
teachers in	-	•				s should be encouraged	d.			
achieving the			_			of other student teach				
learning outcomes.	progress o	or barriers to l	earning				·			
	Group wo	rk: put studer	nt teacher	s in small gro	oups to examine	various issues both in	a face to face			
	class and a	also online. Cr	eate a so	cial media gr	oup for each gro	oup (e.g. Facebook, Wh	atsApp,			
					_	obile or any other suita				
	-	-	-			n element of independe	-			
		•				rs to direct student tea	•			
			(e.g. YouT	ube, MOOCS	-Udemy/course	ra, khan academy, TESS	SA) to support			
	independe									
Overarching     what		eachers will:	me and d	ovolon a pro	aramming stylo	that is assented indu	stru practice NTC.			
outcome, what you want the		iputer progra , <b>2e/NTECF: P</b>		evelop a pro	igramming style	that is accepted indus	stry practice wis:			
students to	1u, 1u, 2c,	, Ze/NTLCF. F	iliui 10 3							
achieve, serves										
as basis for the										
learning										
outcomes. An										
expanded										
version of the										
description.										
• Write in full										
aspects of the										
NTS addressed										
<ul> <li>Learning</li> <li>Outcome for</li> </ul>	Learning (	Jutcomes	Le	earning Indic	ators	Identify which cross	_			
the lesson,						core and transferable equity and addressing				
picked and	CLO3: Der	monstrate	Condu	ıct strategic i	olanning for an	These strategies will				
developed from	knowledge				ritten report.	inclusivity and equity	-			
the course	understan		107 30	~ coby iii a w		for expanding learning				
specification	corporate	_				learners e.g. People v	_			
<ul><li>Learning</li></ul>		nanagement				impairment, dyslexia				
indicators for	planning.					Identify the instances				

each learning outcome	NTS: 1b, 1c, 1e, 1f, 1g, 2c, 2e / NTECF: Pillar 1, 2 & 3 crosscutting issues; Core skills, Assessment, Professional values and attitudes).			cultural, and institutionalized discrimination are creating and/ or sustaining disadvantages for some student-teachers			
Topic Title:	Sub-		Teaching and learning activities to achieve outcomes depending on the delivery mode selected. Teacher-led collaborative group work or independent.				
	topic	Stage/time	Teacher Activity	Student Activity			
	Recap of previous lessons	20 mins	Face to face: Tutor guides student teacher to discuss their reflection notes on strategy and how it can impact ICT services].	Face to face: Student teacher presents and discusses their own and others reflective notes on IT strategy and how it affects ICT services			
	External, Industry and internal	80 min	E learning, Questioning and practical: Tutor uses the aid of multimedia (images/videos) to introduce student teachers to	e-learning opportunities: Student teachers watch video on strategic analysis.  Group Work: Student teachers			
	Analysis		the external, industry and internal analysis methodologies. Tutor then breaks students into groups and guides student teachers in a practical to conduct an internal, industry and external analysis of their STS school	participates in group discussions to analyse their STS schools			
	SWOT Analysis and choosing a strategy	60 mins	Group discussion & Seminar: Tutor continues with the class into their small diverse groups to discuss the strengths weaknesses Opportunities and Strengths of their STS school and based on that choose the best path to achieve their school goals	Group discussion & Seminar: Student teachers discuss in their groups discuss the strengths weaknesses Opportunities and Strengths of their STS school and based on that choose the best path to achieve their school goals			
	Closure	20 mins	Closure: Tutor guide the student teacher to recap the discussions for the day (PDG Theme 3).	Closure: Tutor guide the student teacher to recap the discussions for the day. (PDG Theme 3).			
Lesson assessments  - evaluation of learning: of, for and as learning within the lesson	Assessment of learning: student teachers will develop strategic plan for an ICT strategy for their STS school. An IT strategy will be presented in a project report on system modelling to contribute to project report.  CLO3: Demonstrate knowledge and understanding of corporate and IT strategic management planning.  Assessment to aim at achieving NTS:						
Instructional Resources	Assessment to aim at achieving NTS:  NTS: 1b, 1c, 1e, 1f, 1g, 2c, 2e  i. Smartphones ii. Laptops iii. Desktop computers iv. Tablets v. TV and Radio vi. Open Educational Resources (Including: YouTube, MOOCS-Udemy/coursera, khan academy, TESSA) vii. The iBox (CENDLOS) viii. Productivity tools ix. Subject based application software x. Instructional Laboratories (with multimedia equipment and smartboards)						

Required Text	Bolman, L G., & Deal, T. E. (2011). Leading with soul: An uncommon journey of spirit. San Francisco:
(core)	Jossey-Bass.
<b>Additional Reading</b>	Selected articles and online resources (youtube.com, MOOCs: Khan Academy, TESSA, Udemyetc)
List	
CPD needs	
	Writing reflective notes
	Participating in a community of practice/conferences and accessing online magazines (E-zines) &
	journals to obtain up to date content on strategic planning.
	Team teaching and lesson observation to improve instructional strategies & practices.
	Supporting student teachers in collaborating in designing and developing a wiki.

Year of B.Ed. 2 Semester 1 Place of lesson in semester 12345678910 11 12

Title of Lesson	Managing Huma	ın Resource	s, I				Lesson	3	
Lesson description	In this losson Ct	udont tooo	hore will a	0 +brough +b	0 220	oss of on	Duration	Hours	
Lesson description	-	In this lesson, Student teachers will go through the process of analysing tasks or a potential job, deciding whether to employ and how to get potential good applicants to apply in adequate							
	numbers (National Teachers' Standard: 1a, 1b, 3b, 3c, 3e, 3d, 3n/NTECF: Pillar crosscutting								
Previous student teacher	issues; Core skills, Professional values and attitudes).  Students teachers would have been exposed to some form of recruitment for example they								
				exposed to	some	101111 01	recruitment for	example they	
knowledge, prior learning	would have seer	i job adveri	isement.						
(assumed) Possible barriers to	Come a student to		h+ a+ h-a			: <b>f</b> +l			
	Some student te	achers mig	nt not nav	e some misc	опсері	.10115 01 11	ne recruitment p	rocess	
learning in the lesson Lesson Delivery – chosen	Face-to-face [	Practical	Work-	Seminars	Indor	endent	e-learning	Practicum	
to support students in	v]	Activity	Based		Study		opportunities	Practicum	
achieving the outcomes	١	[V]	Leaning	[ v ]	Study	/ [ V]			
Lesson Delivery – main		[ V ]	Leaning				[ v ]		
mode of delivery chosen	Face-to-face - E	Roth toach	ar and stu	dent-led and	aroach	as such s	as discussions o	f varving kinds	
to support student	should be used.	Join teach	i ana sta	dent-led app	Ji Odcii	es sucii e	13 013003310113 0	i varying kinas	
teachers in achieving the	e-learning oppo	rtunities -S	tudent tea	chers would	watch	videos o	n YouTube/vide	os about	
learning outcomes.	responsible use				waten	viacos o	ii rourube, viae	os about	
learning outcomes.	Seminars – Both				n of pr	oiects sh	ould be encoura	ged.	
	Practical Activity		• .	•	•	-		_	
	explain progress	=							
	Group work: put			_	to exa	mine var	ious issues both	in a face to	
	face class and al								
	WhatsApp, Teleg			_	-	_			
	suitable device	<b>5</b> - <b>,</b>						,	
	Independent stu	udy: any of	the above	methods w	ill inclu	de an ele	ement of indepe	ndent study to	
	enable student p						•	-	
	Open Education	-							
	support indepen	ndent study							
Overarching	Student teachers	s will:							
outcome, what you	Understand and	l be able to	able to i	dentify whic	h type	s of ICT t	asks require en	ployment and	
want the students to	how they can ge	et the right	people to	apply for suc	ch a jol	o. <i>NTS: 2</i>	c, 2e, 3a, 3b, 3e	/ NTECF: Pillar	
achieve, serves as	1, 2 & 3 crosscut	tting issues	; Core skill	s, Assessme	nt, Pro	fessional	values and atti	tudes).	
basis for the learning									
outcomes. An									
expanded version of									
the description.									
Write in full aspects									
of the NTS addressed			1						
Learning Outcome	Learning Outcor	mes	L	earning Indic	cators		dentify which	_	
for the lesson, picked							ssues – core ar		
and developed from							skills, inclusivity	•	
the course							ddressing dive	•	
specification								ddressed or	
Learning indicators	0.04 4 1 11	la a a'					developed?		
for each learning	CLO4: Apply the						These strategies	•	
outcome	concepts of hum						o inclusivity ar		
	resources manag			ıct a job ana	-		CT as a tool		
	including recruit			e a recruitme	ent plai		earning to div		
	selection and pe	errormance	writte	n form			e.g. People	with visual	
	monitoring.	2h 2- /					mpairment,	dyslexia,	
	NTS: 2c, 2e, 3a,	30, 3e /				(	dysgraphia).	dentify the	

	NTECF: Pillar 1, 2 & 3 crosscutting issues; Core skills, Assessment, Professional values and attitudes).		co d a d	istances when personal, ultural, and institutionalized iscrimination are creating and/ or sustaining isadvantages for some cudent-teachers			
Topic Title:	Sub-topic Stage/time		Teaching and learning activities to achieve outcomes depending on the delivery mode selected.  Teacher-led collaborative group work or independent.				
			Teacher Activity	Student Activity			
	Introduction and review of RPK	20 Mins	Tutor uses questioning to recap the concepts of the strategic planning process.	Student teacher answers questions to recap the concepts of strategic planning process			
	Job analysis	70 Mins	Interactive lectures: Tutor uses an interactive	Interactive lectures:  Student teacher engages			
			lecturette to explain the introduce student teachers to the concepts of job analysis. Tutor groups students to conduct a job analysis of an IT job in their STS school	discussions to support understanding of the			
	recruitment	70 Mins	Questioning & face to face: Tutor uses questioning to draw attention the fact that there must be justification for employing someone to do a job. He then uses an interactive lecturette to explain the concepts of recruitment and the recruitment processes	Questioning & face to face: Student teacher answers questions to draw out the justification for hiring decisions. Student teacher interacts with peers and tutor to deepen understanding the concepts of recruitment and the recruitment processes			
	Closure	20 Mins	Tutor moderates group presentation of their job analysis for their projects to recap the lesson	group presentation of			
Lesson assessments – evaluation of learning: of, for and as learning within the lesson							
In about the second	Assessment to aim at achieving NTS: NTS: 2c, 2e, 3a, 3b, 3e						
Instructional Resources	i. Smartphones ii. Laptops iii. Desktop com						

	iv. Tablets
	v. TV and Radio
	vi. Open Educational Resources (Including: YouTube, MOOCS-Udemy/coursera, khan academy,
	TESSA)
	vii. The iBox (CENDLOS)
	viii. Productivity tools
	ix. Subject based application software
	x. Instructional Laboratories (with multimedia equipment and smartboards)
Required Text (core)	Wilton, N. (2016) An Introduction to Human Resource Management, Sage Edge
Additional Reading List	Selected articles and online resources (youtube.com, MOOCs: Khan Academy, TESSA, Udemyetc)
CPD needs	Need for seminar on job analysis and recruitment.
	Participating in a community of practice/conferences and accessing online magazines (E-zines)
	& journals to obtain up to date content on ITC recruitment processes.
	Team teaching and lesson observation to improve instructional strategies & practices.
	Supporting student teachers in collaborating in designing and developing a wiki.

Year of B.Ed. 2 Semester 1 Place of lesson in semester 12345 678910 11 12

Title of Lesson	Managing Hu	Managing Human Resources II  Lesson Duration 3 Hours							
Lesson description	for employme	In this lesson, Student teachers will be introduced to the process of selecting the suitable candidate for employment and how to measure the performance of such an employee. NTS: 2c, 2e, 3a, 3b, 3e / NTECF: Pillar 1, 2 & 3 crosscutting issues; Core skills, Assessment, Professional values and							
Previous student teacher knowledge, prior learning (assumed) Possible barriers to	Student teach	Student teachers have an understanding of the recruitment process from the previous lesson  Some student teachers might have problems understanding the recruitment process.							
learning in the lesson	Some student	t teachers m	ignt have pr	obiems unde	erstanding the rec	ruitment process.			
Lesson Delivery – chosen to support students in achieving the outcomes	Face-to- face [V]	Practical Activity [V]	Work- Based Learning	Seminars [v ]	Independent Study [v]	e-learning opportunities [V]	Practicum		
Lesson Delivery – main mode of delivery chosen to support student teachers in achieving the learning outcomes.	Face-to-face – Both teacher and student-led approaches such as discussions of varying kinds should be used. e-learning opportunities -Student teachers would watch videos on YouTube/videos about responsible use of technology systems. Seminars – Both individual and group presentation of projects should be encouraged. Practical Activity- student teachers will review work samples of other student teachers to explain progress or barriers to learning Group work: put student teachers in small groups to examine various issues both in a face to face class and also online. Create a social media group for each group (e.g. Facebook, WhatsApp, Telegram) to enable them interact outside class using their mobile or any other suitable device Independent study: any of the above methods will include an element of independent study to enable student personally engage with relevant content. Tutors to direct student teachers to Open Educational Resources (e.g. YouTube, MOOCS-Udemy/coursera, Khan academy, TESSA) to support independent study.								

Overarching outcome, what you want the students to achieve, serves as basis for the learning outcomes. An expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome	Student teachers will:  Demonstrate an understanding of the selection and appraisal process of ICT staff. NTS: 2c, 2e, 3a, 3b, 3e / NTECF: Pillar 1, 2 & 3  Learning Outcomes  Learning Indicators  Identify which cross cutting						
for the lesson, picked and developed from the course specification			······ <b>g</b> ······························	issues – core and transferable skills, inclusivity, equity and addressing diversity. How will these be addressed or developed?			
Learning indicators for each learning outcome	of human reso management recruitment s performance NTS: 2c, 2e, 3 Pillar 1, 2 & 3	including election and monitoring. a, 3b, 3e / NTECF: crosscutting kills, Assessment,	4.1 Explain the process of selection	Activities will instil in student virtues such as honesty and critical thinking as they accurately evaluate and report on fair use of tools of technology adopted to address diverse learning needs. They will learn to avoid biases in favour of or against specific gender, social class. Religion and ethnicity.			
Topic Title:			Teaching and learning activities to achieve outcomes depending on the delivery mode selected. Teacher-led				
	Sub-topic	Stage/time	collaborative group work or in-	dependent. Student Activity			
	Introduction and review of RPK	30 Mins	Tutor uses questioning to recap the concepts of the job analysis and recruitment processes.	Student teacher answers questions to recap the concepts of job analysis and recruitment processes.			
	Selection	130 Mins	Questioning & face to face: Tutor uses questioning to draw attention the need to have an objective and effective means of choosing applicants to employ. Tutor then uses an interactive lecturette to explain the techniques (including interview, tests, etc) used for the selection of employees. Student teachers are broken into groups to discuss selection methods	Questioning & face to face: Student teacher answers questions to draw out the need to have objective and effective selection methods to make a hiring decision. Student teacher interacts with peers and tutor to deepen understanding the selection techniques. Student teachers in their groups discuss which selection method will be suitable to select an IT employee.			
	Lesson Closure	20 mins	Tutor reviews program code with student teachers to recap concepts learnt.	Student teacher reviews with tutor program code with student teachers to recap concepts learnt.			
Lesson assessments – evaluation of learning: of, for and as learning within the lesson	Assessment a processes	Assessment Methods is learning: Group point of the control of the	d: resentation on the types and effe	ectiveness of staff selection			

	<b>CLO4:</b> Apply the basic concepts of human resources management including recruitment selection and performance monitoring.							
	Assessment to aim at achieving NTS:							
	NTS: 2c, 2e, 3a, 3b, 3e / NTECF: Pillar 1, 2 & 3							
Instructional	i. Smartphones							
Resources	ii. Laptops							
	iii. Desktop computers							
	iv. Tablets							
	v. TV and Radio							
	vi. Open Educational Resources (Including: YouTube, MOOCS-Udemy/coursera, khan academy,							
	TESSA)							
	vii. The iBox (CENDLOS)							
	viii. Productivity tools							
	ix. Subject based application software							
	x. Instructional Laboratories (with multimedia equipment and smartboards)							
Required Text (core)	Wilton, N. (2016) An Introduction to Human Resource Management, Sage Edge							
Additional Reading	Selected articles and online resources (youtube.com, MOOCs: Khan Academy, TESSA, Udemyetc)							
List								
CPD needs	Need for seminar on staff selection							
	Writing reflective notes							
	Participating in a community of practice/conferences and accessing online magazines (E-zines) &							
	journals to obtain up to date content.							
	Team teaching and lesson observation to improve instructional strategies & practices.							
	Supporting student teachers in collaborating in designing and developing a wiki.							

Year of B.Ed. 2 Semester 1 Place of lesson in semester 123456 78910 11 12

Title of Lesson	Managing Hum	an Resource	es III			Lesson	3	
						Durati	on Hours	
Lesson	In this lesson, s	In this lesson, student teachers will learn additional programming logic. They will explore data types and						
description	write program	code usin	g arrays,	which can	handle excepti	ons and errors.	(National Teachers'	
•		Standard: 1a, 1b, 3b, 3c, 3e, 3d, 3n/NTECF: Pillar crosscutting issues; Core skills, Professional values and						
	attitudes).							
Previous	Student teache	rs have take	en a lesson	in basic pro	gramming			
student teacher								
knowledge,								
prior learning								
(assumed)								
Possible barriers	Some student t	Some student teachers might have problem understanding or remembering language syntax.						
to learning in								
the lesson								
<b>Lesson Delivery</b>	Face-to-face	Practical	Work-	Seminars	Independent	e-learning	Practicum	
<ul><li>chosen to</li></ul>	[√]	Activity	Based	[٧]	Study [ V]	opportunities		
support		[٧]	Leaning			[√]		
students in								
achieving the								
outcomes								
Lesson Delivery	_							
– main mode of		Face-to-face — Both teacher and student-led approaches such as discussions of varying kinds should be						
delivery chosen	used.							
to support				ichers would	l watch videos o	n YouTube/videos	about responsible	
student	use of technology systems.							
teachers in	Seminars – Both individual and group presentation of projects should be encouraged.							
achieving the	Practical Activity- student teachers will review work samples of other student teachers to explain							
learning outcomes.	progress or barriers to learning							
outcomes.	Group work: put student teachers in small groups to examine various issues both in a face to face class							
	and also online. Create a social media group for each group (e.g. Facebook, WhatsApp, Telegram) to							
	enable them interact outside class using their mobile or any other suitable device							
	<b>Independent study:</b> any of the above methods will include an element of independent study to enable student personally engage with relevant content. Tutors to direct student teachers to Open Educational							
	Resources (e.g. YouTube, MOOCS-Udemy/coursera, khan academy, TESSA) to support independent							
	study.							
	study.							

<ul> <li>Overarching outcome, 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</li> </ul>	Student Teachers will Write computer prog 1a, 1d, 2c, 2e/NTECF	grams and dev	elop a programming style that is	accepted industry practice <b>NTS</b> :	
Learning     Outcome for the lesson, picked and developed from the	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?	
course specification • Learning indicators for each learning outcome	CLO4: Apply the basic concepts of human resources management including recruitment selection and performance monitoring.  NTS: 2c, 2e, 3a, 3b, 3e / NTECF: Pillar 1, 2 & 3 crosscutting issues; Core skills, Assessment, Professional values and attitudes).		Plan an employee performance appraisal in a written form	Develop skills in Integration of ICT, collaboration and communication, knowledge on equity, gender and Inclusion as well as reflection and critical thinking	
•	CLO6. Build a professional record to reflect student teacher's accomplishments, skills, experiences, learning and attributes NTS: 1a, 1d, 2c, 2e/NTECF: Pillar 1& 3		6.1 Build a portfolio		
Topic Title:	Sub-topic Stage/time		Teaching and learning activities to achieve outcomes depending on the delivery mode selected.  Teacher-led collaborative group work or independent.		
	Introduction and review of RPK  Performance	30 Mins	Teacher Activity  Tutor uses questioning to recap the concepts of the selection techniques processes.  Questioning & face to face:	Student Activity  Student teacher answers questions to recap the concepts of selection techniques processes.  Questioning & face to face:	
	appraisal		Tutor uses questioning to draw attention the need to have an objective and effective means of measuring performance of employees.  Tutor then uses an interactive lecturette to explain the techniques (including interview, tests, etc) used for the performance appraisal of employees. Student teachers are broken into groups to discuss performance appraisal methods	Student teacher answers questions to draw out the need to have objective and effective performance measurement methods to make good human resources decision. Student teacher interacts with peers and tutor to deepen understanding the performance management techniques.  Student teachers in their groups discuss which performance appraisal method will be suitable to assess an IT employee.	

	Closure	20 mins	Tutor reviews program code	Student teacher reviews with			
			with student teachers to recap	tutor program code with			
			concepts learnt.	student teachers to recap			
1	6			concepts learnt.			
Lesson assessments	Summary of Assessm			the staff wantamass			
– evaluation of	Assessment as learning: Student teacher to write reflective notes on the staff performance						
learning: of, for and	measurement used in their STS school evaluating the effectiveness on the mechanisms. The reflective						
as learning within the lesson	notes are to go into their portfolio as a CD.						
the lesson	Accessed complete Outcompany						
	_	Assesses Learning Outcomes:  CLO4: Apply the basic concepts of human resources management including recruitment selection and					
	performance monitor	-	idiliali resodices management inci	duling recruitment selection and			
	Assessment to aim at achieving NTS:						
	NTS: 2c, 2e, 3a, 3b, 3e						
Instructional	i. Smartphones						
Resources	ii. Laptops						
11000011000	iii. Desktop computers						
	iv. Tablets						
	v. TV and Radio						
	vi. Open Educational Resources (Including: YouTube, MOOCS-Udemy/coursera, khan academy,						
	TESSA)						
	vii. The iBox (CENDLOS)						
	viii. Productivity tools						
	ix. Subject based application software						
	x. Instructional Laboratories (with multimedia equipment and smartboards)						
Required Text	Wilton, N. (2016) An Introduction to Human Resource Management, Sage Edge						
(core)							
Additional Reading	Selected articles and online resources (youtube.com, MOOCs: Khan Academy, TESSA, Udemyetc)						
List							
CPD needs	Need for seminar on	performance i	management				
	Writing reflective notes						
	Participating in a community of practice/conferences and accessing online magazines (E-zines) &						
	journals to obtain up to date content.						
			ion to improve instructional strate				
	Supporting student teachers in collaborating in designing and developing a wiki.						

Year of B.Ed. 2 Semester 1 Place of lesson in semester	123456789101112
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Title of Lesson	Managing	Managing Finance, I Lesson 3 Duration Hours								
Lesson description	In this lesson, student teachers will examine what goes into the cost of IT resources. Student teachers will be introduced to the concept of Total Cost of Ownership (TCO) NTS: 2c, 2e, 3a, 3b, 3e / NTECF: Pillar 1, 2 & 3.									
Previous student teacher	Student teachers are familiar with the ICT resources that are used in schools are also familiar with the associate cost of maintaining the resources.									
knowledge, prior learning (assumed)										
Possible barriers to learning in the lesson	Some stud	lent teacher	s might no	t have enou	gh knowledge a	nd understanding wh	at is			
Lesson Delivery – chosen to support students in achieving the	Face-to- face									
Lesson Delivery – main mode of delivery chosen to	Face-to-face — Both teacher and student-led approaches such as discussions of varying kinds should be used. e-learning opportunities -Student teachers would watch videos on YouTube/videos about responsible use of technology systems.									
support student teachers in achieving the	Practical Activity- student teachers will review work samples of other student teachers to explain progress or barriers to learning  Group work: put student teachers in small groups to examine various issues both in a face to face class and also online. Create a social media group for each group (e.g. Facebook, WhatsApp, Telegram) to									
learning outcomes.	Independe student pe	ent study: a ersonally en	iny of the a	above methorelevant con	ods will include a tent. Tutors to o	other suitable device an element of indepe lirect student teacher ademy, TESSA) to sup	ndent study rs to Open Ed	ducational		

•	Overarching	Student Teachers will:									
	outcome, what you										
	want the students	Conduct cost some ICT resources in the STS school using the total cost of ownership approach									
	to achieve, serves										
	as basis for the										
	learning outcomes.										
	An expanded										
	version of the										
	description.										
•	Write in full aspects of the NTS										
	addressed										
•	Learning Outcome	Learning Outcom	es	Learning Indicators	Identify which cross cutting						
	for the lesson,				issues – core and transferable						
	picked and				skills, inclusivity, equity and						
	developed from the				addressing diversity. How will						
	course specification				these be addressed or						
•	Learning indicators				developed?						
	for each learning	CLO5: Apply the b		5.1 Perform a cost analysis of	Develop skills in Integration of						
	outcome	concepts of finance		an IT project or	ICT, collaboration and						
		management incl and budgeting.	uding costing	operations and present a written report.	communication, knowledge on equity, gender and						
		NTS: 2c, 2e, 3a, 3	h. 3e /	written report.	Inclusion as well as reflection						
		NTECF: Pillar 1, 2			and critical thinking						
		crosscutting issue									
		skills, Assessment	t,								
		Professional valu	es and								
		attitudes).	T								
Top	oic Title:			Teaching and learning activities to achieve							
		Sub-tonic	Stage/time	outcomes depending on the delivery mode selected.  Teacher-led collaborative group work or							
		Sub-topic Stage/time		= -							
		Sub-topic	Stage/time		active group work or						
		Sub-topic	Stage/time	independent.  Teacher Activity	Student Activity						
		Recap of	30 mins	independent.							
		-	_	independent. Teacher Activity	Student Activity						
		Recap of	_	independent. Teacher Activity Questioning: Tutor uses questioning to recap student teacher's knowledge and	Student Activity  Questioning: Student teacher answers questions to recap student teacher's knowledge						
		Recap of	_	independent. Teacher Activity Questioning: Tutor uses questioning to recap student teacher's knowledge and understanding of	Student Activity  Questioning: Student teacher answers questions to recap student teacher's knowledge and understanding of						
		Recap of	_	independent. Teacher Activity Questioning: Tutor uses questioning to recap student teacher's knowledge and	Student Activity  Questioning: Student teacher answers questions to recap student teacher's knowledge and understanding of performance appraisals. Use a						
		Recap of	_	independent. Teacher Activity Questioning: Tutor uses questioning to recap student teacher's knowledge and understanding of	Student Activity  Questioning: Student teacher answers questions to recap student teacher's knowledge and understanding of performance appraisals. Use a concepts maps to link the key						
		Recap of previous lesson	30 mins	independent.  Teacher Activity  Questioning: Tutor uses questioning to recap student teacher's knowledge and understanding of performance appraisals.	Student Activity  Questioning: Student teacher answers questions to recap student teacher's knowledge and understanding of performance appraisals. Use a concepts maps to link the key points.						
		Recap of	_	independent. Teacher Activity Questioning: Tutor uses questioning to recap student teacher's knowledge and understanding of performance appraisals.  Face-to-face & e-learning	Student Activity  Questioning: Student teacher answers questions to recap student teacher's knowledge and understanding of performance appraisals. Use a concepts maps to link the key points.  Face-to-face & e-learning						
		Recap of previous lesson	30 mins	independent.  Teacher Activity  Questioning: Tutor uses questioning to recap student teacher's knowledge and understanding of performance appraisals.	Student Activity  Questioning: Student teacher answers questions to recap student teacher's knowledge and understanding of performance appraisals. Use a concepts maps to link the key points.						
		Recap of previous lesson	30 mins	independent.  Teacher Activity  Questioning: Tutor uses questioning to recap student teacher's knowledge and understanding of performance appraisals.  Face-to-face & e-learning Guides student teachers to	Student Activity  Questioning: Student teacher answers questions to recap student teacher's knowledge and understanding of performance appraisals. Use a concepts maps to link the key points.  Face-to-face & e-learning Student teachers watch a						
		Recap of previous lesson	30 mins	independent.  Teacher Activity  Questioning: Tutor uses questioning to recap student teacher's knowledge and understanding of performance appraisals.  Face-to-face & e-learning Guides student teachers to watch short videos from	Student Activity  Questioning: Student teacher answers questions to recap student teacher's knowledge and understanding of performance appraisals. Use a concepts maps to link the key points.  Face-to-face & e-learning Student teachers watch a video share their views on cost						
		Recap of previous lesson	30 mins	independent.  Teacher Activity  Questioning: Tutor uses questioning to recap student teacher's knowledge and understanding of performance appraisals.  Face-to-face & e-learning Guides student teachers to watch short videos from YouTube, on what cost is and the types of cost. Tutor then leads a discussion to discuss	Student Activity  Questioning: Student teacher answers questions to recap student teacher's knowledge and understanding of performance appraisals. Use a concepts maps to link the key points.  Face-to-face & e-learning Student teachers watch a video share their views on cost Student teachers share their						
		Recap of previous lesson	30 mins	independent.  Teacher Activity  Questioning: Tutor uses questioning to recap student teacher's knowledge and understanding of performance appraisals.  Face-to-face & e-learning Guides student teachers to watch short videos from YouTube, on what cost is and the types of cost. Tutor then	Student Activity  Questioning: Student teacher answers questions to recap student teacher's knowledge and understanding of performance appraisals. Use a concepts maps to link the key points.  Face-to-face & e-learning Student teachers watch a video share their views on cost Student teachers share their views on what cost are and the						
		Recap of previous lesson	30 mins	independent.  Teacher Activity  Questioning: Tutor uses questioning to recap student teacher's knowledge and understanding of performance appraisals.  Face-to-face & e-learning Guides student teachers to watch short videos from YouTube, on what cost is and the types of cost. Tutor then leads a discussion to discuss	Student Activity  Questioning: Student teacher answers questions to recap student teacher's knowledge and understanding of performance appraisals. Use a concepts maps to link the key points.  Face-to-face & e-learning Student teachers watch a video share their views on cost Student teachers share their views on what cost are and the						
		Recap of previous lesson	30 mins	independent.  Teacher Activity  Questioning: Tutor uses questioning to recap student teacher's knowledge and understanding of performance appraisals.  Face-to-face & e-learning Guides student teachers to watch short videos from YouTube, on what cost is and the types of cost. Tutor then leads a discussion to discuss	Student Activity  Questioning: Student teacher answers questions to recap student teacher's knowledge and understanding of performance appraisals. Use a concepts maps to link the key points.  Face-to-face & e-learning Student teachers watch a video share their views on cost Student teachers share their views on what cost are and the						
		Recap of previous lesson	30 mins	independent.  Teacher Activity  Questioning: Tutor uses questioning to recap student teacher's knowledge and understanding of performance appraisals.  Face-to-face & e-learning Guides student teachers to watch short videos from YouTube, on what cost is and the types of cost. Tutor then leads a discussion to discuss	Student Activity  Questioning: Student teacher answers questions to recap student teacher's knowledge and understanding of performance appraisals. Use a concepts maps to link the key points.  Face-to-face & e-learning Student teachers watch a video share their views on cost Student teachers share their views on what cost are and the						
		Recap of previous lesson  Cost	30 mins	independent.  Teacher Activity  Questioning: Tutor uses questioning to recap student teacher's knowledge and understanding of performance appraisals.  Face-to- face & e-learning Guides student teachers to watch short videos from YouTube, on what cost is and the types of cost. Tutor then leads a discussion to discuss the concepts of cost  E-learning & PracticalActivity. Shows short videos on the	Student Activity  Questioning: Student teacher answers questions to recap student teacher's knowledge and understanding of performance appraisals. Use a concepts maps to link the key points.  Face-to-face & e-learning Student teachers watch a video share their views on cost Student teachers share their views on what cost are and the types of cost.  Independent Study & PracticalActivity						
		Recap of previous lesson  Cost  Total Cost of	30 mins	independent.  Teacher Activity  Questioning: Tutor uses questioning to recap student teacher's knowledge and understanding of performance appraisals.  Face-to-face & e-learning Guides student teachers to watch short videos from YouTube, on what cost is and the types of cost. Tutor then leads a discussion to discuss the concepts of cost  E-learning & PracticalActivity. Shows short videos on the meaning of total Cost of	Student Activity  Questioning: Student teacher answers questions to recap student teacher's knowledge and understanding of performance appraisals. Use a concepts maps to link the key points.  Face-to-face & e-learning Student teachers watch a video share their views on cost Student teachers share their views on what cost are and the types of cost.  Independent Study & PracticalActivity Based on the videos watched,						
		Recap of previous lesson  Cost  Total Cost of	30 mins	independent.  Teacher Activity  Questioning: Tutor uses questioning to recap student teacher's knowledge and understanding of performance appraisals.  Face-to-face & e-learning Guides student teachers to watch short videos from YouTube, on what cost is and the types of cost. Tutor then leads a discussion to discuss the concepts of cost  E-learning & PracticalActivity. Shows short videos on the meaning of total Cost of Ownership. Tutor then Guides	Student Activity  Questioning: Student teacher answers questions to recap student teacher's knowledge and understanding of performance appraisals. Use a concepts maps to link the key points.  Face-to-face & e-learning Student teachers watch a video share their views on cost Student teachers share their views on what cost are and the types of cost.  Independent Study & Practical Activity Based on the videos watched, student teachers discuss in						
		Recap of previous lesson  Cost  Total Cost of	30 mins	independent.  Teacher Activity  Questioning: Tutor uses questioning to recap student teacher's knowledge and understanding of performance appraisals.  Face-to- face & e-learning Guides student teachers to watch short videos from YouTube, on what cost is and the types of cost. Tutor then leads a discussion to discuss the concepts of cost  E-learning & PracticalActivity. Shows short videos on the meaning of total Cost of Ownership. Tutor then Guides student teachers in their	Student Activity  Questioning: Student teacher answers questions to recap student teacher's knowledge and understanding of performance appraisals. Use a concepts maps to link the key points.  Face-to-face & e-learning Student teachers watch a video share their views on cost Student teachers share their views on what cost are and the types of cost.  Independent Study & PracticalActivity Based on the videos watched, student teachers discuss in groups and discuss the						
		Recap of previous lesson  Cost  Total Cost of	30 mins	independent.  Teacher Activity  Questioning: Tutor uses questioning to recap student teacher's knowledge and understanding of performance appraisals.  Face-to-face & e-learning Guides student teachers to watch short videos from YouTube, on what cost is and the types of cost. Tutor then leads a discussion to discuss the concepts of cost  E-learning & PracticalActivity. Shows short videos on the meaning of total Cost of Ownership. Tutor then Guides student teachers in their groups to obtain the TCO of	Student Activity  Questioning: Student teacher answers questions to recap student teacher's knowledge and understanding of performance appraisals. Use a concepts maps to link the key points.  Face-to-face & e-learning Student teachers watch a video share their views on cost Student teachers share their views on what cost are and the types of cost.  Independent Study & Practical Activity Based on the videos watched, student teachers discuss in groups and discuss the concept of TCO.						
		Recap of previous lesson  Cost  Total Cost of	30 mins	independent.  Teacher Activity  Questioning: Tutor uses questioning to recap student teacher's knowledge and understanding of performance appraisals.  Face-to- face & e-learning Guides student teachers to watch short videos from YouTube, on what cost is and the types of cost. Tutor then leads a discussion to discuss the concepts of cost  E-learning & PracticalActivity. Shows short videos on the meaning of total Cost of Ownership. Tutor then Guides student teachers in their	Student Activity  Questioning: Student teacher answers questions to recap student teacher's knowledge and understanding of performance appraisals. Use a concepts maps to link the key points.  Face-to-face & e-learning Student teachers watch a video share their views on cost Student teachers share their views on what cost are and the types of cost.  Independent Study & PracticalActivity Based on the videos watched, student teachers discuss in groups and discuss the concept of TCO. Student teachers in their						
		Recap of previous lesson  Cost  Total Cost of	30 mins	independent.  Teacher Activity  Questioning: Tutor uses questioning to recap student teacher's knowledge and understanding of performance appraisals.  Face-to-face & e-learning Guides student teachers to watch short videos from YouTube, on what cost is and the types of cost. Tutor then leads a discussion to discuss the concepts of cost  E-learning & PracticalActivity. Shows short videos on the meaning of total Cost of Ownership. Tutor then Guides student teachers in their groups to obtain the TCO of	Student Activity  Questioning: Student teacher answers questions to recap student teacher's knowledge and understanding of performance appraisals. Use a concepts maps to link the key points.  Face-to-face & e-learning Student teachers watch a video share their views on cost Student teachers share their views on what cost are and the types of cost.  Independent Study & Practical Activity Based on the videos watched, student teachers discuss in groups and discuss the concept of TCO.						

	Closure	10 mins	Tutor leads student teachers to review their knowledge of the concept of cost and recap concepts learnt.	Student teacher reviews with tutor the understanding or cost.
Lesson assessments –	Summary of Asse	ssment Meth	od:	
evaluation of learning:		_	roject: Student teachers will unde	
of, for and as learning			of an ICT recourse (e.g. Computer	Laboratory/network/software
within the lesson	etc) and write a p	roject report o	on it.	
	Assesses Learning		of fine a sign of a second translation	a a a stilla a a a al la colla ationa
	Assessment to air	-	of financial management includin	g costing and budgeting.
	NTS: 2c, 2e, 3a, 3	_	) N13.	
Instructional Resources	i. Smartphones	<i>5, 5</i> e		
moti detional nesources	ii. Laptops			
	iii. Desktop comp	iters		
	iv. Tablets			
	v. TV and Radio			
		nal Resources	(Including: YouTube, MOOCS-Ude	emy/coursera, khan academy,
	TESSA)			
	vii. The iBox (CEN	DLOS)		
	viii. Productivity t	ools		
	ix. Subject based a	application so	ftware	
			th multimedia equipment and sm	
Required Text (core)	Dyson, J. R. (2010	). Accounting j	for Non-Accounting Students (8 <sup>th</sup> E	Ed.) Essex: Pearson Education
	Ltd			
Additional Reading List			ources (youtube.com, MOOCs: Kh	an Academy, TESSA, Udemyetc)
CPD needs	Need for seminar		of Ownership	
	Writing reflective			
		•	practice/conferences and accessi	ng online magazines (E-zines) &
	journals to obtain	•		waterias & www.atiasa
	_		rvation to improve instructional st	= -
	Supporting stude	it teachers in	collaborating in designing and dev	reioping a wiki.

Year of B.Ed. 2 Semester 1 Place of lesson in semester 12345678 9 10 11 12

Title of						Les	son 3	3				
Lesson	Managing Fir	Managing Finance II Duration Hours										
Lesson	In this lossor	In this lesson, Student teachers will learn how to budget for ICT. (National Teachers' Standard: 1a, 1b, 3b,										
description		3c, 3e, 3d, 3n/NTECF: Pillar crosscutting issues; Core skills, Professional values and attitudes).										
Previous		Student teachers have taken earlier lesson and have a good grasp of how to cost ICT resources										
student	Stadent teac	Student teachers have taken earlier lesson and have a good grasp of how to cost ici resources										
teacher												
knowledge,												
prior												
learning												
(assumed)												
Possible	Some studer	nt teachers i	night not h	nave grasped	d earlier costing	concepts.						
barriers to			J		_	·						
learning in												
the lesson												
Lesson	Face-to-	Practical	Work-	Seminars	Independent	e-learning	Practicum					
Delivery –	face	Activity	Based	[٧]	Study [ V]	opportunities						
chosen to	[1]	[√]	Leaning			[1]						
support												
students in												
achieving												
the												
outcomes												
Lesson				-	•	· ·	ng kinds should be use					
Delivery –		-	<b>s</b> -Student	teachers wo	uld watch video	s on YouTube/videos	about responsible use	of				
main mode	technology s	•										
of delivery			_			should be encourage						
chosen to		-	nt teacner	s will review	work samples of	or other student teach	ers to explain progress	5				
support student	or barriers to	_	+ +000bc==	in small cra	uns to overeins	various issues beth in	a face to face class see	٦				
	•	•		_	•		a face to face class and elegram) to enable the					
teachers in achieving			_		other suitable o		eiegrann) to enable the	<b>:</b> 111				
the learning			_	-		element of independ	ent study to enable					
outcomes.	_					ect student teachers t						
outcomes.	· ·		_				rt independent study.					
	nesources (e	.g. Tourube	., 1410003-	ouemy/cour	sera, kilali acau	emy, resort to suppo	it macpenaent stady.					

_	Overarchina	Ctudent Teachers will							
•	Overarching outcome, what you want the students to achieve, serves as basis for the learning outcomes. An expanded version of the description. Write in full aspects of the NTS	Student Teachers will:  Further develop their programming skills and gain an ability to develop computer programs and develop a programming style that is accepted industry practice NTS: 1a, 1d, 2c, 2e/NTECF: Pillar 1& 3							
	addressed								
•	Learning Outcome for the lesson, picked and developed from the course specification	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?				
•	Learning indicators	CLO5: Apply the bas	•	5.2 Develop a budget for	Develop skills in Integration of				
	for each learning outcome	of financial manage including costing an NTS: 2c, 2e, 3a, 3b, Pillar 1, 2 & 3 crosse issues; Core skills, A Professional values attitudes).	d budgeting.  3e / NTECF: cutting lssessment,	an IT project or operations and present a written report.	ICT, collaboration and communication, knowledge on equity, gender and Inclusion as well as reflection and critical thinking.				
Тор	oic Title:			_	arning activities to achieve				
		Sub tonic	Stage/time	=	ding on the delivery mode r-led collaborative group work or				
		Sub-topic	Stage/time	independent.	-led collaborative group work of				
				Teacher Activity	Student Activity				
		Recap of previous lesson	20 mins	Questioning: Tutor uses questioning to recap student teacher's knowledge and understanding of cost. Use a concepts maps to link the key points.	Questioning: Student teacher answers questions to recap student teacher's knowledge and understanding of cost. Use a concepts maps to link the key points.				
		Budgets	60 mins	Face-to- face & e-learning Tutor guides student teachers to watch show short videos from YouTube, on how to prepare IT budgets.	Face-to-face & Practical Activity Student teachers share their views on how to prepare IT budgets				
		Budget preparation	80 mins	Group work: In their groups tutor guides them to prepare a budget for an IT project that will be suitable in their STS school.	e-learning Student teachers work in groups to prepare a budget for a project that will be suitable for their STS school.				
		Lesson Closure	20 mins	Tutor leads student teacher groups to review their understanding of budgets and how to prepare them.	Student teacher review their knowledge of budgets and how to prepare them.				
eva of,	son assessments – luation of learning: for and as learning hin the lesson	Summary of Assess Assessment of learn resource needed in	<b>ning:</b> Mini Proj	ect - Student teachers to dev	elop a project budget for an ICT				

	Assesses Learning Outcomes:  CLO5: Apply the basic concepts of financial management including costing and budgeting.  Assessment to aim at achieving NTS:  NTS: 2c, 2e, 3a, 3b, 3e
	1413. 20, 20, 30, 30
Instructional Resources	i. Smartphones
	ii. Laptops
	iii. Desktop computers
	iv. Tablets
	v. TV and Radio
	vi. Open Educational Resources (Including: YouTube, MOOCS-Udemy/coursera, khan academy,
	TESSA)
	vii. The iBox (CENDLOS)
	viii. Productivity tools
	ix. Subject based application software
	x. Instructional Laboratories (with multimedia equipment and smartboards)
Required Text (core)	Dyson, J. R. (2010). <i>Accounting for Non-Accounting Students</i> (8 <sup>th</sup> Ed.) Essex: Pearson Education Ltd
Additional Reading List	Selected articles and online resources (youtube.com, MOOCs: Khan Academy, TESSA, Udemyetc)
CPD needs	Seminar on budgeting
	Writing reflective notes
	Participating in a community of practice/conferences and accessing online magazines (E-zines) &
	journals to obtain up to date content.
	Team teaching and lesson observation to improve instructional strategies & practices.
	Supporting student teachers in collaborating in designing and developing a wiki.

Year of B.Ed. 2 Semester 1 Place of lesson in semester 123456789 10 11 12

Title of Lesson		Lesson 3								
	Managir	Managing Procurement Duration Hours								
Lesson	In this le	In this lesson, student teachers will explore issues relating to procuring ICT goods and services. Students								
description	teachers	teachers will also be exposed to some of the elements of the Public Procurement laws of Ghana.								
Previous student	Student	teachers ar	e familiar w	ith ICT resou	urces that are us	sed by schools.				
teacher										
knowledge, prior										
learning										
(assumed)										
Possible barriers	Some st	udent teach	ers might n	ot have a go	ood knowledge o	of goods and servi	ces used b	y schools.		
to learning in the										
lesson		1	1		T	T				
Lesson Delivery	Face-	Practical	Work-	Seminars	Independent	e-learning	Practi	cum		
<ul><li>chosen to</li></ul>	to-	Activity	Based	[٧]	Study [ v]	opportunities				
support students	face [	[ 1	Learning			[√]				
in achieving the	٧]									
outcomes										
Lesson Delivery										
– main mode of		<b>face</b> – Both	i teacher ar	nd student-le	ed approaches s	such as discussion	s of varyin	g kinds should be		
delivery chosen	used.									
to support				ent teacners	would watch vi	deos on YouTube	/videos abo	out responsible		
student teachers		echnology s	-	aroun proc	ntation of proje	sets should be one	ourogod			
in achieving the				•		ects should be end es of other studer	_	to ovalain		
learning outcomes.		or barriers			iew work sampi	es of other studer	it teatile(S	to explain		
outcomes.			_		graiins ta eyami	ine various issues	hoth in a f	ace to face class		
	_	-				(e.g. Facebook, \				
						y other suitable d		relegially to		
				_		an element of in		study to enable		
	-	=	•			direct student te	•	•		
						cademy, TESSA) t		•		
	study.	(-0	,	//-	,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	- 1-1			

•	Overarching	Student teachers v	Student teachers will:								
	outcome, what you want the students to achieve, serves as basis for the learning outcomes. An expanded version of		_	•	system deployment models and be able to 3NTS: 1a, 1d, 2c, 2e/NTECF: Pillar 1& 3						
•	the description. Write in full aspects of the NTS addressed										
•	Learning Outcome for	Learning Outcome	es	Learning Indicators	Identify which cross cutting issues – core and transferable skills, inclusivity, equity						
•	the lesson, picked and developed from the course specification Learning indicators for each learning outcome	Pillar 1, 2 & 3	he basic concepts ment including a's Public Act 663) i, 1g, 2c, 2e/ NTECF: crosscutting issues; sment, Professional	Explain some basic concepts of procurement management including the public procurement act, in a written form e.g. examination, report, and quiz.	and addressing diversity.  These strategies will respond to inclusivity and equity (i.e. ICT as a tool for expanding learning to diverse learners e.g. People with visual impairment, dyslexia, dysgraphia). Identify the instances when personal, cultural, and institutionalized discrimination are creating and/ or sustaining disadvantages for some student-teachers						
		Sub-topic	Stage/time	Teaching and learning activities to achieve outcomes depending on the delivery mode selected. Teacher-led collaborative group work or independent.							
				Teacher Activity	Student Activity						
		Recap of previous lesson	20 mins	Questioning: Tutor uses questioning to recap student teacher's knowledge and understanding of preparation of budgets.	Questioning: Student teacher answers questions to recap student teacher's knowledge and understanding of preparation of budgets.						
		Issues 70 mins surrounding procurement		Lecturette& Questioning: Tutor gives a brief interactive lecturette on issues surrounding the procurement function.	Lecturette& Questioning: Student teacher part-takes in the interactive lecturette on issues surrounding the procurement function						
		Procurement processes	70 mins	discussion &lecturette: Tutor uses an interactive lecturette to introduce student teachers to the procurement	e-learning and discussion: Student teacher partakes in an interactive lecturette to understand the procurement types and processes with special emphasis on the Ghanaian procurement law.						

			types and processes with special emphasis on the Ghanaian procurement law and using practical examples from school.	
	Lesson Closure	20 mins	Tutor uses questioning to recap the concepts learnt in the lesson	Student teacher answers questions to recap the concepts learnt in the lesson. Student teachers develops a wiki in their groups in their groups on "the potential applications of robotics in education"
Lesson	Summary of Asses	sment Method:		- F
assessments – evaluation of learning: of, for	Assessment for lea	<b>arning:</b> Wiki on <i>"the l</i> o.	benefits of having a t	ransparent procurement process"to be
and as learning within the lesson	Assesses Learning		larstanding of the bas	is consents managing procurement
within the lesson			ocurement Act (Act 66	ic concepts managing procurement
	Assessment to aim		ocurement Act (Act of	)5)
	NTS: 1b, 1c, 1e, 1f,	_		
Instructional	i. Smartphones	<i>J,</i> ,		
Resources	ii. Laptops			
	iii. Desktop compu	ters		
	iv. Tablets			
	v. TV and Radio			
	vi. Open Education	al Resources (Includi	ng: YouTube, MOOCS-	Udemy/coursera, khan academy,
	TESSA)			
	vii. The iBox (CEND	•		
	viii. Productivity to			
	_	pplication software		
Postuired Test			media equipment and	rd Ed.) Morgan Kaufmann Publishers
Required Text (core)	noitsilider, B. & Jai	ie, b. D. (2012) II MC	инидег з пипавоок (3)	u Eu., Morgan Kaumann Publishers
Additional				
Reading List	Selected articles ar	nd online resources (y	outube.com, MOOCs	: Khan Academy, TESSA, Udemyetc)
CPD needs	Need for seminar o	on public procuremen	nt	
	Writing reflective r			
	Participating in a co	ommunity of practice	c/conferences and acc	essing online magazines (E-zines) &
	journals to obtain	-		
				al strategies & practices.
	Supporting studen	t teachers in collabor	ating in designing and	developing a wiki.

Year of B.Ed. 2 Semester 1 Place of lesson in semester 12345678910 11 12

Title of Lesson	Managin	ng the IT client	(Marketing	;)		ı	esson Duratio	3 Hour s		
Lesson description	In this lesson, Student teachers will examine the Services that IT offers to school how to formulate them to satisfy their stakeholders and support the school achieve their goals NTS: 1b, 1c, 1e, 1f, 1g, 2c, 2e/NTECF: Pillar 1, 2 & 3 crosscutting issues; Core skills, Assessment, Professional values and attitudes).									
Previous student teacher knowledge, prior learning (assumed)	Student	Student teachers have knowledge of the kinds of services that ICT units provide for school.								
Possible barriers to learning in the lesson	Some stu	udent teachers	s might not	appreciate	the ICT services	provided to school				
Lesson Delivery - chosen to support students in achieving the outcomes	Face- to- face [ √]	Practical Activity [ V]	Work- Based Learnin g	Seminar s [ V ]	Independen t Study [ v]	e-learning opportunities [ V ]	Practic	um		
Lesson Delivery  – main mode of delivery chosen to support student teachers in achieving the learning outcomes.	used. e-learnir of technol Seminar Group w and also enable tl Indepens student	ng opportuniti ology systems s – Both indivi vork: put stude online. Create hem interact o dent study: a personally eng	ies -Student idual and grent teachers a a social me butside class ny of the ab	t teachers we coup present s in small group fedia group fedia group fedia group their pove methodelevant cont	ould watch vide tation of project oups to examine or each group (of mobile or any of ds will include a ent. Tutors to d	ech as discussions of eos on YouTube/vic es should be encour e various issues bot e.g. Facebook, What other suitable device in element of indep demy, TESSA) to su	raged. th in a face atsApp, Telese endent stuers to Ope	e to face class legram) to udy to enable en Educational		
Overarchin g outcome, what you want the students to achieve, serves as basis for the learning outcomes.  An expanded version of the description  Write in full aspects of the NTS addressed	To give s		to reflect	student te	acher's accomp	hat meet the need				

• Learning Outcome for the	Outcome		Learning Indicators	Identify which cross cutting issues – core and transferable skills, inclusivity, equity and addressing diversity.					
lesson, picked and developed from the course specificatio n Learning indicators for each  CLO7: De knowledg understa basic con marketin including NTS: 1b, 2c, 2e/ N & 3 cross Core skill		and ng of the	Explain some basic concepts of marketing management including the marketing mix in a written form	These strategies will respond to inclusivity and equity (i.e. ICT as a tool for expanding learning to diverse learners e.g. People with visual impairment, dyslexia, dysgraphia). Identify the instances when personal, cultural, and institutionalized discrimination are creating and/ or sustaining disadvantages for some student-teachers.					
Topic Title:	Sub-topic	Stage/time		ectivities to achieve outcomes depending lected. Teacher-led collaborative group					
		otage, time	Teacher Activity	Student Activity					
	Recap of previous lesson	20 mins	Questioning: Tutor uses questioning to recap student teacher's knowledge and understanding of preparation of budgets.	Questioning: Student teacher answers questions to recap student teacher's knowledge and understanding of preparation of budgets.					
	Marketing orientatio n	70 mins	e-learning & Questioning: Tutor shows a short video on the marketing orientation and uses questioning to draw out the features of the marketing orientation distinguishing it from the sales and production orientation.	e-learning & Questioning: student teacher watches a short video on the marketing orientation and answers questions to identify the features of the marketing orientation distinguishing it from the sales and production orientation.					
	Marketing Mix	70 mins	discussion &lecturette: Tutor uses an interactive lecturette to introduce student teachers to the marketing mix using practical examples from school to explain each element of the marketing mix.  Tutor breaks student teachers into groups to describe the marketing mix for an identified an ICT service in school	e-learning and discussion: Student teacher partakes in an interactive lecturette to understand the marketing mix student teachers work in their groups to describe the marketing mix for an identified an ICT service in school.					
	Lesson Closure	20 mins	Tutor reviews students' knowledge on the marketing orientation using discussion.	Student teacher discusses the concepts of marketing orientation to review their knowledge.					
Lesson assessments – evaluation of learning: of, for and as learning within the lesson	Assessment services produced Assesses Lea	of learning: worked in school of the school	Outcomes: e knowledge and understanding of the basic concepts marketing management						
	Assessment	to aim at ach 1e, 1f, 1g, 2c,	_						
Instructional Resources	i. Smartphor ii. Laptops iii. Desktop o iv. Tablets v. TV and Ra	nes computers							

	vi. Open Educational Resources (Including: YouTube, MOOCS-Udemy/coursera, khan academy,					
	TESSA)					
	vii. The iBox (CENDLOS)					
	viii. Productivity tools					
	ix. Subject based application software					
	x. Instructional Laboratories (with multimedia equipment and smartboards)					
Required Text	Kotler, P. & Armstrong, G. (2017) Principles of Marketing (17th Ed. Pearson					
(core)						
Additional						
Reading List	Selected articles and online resources (youtube.com, MOOCs: Khan Academy, TESSA, Udemyetc)					
CPD needs	Need for seminar on IT services to schools					
	Writing reflective notes					
	Participating in a community of practice/conferences and accessing online magazines (E-zines) & journals					
	to obtain up to date content.					
	Team teaching and lesson observation to improve instructional strategies & practices.					
	Supporting student teachers in collaborating in designing and developing a wiki.					

Year of B.Ed. 2 Semester 1 Place of lesson in semester 12345678910 11 12

Title of Lesson	IT Management Best Practices.					Lesson Duration			
Lesson description	In this lesson, Student teachers will examine some of the best practices used in managing ICT services								
•		school NTS: 1b, 1c, 1e, 1f, 1g, 2c, 2e/ NTECF: Pillar 1, 2 & 3 crosscutting issues; Core skills, Assessment,							
	Professional values and attitudes).								
Previous student	_	Student teachers are familiar with the services provided by ICT units to schools							
teacher	Student teach	ileis are	iaiiiiiai w	iiii iiie seiv	ices provide	и Бут	CT utilits to scribo	15	
knowledge, prior									
learning									
(assumed)									
Possible barriers	Some studen	Some student teachers might not appreciate that ICT units as a service provider but rather a purely							
to learning in the	technical unit		J	• •					. ,
lesson									
Lesson Delivery –	Face- Pra	actical	Work-	Seminars	Independe	ent	e-learning	Practicu	ım
chosen to support	to-face Act	tivity	Based	[٧]	Study [ V]		opportunities		
students in	[v] [v	]	Leaning				[√]		
achieving the									
outcomes									
Lesson Delivery -									
main mode of		– Both to	eacher an	id student-le	ed approach	es su	ch as discussions	of varying	kinds should be
delivery chosen to	used.								
support student		e-learning opportunities -Student teachers would watch videos on YouTube/videos about responsible							
teachers in	use of techno					<b>.</b>			
achieving the						-	cts should be enco	_	to oveleie
learning outcomes.	progress or b	-			iew work sa	mpie	s of other student	teachers	to explain
outcomes.	. –		_		groups to a	vamin	na various issuas k	oth in a fa	ace to face class
	_	<b>Group work:</b> put student teachers in small groups to examine various issues both in a face to face class and also online. Create a social media group for each group (e.g. Facebook, WhatsApp, Telegram) to							
				_		-	other suitable de		
				_		-	an element of ind		study to enable
	-	-	-				direct student tea	-	•
	Educational F	Resource	s (e.g. Yo	uTube, MOC	CS-Udemy/	cours	era, khan academ	ıy, TESSA)	to support
	independent	study.							
<ul> <li>Overarching</li> </ul>	Student teacl	Student teachers will:							
outcome,									
what you		Demonstrate an understanding of me IT best practices including Infrastructure library, ISO 2700 NTS:							
want the		1b, 1c, 1e, 1f, 1g, 2c, 2e/ NTECF: Pillar 1, 2 & 3 crosscutting issues; Core skills, Assessment,							
students to	Professional	Professional values and attitudes).							
achieve,									
serves as basis for the									
learning									
outcomes. An									
expanded									
version of the									
description.									
• Write in full									
aspects of the									
NTS									
addressed									
<ul><li>Learning</li></ul>	Learning		Lear	ning Indicat			tify which cross of	•	
Outcome for	Outcomes					trans	ferable skills,	inclusivity	, equity and
	<u> </u>								

the lesson, picked and developed			addressing diversity. How will these be addressed or developed?
from the course specification  Learning indicators for each learning outcome	CLO5. Demonstrate knowledge and understanding of the various system deployment models and be able to plan system deployment. NTS: 1a, 1d, 2c, 2e/NTECF: Pillar 1& 3	5.1 Explain and plan system deployment.	These strategies will respond to inclusivity and equity (i.e. ICT as a tool for expanding learning to diverse learners e.g. People with visual impairment, dyslexia, dysgraphia). Identify the instances when personal, cultural, and institutionalized discrimination are creating and/ or sustaining disadvantages for some student-teachers
	CLO 6: Build a professional record to reflect student teacher's accomplishments, skills, experiences, learning and attributes. NTS: 1a, 1d, 2c, 2e/NTECF: Pillar 1, 3, & 4	6.1 Build a portfolio	

Topic Title:	Sub-topic	Stage/time	Teaching and learning activities to achieve outcomes depending on the delivery mode selected. Teacher-led collaborative group work or independent.			
			Teacher Activity	Student Activity		
	Recap lesson on Systems deployment	15min	Face-to-face: Tutor/lecturer recaps previous lesson on marketing.	e-learning & Seminar Student teachers discuss the previous lesson on marketing		
	standards and Best practices	85 Mins	e-learning Shows short videos explaining what a best practice is and the various standards and best practices (e.g. ITIL ISO 27000, etc) used in ICT management. Tutor then discusses these concepts with students	e-learning & Seminar Student teachers watch videos from YouTube on some IT standards and best practices; make notes from the videos for small group's discussion.		
	Application IT standards and Best practices in school	70 Mins	Practical session: Tutor breaks student teachers into groups to discuss how to practices could be applied in school to improve the delivery of ICT services to the school community	Practical session: Student teacher discusses in their groups how these best practices and standards can be used to improve ICT services to the school community.		
	Lesson Closure	20 mins	Tutor reviews maintenance (upgrade and repair) plan, deployment plans, training, Basic electronics: voltage, current, power, motors, sensors, fault detection, testing, tolerance and recovery, with student teachers to recap concepts learnt in the course.	Student teacher reviews with tutor maintenance (upgrade and repair) plan, deployment plans, training, Basic electronics: voltage, current, power, motors, sensors, fault detection, testing, tolerance and recovery, with student teachers to recap concepts learnt in the course.		
Lesson assessments – evaluation of learning: of, for and as learning within the lesson	Summary of Assessment Method:  Assessment as learning: Student teacher will write reflective notes on how one best practice can be used to improve ICT services provided by their STS school.  Assesses Learning Outcomes:  CLO8: Demonstrate knowledge and understanding of IT management best practices and standards.  Assessment to aim at achieving NTS:  NTS: 1b, 1c, 1e, 1f, 1g, 2c, 2e					
Instructional Resources	i. Smartphones ii. Laptops iii. Desktop computers iv. Tablets v. TV and Radio vi. Open Educational Resources (Including: YouTube, MOOCS-Udemy/coursera, khan academy, TESSA) vii. The iBox (CENDLOS) viii. Productivity tools ix. Subject based application software x. Instructional Laboratories (with multimedia equipment and smartboards)					
Required Text (core)				Brd Ed.) Morgan Kaufmann Publishers		
Additional Reading List	Selected artic	cles and online	resources (youtube.com, MOOC	s: Khan Academy, TESSA, Udemyetc)		
CPD needs	Need for sem	inar on IT best	t practices			

	Writing reflective notes  Participating in a community of practice/conferences and accessing online magazines (E-zines) & journals to obtain up to date content.  Team teaching and lesson observation to improve instructional strategies & practices.
Course Assessment	Supporting student teachers in collaborating in designing and developing a wiki.  Component 1: Portfolio Assessment: (30% overall score)  Selected items of students work (3 of them – 10% each)- 30%  Midterm Assessment – 20%  Reflective Journal – 40%  Organisation of subject portfolio – 10% (how it is presented/organized)  Component 2: Subject Project (30% overall semester score)  Introduction a clear statement of aim and purpose of the project – 10%  Methodology: what the student teacher has done and why to achieve the purpose of the project – 20%  Substantive or main section – 40%  Component 3: End of Semester Examination – 40% overall

 $<sup>^{\</sup>rm 1}$  See rubric on Subject Portfolio Assessment in Annex 6 of NTEAP  $^{\rm 2}$  See rubric on Subject Project Assessment in Annex 6 of NTEAP

