YEAR 2

SEMESTER 1

Four-Year B.Ed. Course Manual

TVET - WOODWORK TECHNOLOGY 1









The Government of Ghana









FOREWORD

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

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

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

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

Professor Mohammed Salifu Director General, Ghana Tertiary Education Commission

ACKNOWLEDGEMENTS

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

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

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

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

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

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

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INTRODUCTION TO COURSE MANUALS

Welcome to this B.Ed. Course manual.

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

The manuals serve the following purposes:

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

Specifically, they also:

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

Who are course manuals for:

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

USING THIS MANUAL

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

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

| My teaching philosophy is | |
|-------------------------------|--|
| In view of this philosophy, I | will facilitate this course by/through |

Course Manual Writing Guide

Resources for Course Manual Writing

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

Target Audience

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

The purpose of course manuals

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

Guiding principles of course manual writing

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

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

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

Guidance for completing the course manual writing proforma: two sections

A. Course Information

Title Page

- i. Woodwork Technology I
- ii. 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. "

| iii. | Cours | ourse Details: as in course specification unless important reason why not | | | | | | |
|-------------|-------|---|-----|-----------|----|--|--|--|
| Pre- | TVET | related su | ubj | ects from | WA | SSCE/National Certificate II (Technical) | | |
| requisite/s | | | | | | | | |
| Co- | | | | | | | | |
| Requisites | | | | | | | | |
| Course | 200 | Course | | Credit | 3 | | | |
| Level | | Code | | Value | | | | |

Table of contents

Each manual will include:

- 1. The goal for the subject or learning area
- 2. Course description
- 3. Key contextual factors
- 4. Core and cross cutting issues, including equity and inclusion
- 5. Course Learning outcomes
- 6. Course content
- 7. Teaching and learning strategies
- 8. Course Assessment components
- 9. Reading and reference list
- 10. Handouts, power points and other resources for lessons
- 11. Plans for each lesson in the semester
- A. Course information

1. Goal for the Subject or Learning Area

Woodwork Technology I is designed to introduce the student teacher to the concepts, foundations and history of the woodwork industry which dates back to the medieval era. The course is also intended for the student teacher to explore the nature of relevant tools and materials in the wood industry and to be introduced to foundational manipulative processes/skills in the wood industry.

2. Key contextual factors

The education system has focused on preparing students for examinations, instead of helping them to develop the relevant industry and entrepreneurial skills which could enable them function successfully in life.

3. Course Description

This course is designed to introduce the student teacher to the concepts, foundations and history of the woodwork industry which dates back to the medieval era. The course is also intended for the student teacher to explore the nature of relevant tools and materials in the wood industry. Through guided demonstrations and simulations the student teacher will be introduced to foundational manipulative processes/skills in the wood industry. The topics covered are: wood as the main material, seasoning of timber, preservation of timber, conversion of timber, and manufactured boards. These areas will provide the student teacher with the understanding of various treatment processes which are necessary for efficient and effective utilization of wood and other related materials. Additionally, student teachers will have firm knowledge base and understanding for selecting timber and making decisions about alternatives to the main material wood. It also prepares the student teacher for work (practitioner) by equipping him/her with the knowledge and skills in problem-solving, critical thinking and creativity. The student teacher is expected to cultivate interest in hands-on learning and develop responsible citizenship to appreciates the dignity of work and contribute to sustainable society. Thus, the. The course will be delivered using the following methods: Discussion, presentations (group/individual), seminar, project work/practical work, demonstrations, brainstorming, simulation, and industrial visits. The following assessment modes will be used: Examination, tests, project work, class assignments and presentations, and portfolio.

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

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

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

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

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

| 4. Course Learning Outcomes | 5. Learning indicators | | | | |
|---|---|--|--|--|--|
| By the end of the course, Students teachers will be able to | | | | | |
| CLO.1 Demonstrate knowledge and understanding in the relevant foundational history, philosophy in Woodwork Technology and timber as the main material in woodwork | 1.1 Prepare a Video recording from internet sources on the relevant foundational history and philosophies in woodwork technology. 1.2 Make a PowerPoint presentation on the medieval, industrial revolution and the modern eras of the wood industry. 1.3 Prepare a report and exhibits samples on the various species of timber used in woodwork. 1.4 Make a chart of the cross section of timber. 1.5 Prepare a report on the characteristics and properties of timber. | | | | |
| CLO.2 Demonstrate knowledge and understanding of conversion and seasoning of timber. | 2.1 Make a video from internet sources on the following methods of conversion of timber: Through and through Quarter sawn Tangential sawn Radial sawn 2.2 Prepare a report on the natural (air) seasoning and artificial (kiln) seasoning of timber. | | | | |
| CLO.3 Demonstrate knowledge and understanding of preservation of timber and uses of manufactured boards. | 3.1 Produce a report on the following ways of preservation of timber: Pressure preservation Non pressure preservation Pressure impregnation 3.2 Make a Folio of samples of the following manufactured boards and their uses: Plywood Block board Lamin board | | | | |
| 6. Course content | | | | | |

In the course specification. This should provide an outline of the academic and / or practical content of the course. It should be clear how this content relates to the achievement of the intended learning outcomes. The name of each unit in the course should be *briefly* set out – the name should make it clear what the unit is about.

| Unit | Topic | Sub-topic (If any) | Teaching and learning activities to |
|------|--|--|---|
| | | , | achieve the learning outcome |
| 1 | The relevant foundational history, philosophy in Woodwork Technology and timber as the main material in woodwork | The medieval, industrial revolution, and modern eras. Philosophies Concepts Types of timber Cross section of timber Characteristics of timber Properties of timber | Student teachers research from internet sources and present video recordings (groups or individual) and discuss the relevant foundational history and philosophies in woodwork technology. Seminar on conceptual issues and the history of the medieval, industrial revolution, and the modern eras of the wood industry. Student led discussion on: the various species of timber characteristics and properties of timber Student teacher produce a portfolio of exhibits of: samples of various species of timber used in woodwork Show a chart of the cross section of timber |

| 2 | Conversion and seasoning of timber. | Through and through Quarter sawn Tangential sawn Radial sawn Natural/air seasoning Artificial /kiln seasoning | Conduct a research from Internet sources and present a video on the following methods of conversion of timber: |
|---|--|--|---|
| 3 | Preservation of Timber and uses of Manufactured boards | Pressure preservation Non pressure preservation Pressure impregnation Plywood Block board Lamin board | Seminar on the following ways of preserving timber: a. Pressure preservation b. Non pressure preservation c. Pressure impregnation Produce a folio of samples of the following manufactured boards: a. Plywood b. Block board c. Lamin board Student led discussion on types of manufactured boards |

7. Course Assessment Components

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

- There should be a maximum of 3 assessment components per 3 credit-course; to avoid over loading student and tutors/ lecturers
- The learning outcomes to be assessed by each assessment component should be identified.
- Each assessment component should explicitly reference the NTS or aspects of the NTS it will assess.
- Each assessment component should include:
 - The category or type, for example: written, coursework or practical, teaching, examination, collaborative project or presentation, poster, TLM
 - The type of assessment: of, for and /or as.
 - An indication of the size of each assessment component (e.g. duration of exams, word limit of written submissions, length of presentations; whether presentations have an individual or group etc.).
 - The weighting of each assessment component should be expressed as a % of total course mark (overall in each course: 60% continuous assessment of course work, 40% examination of course work).
- Each assessment should be manageable and relevant to supporting the student teachers' development.

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

Summary of Assessment Methods

Component 1: Examination

Assessment Type: Assessment of Learning Category of Assessment: Written Examination

Maximum Duration: 3 hours

Students teachers are assessed by summative examination on:

- The relevant foundational history, philosophy in Woodwork Technology and timber as the main material in woodwork.
- Conversion and seasoning of timber.
- Preservation of timber and uses of manufactured boards

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

Weighting: 40%

Component 2: Continuous Assessment 1

Assessment Type: Assessment for and as Learning

Category of Assessment:

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

- The relevant foundational history, philosophy in Woodwork Technology and timber as the main material in woodwork.
- Conversion and seasoning of timber.
- Preservation of timber and uses of manufactured boards

Learning Outcomes Assessed: CLO 1; CLO 2 & CLO 3; NTS pg. 14 (b)

Weighting: 30%

Component 3: Continuous Assessment 2

Student teachers assessed through Portfolio and Project Work on:

- The relevant foundational history, philosophy in Woodwork Technology and timber as the main material in woodwork.
- Conversion and seasoning of timber.
- Preservation of timber and uses of manufactured boards

Learning Outcomes Assessed: CLO 1; CLO 2 & CLO 3; NTS pg. 12 (a, b & c); pg. 13 (c); pg. 14 (b)

Weighting: 30%

8. Teaching and learning strategies

Detail in this section should show how the total learning hours will be used to achieve the intended learning outcomes, to provide a guide to the teaching and learning strategies to be used. Each teaching strategy should be selected as most appropriate to achieving the learning outcomes. This may include team teaching or additional tutors. As stated in the B.Ed. experiential learning and interactive teaching approaches are encouraged

Discussion, presentations (group/individual), seminar, project work/practical work, demonstrations, brainstorming, simulation, and industrial visits

9. Required Reading and reference list

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

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

Oteng-Amoako, A. A. (2006). 100 tropical African trees in Ghana. Kumasi: Graphic Packaging.

Walker, J. C. F. (1993). Primary wood processing principles. London: Chapman & Hill.

10. Teaching and Learning Resources

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

Basic woodwork tools and equipment, wood materials (timber boards, timber scantling/buttons, manufactured boards, adhesives, abrasives, nails, fastenings, etc.)

Course related professional development for tutors/lecturers

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

| Year of B.Ed. 2 | Semester 1 Place of lesson in semester | | | | mester | 1234567 | 8 9 10 | 11 12 | | |
|---|--|--|--|--|---|--|---|------------------------------------|--|--|
| Title of Lesson | Foundational | History o | f the Wood | working Indus | try | | son ration | 180 minutes | | |
| Lesson description | industrial revo | This lesson focuses on the woodworking industry in the different eras of history (medieval era, industrial revolution era, and the modern era) This first lesson introduces student to the course learning outcomes and three 3 assessment | | | | | | | | |
| Previous student teacher knowledge, prior learning (assumed) Possible barriers to | Student teach famil through | components of the course. Student teachers are: familiar with the fact that timber has been a raw material for the woodworking industry throughout mankind's existence woodworking in technology affect the practices of various industries including the woodworking industry Stereotyping of woodwork as male occupation | | | | | | | | |
| learning in the lesson | Large class | ss size | | workshops | .1011 | | | | | |
| Lesson Delivery – chosen to support students in achieving the outcomes | Face-to- Pra | actical tivity | Work- Based Leaning | Seminars V | Independent Study V | e-learning opportunities | Pract | icum | | |
| Lesson Delivery – main mode of delivery chosen to support student teachers in achieving the learning outcomes. • Purpose for the lesson, 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 | Research from internet sources and present video recordings /write-ups (groups or individual and discuss the state of the woodworking industry and practices in the medieval, industrial revolution, and the modern eras. Seminar on history of the medieval, industrial revolution, and the modern eras of the woodworking industry, and sustainable use of timber. The purpose of this lesson is to introduce student teachers to the history of the medievindustrial revolution, and the modern eras of the woodworking industry. | | | | | | | e medieval, | | |
| Learning Outcome for the lesson, picked and developed from the course specification Learning indicators for each learning outcome | Learning Ou end of the leteacher will be Demonst and under history of industrial the mode woodwork | erate knowerstanding from the med I revolutioners or a so | vledge g of the lieval, on, and | the pract technolo woodwo industry themedi- industria and the i PowerPo presenta medieva revolutio | a video g from sources on cices and gies of the rking for eval, I revolution, modern eras oint tion on the I, industrial on and the eras of the | Identify which cr - core and transfequity and addresed How will these book Crosscutting Issues addressed in the Gender Issues of SEN Education Note ICT skills Transferable skithe lesson: Team work/Generation of Critical think Inquiry skills | erable sessing di e addressues to be e lesson: I (Special eeds) | kills, versity. ssed. e dressed in | | |

| Topic Title | Sub-topics (if any): | Stage/Time | outcomes depending on the delivery mode select Teacher led, collaborative group work or independent | | | | |
|---|---|------------------|--|---|--|--|--|
| | | | Teacher Activity | Student Activity | | | |
| Preparations for use of course manual and Pre– Learning interactions | Self- Introduction (If Tutor is new to the Class) | 1/ 30 Minutes | Self-Introduction Through face-to-face interaction, Tutor and studentteachers introduce themselves | Self-Introduction Studentteachers do self- introduction (Tutor and studentteachers) | | | |
| | Introduction to the Foundational History of the Woodworking Industrycourse manual | | Introduction of Course Manual Tutor initiates discussion on the course manual emphasizing on the objectives, learning outcomes, course content and reference materials | Introduction of Course Manual Student teachers discuss the manual and what they expect to learn after studying the course | | | |
| Foundational history of the woodworking industry | Relevant Previous Knowledge | | Introduction of Lesson Tutor facilitates student teachers' revision of their knowledge of the lesson from pre-tertiary. Tutor asks the following questions: 1. What has been the most common raw material for the woodworking industry throughout mankind's existence? 2. Have changes in technology affected the practices of the woodworking industry? | Introduction of Lesson Student teachers answer questions and do brief discussions | | | |
| | The woodworking industry in the medieval era | 2/ 45 minutes | Discussion Tutor facilitates the use e- learning for videos/write-ups to prepare for discussion on the state of the woodworking industry and practices in the medieval era | Discussion Student teachers use e- learning resources to find videos, prepare write-ups and discussthe state of the woodworking industry and practices in the medieval era | | | |
| | The woodworking industry in the industrial revolutionera | 3/ 45 minutes | Group Presentation Tutor facilitates the use e- learning for videos/write-ups to make a group presentationon the state of the woodworking industry and practices in the industrial revolution era | Group Presentation Student teachers use e- learning resources to find videos, prepare write-ups and make a grouppresentation onthe state of the woodworking industry and practices in the industrial revolution era | | | |
| | The woodworking industry in the modern era | 4/ 50 minutes | Seminar Tutor facilitates the use e- learning for videos and write- ups to prepare a seminar on the state of the woodworking industry and practices in the modern era | Seminar Student teachers use e- learning resources to find videos and write-ups to prepare a seminar on the state of the woodworking industry and practices in the modern era | | | |

| | Conclusion | 5/ | Conclusion of Lesson | Conclusion of Lesson | | | | | | |
|-----------------------------|--|--|--------------------------------------|------------------------------|--|--|--|--|--|--|
| | | 10 minutes | Tutor reflects with student | Student teachers reflect | | | | | | |
| | | | teachers on the lesson and | with the tutor on the | | | | | | |
| | | | summarize the key points of | lesson and note down the | | | | | | |
| | | | the lesson | key points of the lesson | | | | | | |
| Lesson assessments – | In Lesson Assess | sment | | | | | | | | |
| evaluation of learning: of, | _ | xamination | | | | | | | | |
| for and as learning within | | e: Assessment of | = | | | | | | | |
| the lesson (link to | | Category of Assessment: Written Examination//Tests | | | | | | | | |
| Learning Outcomes) | | • | summative examination on: | | | | | | | |
| | | | al history, philosophy in Woodwork | Technology and timber as the | | | | | | |
| | | naterial in woodwo | | | | | | | | |
| | NTS 2c (Has seci | urecontent knowl | edge,pedagogicalknowledge andpe | dagogical contentknowledge} | | | | | | |
| | _ | mes Assessed: CL0 | 01 | | | | | | | |
| | Weighting: 40% | | | | | | | | | |
| | - | Continuous Assess | | | | | | | | |
| | | e: Assessment for | r and as Learning | | | | | | | |
| | Category of Ass | | | | | | | | | |
| | | | h class assignment with oralPresen | | | | | | | |
| | | | orking industry and practices in the | medieval, industrial | | | | | | |
| | revolut | ion and modern e | ras. | | | | | | | |
| | NTC 2c /Ups see | ura cantant knau | uladaa nadagagisal knayuladaa and | nodagagical content | | | | | | |
| | - | ture content know | rledge, pedagogical knowledge and | pedagogicai content | | | | | | |
| | knowledge) | c and usos a vario | ty of toaching and loarning recourse | os including ICT toonbanco | | | | | | |
| | learning) | s and uses a varie | ty of teaching and learning resource | es including ict, toermance | | | | | | |
| | learning) | | | | | | | | | |
| | Learning Outco | mes Assessed: CL0 | 01 | | | | | | | |
| | Weighting: 30% | | | | | | | | | |
| Teaching and Learning | Audio-visual | equipment and v | ideo clips from the internet on the | state of the woodworking | | | | | | |
| Resources | industry and | d practices in the | three eras of history. | | | | | | | |
| | Brailler, Sca | nner and Emboss | er Sign language (Resource Person) | | | | | | | |
| | internet fac | ility, laptop comp | uter/PCs | | | | | | | |
| | JHS Syllabus | s for Basic Design | and Technology (Pre-Tech) | | | | | | | |
| Required Text (core) | Amoakoh | ene, S.K. et al (1 | 998). Technical skills and drawing | for teacher training Book 2 | | | | | | |
| | | • | esses and methodology). Accra: | Unimaxin association with | | | | | | |
| | Macmillan Educ. Ltd. Cambridge University Press. | | | | | | | | | |
| | Walker, J. C. F. (1993). <i>Primary wood processing principles</i> . London: Chapman & Hill. | | | | | | | | | |
| Additional Reading List | ing-Amoako, A. A | . (2006). 100 tropi | ical African trees in Ghana. Kumasi: | Graphic Packaging. | | | | | | |
| CPD Needs | Content knowledge/subject matter expertise | | | | | | | | | |
| | Use of ICT in teaching | | | | | | | | | |
| | • Issues of | of SEN (Special Ed | ucation Needs) | | | | | | | |
| | Gender | stereotyping/issu | ies | | | | | | | |

| Year of B.Ed. 2 | Semeste | r 1 | Place of le | esson in sem | ester 1 2 | 2 3 4 5 6 7 8 9 | 10 11 12 | | |
|--|---|--|---|---|--|--|--|----------|--|
| Title of Lesson | The philoso | phy of sustai | nable use of | timber | | Less | | | |
| Lesson description | This lesson | focuses on th | e philosophy | of sustainab | le use of timber. | | ition minu | ics | |
| Previous student teach knowledge, prior learni (assumed) Possible barriers to learning in the lesson | ng fall th aw for Stereo Large of | throughout mankind's existence aware that there will be no woodworking industry without timber and therefore the new for sustainable use of timber Stereotyping of woodwork as male occupation Large class size | | | | | | | |
| Lesson Delivery – chose to support students in achieving the outcome | n Face-to- face V | face V Activity Based Leaning V Study V Research from internet sources and present video recordings /write- | | | | | | | |
| Lesson Delivery – main mode of delivery chose to support student teachers in achieving th learning outcomes. | n and stu Semina | and student led discussion on the sustainable use of timber. | | | | | | | |
| want the students achieve, serves basis for the learn | to as ng An of | er such as wo | ood products | recycling and | d reuse, and affor | restation | | | |
| Learning Outcome for the lesson, pick and developed from the course specification | Learning O the lesson | utcomes: By , the studer e to: | | Learning Inc | dicators | Identify which issues – core ar skills, equity ar diversity. How addressed. | nd transferab d addressing | ole g | |
| Learning indicators for each learning outcome | unders of cons sustain • Demor unders practic timber • Demor unders | nstrate knowle tanding of the servation and lability of time strate knowle tanding of su es needed to strate knowle tanding of tin ble resource | e concept ber edge and stainable conserve | recording interned the conserve sustained timber discussions. Discussion practice conserve. Prepare recycling of wood. | t sources on cept of ration and abilityof forstudent-led | Crosscutting Is addressed in the Gender Issues of SE Education ICT skills Transferable staddressed in the | ne lesson: EN (Special Needs) kills to ne lesson: /collaborativ | ve | |

| Topic Title | Sub-topics (if any): | Stage/Time | /Time Teaching and Learning Activity to achieve learning outcomes depending on the delivery mode selected. Teacher led, collaborative | | | | | |
|--|---|-------------------------------|---|---|--|--|--|--|
| | (ii diry). | | group work or independent | ciected. Teacher lea, conaborative | | | | |
| | | | Teacher Activity | Student Activity | | | | |
| Philosophy | Relevant | 1/ | Introduction of Lesson | Introduction of Lesson | | | | |
| ofconservation andsustainable use of timber | Previous Knowledge | 10 Minutes | Tutor facilitates student teachers' revision of their knowledge of the lesson from pre-tertiary. Tutor asks the following questions: 1. What has been the major raw material for the woodworking industry throughout mankind's existence? 2. What do stakeholders need to do in order to have reliable and sustainable supply of raw materials? | Students answer questions and do brief discussions | | | | |
| | The | 2/ | Student-Led Discussion | Student-Led Discussion | | | | |
| | concept of conservati on and sustainabil ity | 50 minutes | Tutor facilitates the use e-learning for videos/write-ups forseminar presentation/student-led discussion on the concept of conservation and sustainability | Student teachers use e-learning resources to find videos, prepare write-ups, discussand present the concept of conservation and sustainability | | | | |
| | Plantation /cultivatio n and harvesting of timber | 3/ 55 minutes | PowerPoint Presentation Tutor facilitates the use e-learning for videos/write-ups to prepare a PowerPoint Presentation on plantation/cultivation and harvesting of timber | PowerPoint Presentation Student teachers use e-learning resources to find videos/write-ups to discussand make a PowerPoint presentation on plantation/ cultivation and harvesting of timber | | | | |
| | Timber as a recyclable resource | 4/ 55 minutes | Student-Led Discussion Tutor facilitates the use e-learning for videos/write-ups forseminar presentation/discussion on timber as a recyclable resource | Student-Led Discussion Student teachers use e-learning resources to find videos and prepare write-ups for student-led discussion on timber as a recyclable resource | | | | |
| | Conclusion | 5/ 10 minutes | Conclusion of Lesson Tutor reflects with student teachers on the lesson and summarize the key points of the lesson | Conclusion of Lesson Student teachers reflect with the tutor on the lesson and note down the key points of the lesson | | | | |
| Lesson assessments – | - | 2: Continuous | | | | | | |
| evaluation of learning: of, for and as learning within the lesson (link to Learning Outcomes) | Category of Student tead Reportson: | Assessment: thers assessed | Assessment for and as Learning ment: sessed through class assignment with PowerPoint Presentations and of sustainable use of timber. | | | | | |
| | knowledge) NTS 3j (Prod learning) Learning Ou | uces and uses | content knowledge, pedagogical knowledge and pedagogical content d uses a variety of teaching and learning resources including ICT, toenhance Assessed: CLO 1 | | | | | |
| Teaching and Learning | Weighting: 3 | | it and video clips from the internet on | conservation and sustainable | | | | |
| Resources | ways of Brailler, | using timber Scanner and E | Embosser Sign language (Resource Perocomputer/PCs | | | | | |

| | JHS Syllabus for Basic Design and Technology (Pre-Tech) |
|-------------------------|--|
| Required Text (core) | Amoakohene, S.K. et al (1998). <i>Technical skills and drawing for teacher training Book 2</i> (Tools and processes and methodology). Accra: Unimaxin association with Macmillan Educ. Ltd. Cambridge University Press. Walker, J. C. F. (1993). <i>Primary wood processing principles</i> . London: Chapman & Hill. |
| Additional Reading List | ng-Amoako, A. A. (2006). 100 tropical African trees in Ghana. Kumasi: Graphic Packaging. |
| CPD Needs | Content knowledge/subject matter expertise Use of ICT in teaching Issues of SEN (Special Education Needs) Gender stereotyping/issues |

| Title of Lesson | Timbor as the n | nain material | lin tho w | oodworking indust | try types of tim | ber Lesson | 180 | | |
|---|---|---|--|---|---|--|---|--|--|
| Title of Lesson | and their uses, | | | oodworking indust | try – types or tim | Duratio | | | |
| Lesson description | | | | the main materia | ls used in the wor | | | | |
| Lesson description | | | | d cross section of | | oaworking inaa | stry and | | |
| Previous student | Student Teache | | 4505 411 | 14 61 633 36661611 61 | | | | | |
| teacher knowledge, | | Are familiar with some types of timber that exist in nature. | | | | | | | |
| prior learning | 7.1.6.141111114 | · With Some | c, pes 0. c | moer that exist in | Tidear C. | | | | |
| (assumed) | | | | | | | | | |
| Possible barriers to | Stereotypin | ng of woodw | ork as ma | le occupation | | | | | |
| learning in the lesson | Large class size | | | | | | | | |
| | Ill equipped laboratories and workshops | | | | | | | | |
| Lesson Delivery – | | | Work- | Seminars | Independent | e-learning | Practicum | | |
| chosen to support | face A | ctivity | Based | ٧ | Study | opportunities | | | |
| students in achieving | √ | | Leaning | | V | v | | | |
| the outcomes | | | ٧ | | | | | | |
| Lesson Delivery – | Use audio- | visual (video | clip) to e | enable student tea | chers to discuss t | the various spec | ies of timber | | |
| main mode of | and their u | ses | | | | | | | |
| delivery chosen to | • Use audio- | visual (video | clip) to e | enable student tea | chers to discuss t | the cross section | n of timber | | |
| support student | | | | | | | | | |
| teachers in achieving | | | | | | | | | |
| the learning | | | | | | | | | |
| outcomes. | | | | | | | | | |
| • Purpose for the | The purpose of | f this lesson i | is to intro | duce student teac | thers to timber as | s the main mate | rial used in the | | |
| | | | | | | | | | |
| lesson, what you | woodworking | industry and | | le them to discuss | the types of tin | nber and their i | uses, and draw | | |
| want the | | industry and | | | the types of tin | nber and their (| uses, and draw | | |
| want the students to | woodworking | industry and | | | s the types of tin | nber and their (| uses, and draw | | |
| want the students to achieve, serves | woodworking | industry and | | | s the types of tin | nber and their (| uses, and draw | | |
| want the students to achieve, serves as basis for the | woodworking | industry and | | | s the types of tin | nber and their (| uses, and draw | | |
| want the students to achieve, serves as basis for the learning | woodworking | industry and | | | s the types of tin | nber and their (| uses, and draw | | |
| want the students to achieve, serves as basis for the learning outcomes. An | woodworking | industry and | | | s the types of tin | nber and their (| uses, and draw | | |
| want the students to achieve, serves as basis for the learning outcomes. An expanded | woodworking | industry and | | | s the types of tin | nber and their (| uses, and draw | | |
| want the students to achieve, serves as basis for the learning outcomes. An expanded version of the | woodworking | industry and | | | s the types of tin | nber and their (| uses, and draw | | |
| want the students to achieve, serves as basis for the learning outcomes. An expanded version of the description. | woodworking | industry and | | | s the types of tin | nber and their (| uses, and draw | | |
| want the students to achieve, serves as basis for the learning outcomes. An expanded version of the description. | woodworking | industry and | | | s the types of tin | nber and their (| uses, and draw | | |
| want the students to achieve, serves as basis for the learning outcomes. An expanded version of the description. Write in full aspects of the | woodworking | industry and | | | s the types of tin | nber and their (| uses, and draw | | |
| 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 | woodworking the cross section | industry and on of timber | | le them to discuss | | | | | |
| 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 | woodworking the cross section | industry and on of timber | e Learn | | Identify whi | ch cross cutting | issues – core | | |
| 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 for the | woodworking the cross section | on of timber omes: By the lesson, the | e Learn e | le them to discuss | Identify whi | ch cross cutting able skills, equi | ; issues – core ity and | | |
| 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 for the lesson, picked | woodworking the cross section | on of timber omes: By the lesson, the | e Learn e | le them to discuss | Identify whi | ch cross cutting | ; issues – core ity and | | |
| 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 for the | Learning Outco | on of timber omes: By the lesson, the | e Learn e e | ing Indicators | Identify whi and transfer addressing o addressed. | ch cross cutting able skills, equi liversity. How v | issues – core ity and vill these be | | |
| 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 for the lesson, picked and developed | Learning Outco | on of timber omes: By the lesson, the er will be able | e Learn e e e | le them to discuss | Identify white and transfer addressing conductions addressed. | ch cross cutting able skills, equi | issues – core ity and vill these be | | |
| 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 for the lesson, picked and developed from the course | Learning Outcomend of the student teaches to: Demonstraknowledge | on of timber omes: By the lesson, the er will be able | e Learn e e e | ing Indicators | Identify which and transfer addressing conduction addressed. Crosscutting the lesson: | ch cross cutting able skills, equi liversity. How v | issues – core ity and vill these be | | |
| 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 for the lesson, picked and developed from the course specification | Learning Outcomend of the student teaches to: Demonstraknowledge | on of timber omes: By the lesson, the r will be able tte timber d their uses | e Learn e e e ti | ing Indicators repare a report or he various species | Identify white and transfer addressing conductions addressed. Crosscutting the lesson: Gender | ch cross cutting able skills, equi liversity. How v | issues – core ity and vill these be addressed in | | |
| 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 for the lesson, picked and developed from the course specification Learning | Learning Outcomend of the student teaches to: Demonstration knowledge species and Demonstration Demonstration described by the student teaches to: Demonstration described by the student teaches to: Demonstration described by the student teaches to: | on of timber omes: By the lesson, the r will be able tte timber d their uses | e Learn e e e Til | ing Indicators repare a report or he various species of timber and their | Identify which and transfer addressing conductions addressed. Crosscutting the lesson: Gender Issues of | ch cross cutting able skills, equi liversity. How v | issues – core ity and vill these be addressed in | | |
| 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 for the lesson, picked and developed from the course specification Learning indicators for | Learning Outcomend of the student teaches to: Demonstration knowledge species and Demonstration Demonstration described by the student teaches to: Demonstration described by the student teaches to: Demonstration described by the student teaches to: | on of timber omes: By the lesson, the r will be able te timber d their uses te of the cross | e Learne e e P til o u u o N c | ing Indicators repare a report or he various species of timber and their ses Make a chart of the ross section of | Identify which and transfer addressing conductions addressed. Crosscutting the lesson: Gender Issues o | ch cross cutting rable skills, equi liversity. How v g Issues to be f SEN (Special Ed | issues – core ity and vill these be addressed in | | |
| 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 for the lesson, picked and developed from the course specification Learning indicators for each learning | Learning Outcomend of the student teaches to: Demonstration knowledge species and howledge knowledge knowledge species and knowledge | on of timber omes: By the lesson, the r will be able te timber d their uses te of the cross | e Learne e e e P til o u e N cc ti | ing Indicators repare a report or he various species f timber and their ses Make a chart of the ross section of imber | Identify white and transfer addressing of addressed. Crosscutting the lesson: Gender Issues of Needs) ICT skills | ch cross cutting able skills, equi liversity. How v g Issues to be f SEN (Special E | issues – core ity and vill these be addressed in ducation | | |
| 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 for the lesson, picked and developed from the course specification Learning indicators for each learning | Learning Outcomend of the student teaches to: Demonstration knowledge species and howledge knowledge knowledge species and knowledge | on of timber omes: By the lesson, the r will be able te timber d their uses te of the cross | e Learne e e e e e e e e e e e e e e e e e e | ing Indicators repare a report or the various species of timber and their imber and their imber are of the ross section of the repare a | Identify which and transfer addressing conditions addressed. Crosscutting the lesson: Gender Issues of Needs ICT skills | ch cross cutting rable skills, equi liversity. How v g Issues to be f SEN (Special Ed | issues – core ity and vill these be addressed in ducation | | |
| 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 for the lesson, picked and developed from the course specification Learning indicators for each learning | Learning Outcomend of the student teaches to: Demonstration knowledge species and howledge knowledge knowledge species and knowledge | on of timber omes: By the lesson, the r will be able te timber d their uses te of the cross | e Learn e e e • P ti o u • N c ti • P p | ing Indicators repare a report or the various species of timber and their ses Make a chart of the ross section of timber repare a controlioon exhibits | Identify which and transfer addressing conductions addressed. Crosscutting the lesson: Gender Issues of Needs) ICT skills Transferable lesson: | ch cross cutting table skills, equi liversity. How v g Issues to be f SEN (Special Ed s | issues – core ity and vill these be addressed in ducation | | |
| 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 for the lesson, picked and developed from the course specification Learning indicators for each learning | Learning Outcomend of the student teaches to: Demonstration knowledge species and howledge knowledge knowledge species and knowledge | on of timber omes: By the lesson, the r will be able te timber d their uses te of the cross | e Learn e e e P tl ou N cc ti P p | ing Indicators Trepare a report or the various species of timber and their imber and their imber are a chart of the trepare a cortfolioon exhibits of samples of | Identify white and transfer addressing of addressed. Crosscutting the lesson: Gender Issues of Needs ICT skills Transferable Iesson: Team w | ch cross cutting rable skills, equiliversity. How versity to be f SEN (Special Edge of Second | issues – core ity and vill these be addressed in ducation | | |
| 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 for the lesson, picked and developed from the course specification Learning indicators for each learning | Learning Outcomend of the student teaches to: Demonstration knowledge species and howledge knowledge knowledge species and knowledge | on of timber omes: By the lesson, the r will be able te timber d their uses te of the cross | e Learn e e e P ti ou u • N cu ti • P p ov | ing Indicators repare a report or the various species of timber and their ses Make a chart of the ross section of timber repare a controlioon exhibits | Identify white and transfer addressing of addressed. Crosscutting the lesson: Gender Issues of Needs ICT skills Transferable Iesson: Team w | ch cross cutting able skills, equiliversity. How votes to be skills to address to be skills to address to cork/collaborative thinking skills | issues – core ity and vill these be addressed in ducation | | |

| Topic Title | Sub-topics (if any): | Stage/Time | | | | | |
|---|--|---|---|--|--|--|--|
| | | | Teacher Activity | Student Activity | | | |
| Timber as the main material in the woodworking industry – types of timber and their uses, and cross section of timber | Relevant Previous Knowledge | 1/ 10 Minutes | Introduction of Lesson Tutor facilitates student teachers' revision of their knowledge of the lesson from pre-tertiary. Tutor asks the following question: 1. What are some of the types of timber that exist in nature? | Introduction of Lesson Students answer questions and do brief discussions | | | |
| | Timber species and their uses | 2/ 80 minutes | Portfolio Presentation Tutor facilitates the use e- learning facilities for images/videos and write- ups to prepare a portfolio of various species of timber used in woodwork | Portfolio Presentation Student teachers use e-learning facilities for images /videos and write-ups of various species of wood to prepare a portfolio of various species of timber used in woodwork and discuss the uses of the various species of wood | | | |
| | The cross section of timber | 3/ 80 minutes | Seminar Presentation Tutor asks student teachers to research and make a chart of the cross section of timber for seminar presentation. | Seminar Presentation Student teachers, working as individuals, research and make a chart of the cross section of timber for seminar presentation. | | | |
| | Conclusion | 4/ 10 minutes | Conclusion of Lesson Tutor reflects with student teachers on the lesson and summarize the key points of the lesson | Conclusion of Lesson Student teachers reflect with the tutor on the lesson and note down the key points of the lesson | | | |
| Lesson assessments – evaluation of learning: of, for and as learning within the lesson (link to Learning Outcomes) | Component Assessment Category of Student tead Prepare Make a NTS 2c (Has | 2: Continuous Type: Assessm Assessment: thers assessed a report on the chart of the cresecurecontent | nent for and as Learning through class assignment with e various species of timber and oss section of timber. knowledge,pedagogicalknowle | oralPresentations and Reports: I their uses edge andpedagogical contentknowledge} ng resources including ICT, toenhance | | | |
| | Learning Outcomes Assessed: CLO 1 Weighting: 30% | | | | | | |
| | Component 3: Continuous Assessment Assessment Type: Assessment for and as Learning Category of Assessment: Student teachers assessed throughPortfolio on: • Exhibits of samples of various species of timber used in woodwork NTS 2c. (Has secure content knowledge, pedagogical knowledge and pedagogical content knowledge) NTS 3j (Produces and uses a variety of teaching and learning resources including ICT, toenhance learning) | | | | | | |
| Teaching Learning | Weighting: 3 | | sed: CLO 1 t and images /videos of various | species of wood | | | |
| Resources | | | tion of timber. | species of wood | | | |

| | Brailler, Scanner and Embosser Sign language (Resource Person). |
|----------------------|--|
| | internet facility, laptop computer/PCs |
| | JHS Syllabus for Basic Design and Technology (Pre-Tech) |
| Required Text (core) | Amoakohene, S.K. et al (1998). Technical skills and drawing for teacher training Book 2 (Tools |
| | and processes and methodology). Accra: Unimaxin association with Macmillan Educ. |
| | Ltd. Cambridge University Press. |
| | Walker, J. C. F. (1993). Primary wood processing principles. London: Chapman & Hill. |
| Additional Reading | Oteng-Amoako, A. A. (2006). 100 tropical African trees in Ghana. Kumasi: Graphic Packaging. |
| List | |
| CPD Needs | Use of ICT in teaching |
| | Issues of SEN (Special Education Needs) |
| | Gender stereotyping/issues |

| Year of B.Ed. | 2 | Semest | er 1 | Place o | of lesson in semest | er 12 | 3456789 | 10 11 12 | | |
|--|---|-----------------------------------|---|--|--|---|--|-----------------|--|--|
| Title of Lesson Lesson descriptio | n | Timber as character | Lesson Duration woodworking ir | | | | | | | |
| Previous student knowledge, prior (assumed) Possible barriers learning in the les | learning to sson | Student T | different products (furniture, cabinets, doors, windows). • Stereotyping of woodwork as male occupation • Large class size • Ill equipped laboratories and workshops | | | | | | | |
| to support studer achieving the out | | to-face √ | Activity | Based Leaning | V | Study √ | opportunitie s v | | | |
| Lesson Delivery – mode of delivery to support studer teachers in achiev learning outcome • Purpose for lesson, wh want the stu achieve, se basis for the outcomes. expanded ve the description | chosen nt ving the es. or the at you dents to rves as learning An ersion of on. | to dis | ocuss, in group | earning Tec s, characte son is to in | chniques (Learning eristics and propert stroduce student te to enable them to | ies of timber | el) to enable stu | aterial used in | | |
| Learning Out for the lesson and develope the course | come n, picked | of the | Outcomes: By lesson, the vill be able to: | student | Learning Indicators | and transfer | ch cross cutting able skills, equit liversity. How w | y and | | |
| specification Learning indi for each learn outcome | cators | and u chara • Demo and u | onstrate know understanding acteristics of ti onstrate know understanding erties of timbe | of mber ledge of | Prepare a report on the characteristics and properties of timber. Prepare a report on the properties of timber. | the lesson: Gender Issues o Needs) ICT skills Transferabl lesson: Team w | e skills to addresork/collaborative | ucation | | |

| Topic Title | Sub-topics (if any): | Stage/Ti me | ity to achieve learning outcomes y mode selected. Teacher led, | |
|--|-----------------------------------|---------------------|--|---|
| | ally). | | collaborative group work or inc | |
| | | | Teacher Activity | Student Activity |
| Timber as the main material in the woodworking industry – characteristics and properties of timber | Relevant Previous Knowledge | 1/ 10 Minutes | Introduction of Lesson Tutor facilitates student teachers' revision of their knowledge of the lesson from pre-tertiary. Tutor asks the following questions: 1. Why do wood workers prefer to use different types of timber for different products(furniture, cabinets, doors, windows)? | Introduction of Lesson Students answer questions and do brief discussions |
| | Characteristics of timber | 2/ 80 minutes | Report Presentation Tutor asks student teachers to form small groups (five or six members each) and task them to research and prepare a report on the characteristics of timberand share with the class NB: consider mixed ability, gender and SEN in the | Report Presentation Working in small groups, student teachers research and prepare a report on the characteristics of timber Groups share their work with the class |
| | Properties of timber | 3/ 80 Minutes | prouping of students PowerPoint Presentation Tutor asks student teachers to form small groups (five or six members each) and task them to research and prepare a PowerPoint presentation on the properties of timber NB: consider mixed ability, gender and SEN in the | PowerPoint Presentation Working in small groups, student teachers research and prepare a PowerPoint presentation on the properties of timber. |
| | Conclusion | 3/ 10 Minutes | grouping of students Conclusion of Lesson Tutor reflects with student teachers on the lesson and summarize the key points of the lesson Tutor tasks student teachers to look out for how the knowledge and skills acquired over the period are being applied in the school environment by their mentors during the period of Supported Teaching | Conclusion of Lesson Student teachers reflect with the tutor on the lesson and note down the key points of the lesson Student teachers perform the task during the next Supported Teaching visit to the school and write a report |
| Lesson assessments – | In Lesson Assess | ment: Acco | ssment for and as Learning | 1 |
| evaluation of learning: of, | Component 2: C | | _ | |
| for and as learning within | - | | ent for and as Learning | |
| the lesson (link to | Category of Asse | | and to the do tearning | |
| <u> </u> | | | nrough class assignment with Pow | verPoint Presentations and |
| Learning Outcomes) | Student teacher | s assessed th | hrough class assignment with Pow | verPoint Presentations and |

| | Reportson: |
|-------------------------|---|
| | Prepare a report on the characteristics and properties of timber. |
| | Prepare a PowerPoint on the properties of timber. |
| | NTS 2c. (Has secure content knowledge, pedagogical knowledge and pedagogical content knowledge) NTS 3j (Produces and uses a variety of teaching and learning resources including ICT, toenhance learning) |
| | Learning Outcomes Assessed: CLO 1 Weighting: 30% |
| Teaching Learning | Audio-visual equipment and images /videos depicting characteristics and properties of timber |
| Resources | A chart of the cross section of timber. |
| | Brailler, Scanner and Embosser Sign language (Resource Person). |
| | internet facility, laptop computer/PCs |
| | JHS Syllabus for Basic Design and Technology (Pre-Tech) |
| Required Text (core) | Amoakohene, S.K. et al (1998). Technical skills and drawing for teacher training Book 2 |
| | (Tools and processes and methodology). Accra: Unimaxin association with |
| | Macmillan Educ. Ltd. Cambridge University Press. |
| | Walker, J. C. F. (1993). <i>Primary wood processing principles</i> . London: Chapman & Hill. |
| Additional Reading List | Oteng-Amoako, A. A. (2006). 100 tropical African trees in Ghana. Kumasi: Graphic Packaging. |
| CPD Needs | Use of ICT in teaching |
| | Issues of SEN (Special Education Needs) |
| | Gender stereotyping/issues |
| | Teaching mixed ability group |

| Year of B.Ed. 2 Semester 1 Place of lesson in semester 1 2 3 4 5 6 7 8 9 1 | 12 |
|--|----|
|--|----|

| Title of Lesson | Conversion of timber | - through and t | through, and o | quarter sawn | Lesson | 180 | | | |
|---|--|--|---|--|---|---------------------------------------|--|--|--|
| Losson dossrintion | This lesson focuses o | the conversion | n of timbor w | ith amphasis an | Duration | | | | |
| Lesson description | This lesson focuses o conversion of timber | | | • | the following me | etrious oi | | | |
| Previous student teacher | Student Teacher are: | Till Ough and ti | ili ougii, aliu q | luarter sawii | | | | | |
| knowledge, prior learning | | ne fact that t | imher has t | o he converted | l hefore heing | used in the | | | |
| (assumed) | | • Familiar with the fact that timber has to be converted before being used in the woodworking industry | | | | | | | |
| Possible barriers to learning | Stereotyping of woodwork as male occupation | | | | | | | | |
| in the lesson | Large class size | | | | | | | | |
| | _ | | | | | | | | |
| Lesson Delivery – chosen to | Face-to- Practical | Work- | Seminars | Independent | e-learning | Practicum | | | |
| support students in | face Activity | Based | V | Study | opportunities | | | | |
| achieving the outcomes | √ Health, | Leaning | | v | √ | | | | |
| Lesson Delivery – main | Use audio-vi | | from internet | t sources to enab | ole student teach | ers to discuss | | | |
| mode of delivery chosen to | | | | nethods of timbe | | | | | |
| support student teachers in | | | | | | | | | |
| achieving the learning | | | | | | | | | |
| outcomes. | | | | | | | | | |
| | | | | | | | | | |
| • Purpose for the lesson, | The purpose of this | - | • | | - | | | | |
| what you want the | timber with focus on | through and th | rough, and qu | ıarter sawn meth | nods of timber co | onversion | | | |
| students to achieve, | | | | | | | | | |
| serves as basis for the | | | | | | | | | |
| | | | | | | | | | |
| learning outcomes. An | | | | | | | | | |
| expanded version of | | | | | | | | | |
| expanded version of the description. | | | | | | | | | |
| expanded version of the description.Write in full aspects of | | | | | | | | | |
| expanded version of the description. • Write in full aspects of the NTS addressed | Learning Outcomes | · Learning In | dicators | Identify whi | ch cross cutting i | ssues – coro | | | |
| expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for | Learning Outcomes | _ | dicators | _ | ch cross cutting i | | | | |
| expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked and | By the end of the | • | dicators | and transfer | able skills, equit | y and | | | |
| expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked and developed from the | By the end of the lesson, the studen | t | dicators | and transfer addressing d | _ | y and | | | |
| expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked and developed from the course specification | By the end of the lesson, the studen teacher will be able | t | dicators | and transfer | able skills, equit | y and | | | |
| expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked and developed from the course specification Learning indicators for | By the end of the lesson, the studen teacher will be able to: | t e | | and transfer addressing d addressed. | able skills, equit liversity. How wi | y and ill these be | | | |
| expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked and developed from the course specification | By the end of the lesson, the studen teacher will be able to: • Demonstrate | Make a vid | | and transfer addressing d addressed. | able skills, equit | y and ill these be | | | |
| expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked and developed from the course specification Learning indicators for | By the end of the lesson, the studen teacher will be able to: Demonstrate knowledge and | Make a vid | eo from urces on the | and transfer addressing d addressed. | able skills, equit liversity. How wi | y and ill these be | | | |
| expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked and developed from the course specification Learning indicators for | By the end of the lesson, the studen teacher will be able to: • Demonstrate | Make a vid | eo from ources on the nethods of | and transfer addressing d addressed. Crosscutting the lesson: Gender | able skills, equit liversity. How wi | y and ill these be dressed in | | | |
| expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked and developed from the course specification Learning indicators for | By the end of the lesson, the studen teacher will be able to: • Demonstrate knowledge and understanding or | Make a vid internet so following n conversion | eo from ources on the nethods of | and transfer addressing d addressed. Crosscutting the lesson: Gender Issues of | able skills, equit liversity. How wi | y and ill these be dressed in | | | |
| expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked and developed from the course specification Learning indicators for | By the end of the lesson, the studenteacher will be able to: • Demonstrate knowledge and understanding of through and | Make a vid internet so following n conversion | eo from urces on the nethods of of timber: | and transfer addressing d addressed. Crosscutting the lesson: Gender Issues of | able skills, equitiliversity. How wi | y and ill these be dressed in | | | |
| expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked and developed from the course specification Learning indicators for | By the end of the lesson, the student teacher will be able to: • Demonstrate knowledge and understanding of through and through method | Make a vid internet so following n conversion Th | eo from ources on the nethods of of timber: nrough and | and transfer addressing d addressed. Crosscutting the lesson: Gender Issues of Needs) | able skills, equitiliversity. How wi | y and ill these be dressed in | | | |
| expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked and developed from the course specification Learning indicators for | By the end of the lesson, the studenteacher will be able to: • Demonstrate knowledge and understanding of through and through method of conversion of timber • Demonstrate | Make a vid internet so following n conversion Th | eo from ources on the nethods of of timber: nrough and rough | and transfer addressing d addressed. Crosscutting the lesson: Gender Issues of Needs) ICT skills | able skills, equitiliversity. How wi | y and ill these be dressed in ucation | | | |
| expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked and developed from the course specification Learning indicators for | By the end of the lesson, the studenteacher will be able to: • Demonstrate knowledge and understanding of through and through method of conversion of timber • Demonstrate knowledge and | Make a vid internet so following n conversion The the Queen conversion of the conve | eo from ources on the nethods of of timber: nrough and rough | and transfer addressing d addressed. Crosscutting the lesson: Gender Issues of Needs) ICT skills Transferable lesson: | able skills, equitiliversity. How wi | y and ill these be dressed in ucation | | | |
| expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked and developed from the course specification Learning indicators for | By the end of the lesson, the student teacher will be able to: • Demonstrate knowledge and understanding of through and through method of conversion of timber • Demonstrate knowledge and understanding of the standing of t | Make a vid internet so following n conversion The the Queen conversion of the conve | eo from ources on the nethods of of timber: nrough and rough | and transfer addressing d addressed. Crosscutting the lesson: Gender Issues of Needs) ICT skills Transferable lesson: | able skills, equitiliversity. How wi | y and ill these be dressed in ucation | | | |
| expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked and developed from the course specification Learning indicators for | By the end of the lesson, the student teacher will be able to: • Demonstrate knowledge and understanding or through and through method of conversion of timber • Demonstrate knowledge and understanding or quarter | Make a vid internet so following n conversion The the Queen conversion of the conve | eo from ources on the nethods of of timber: nrough and rough | and transfer addressing d addressed. Crosscutting the lesson: Gender Issues of Needs) ICT skills Transferable lesson: Team we | able skills, equitiliversity. How wi | y and ill these be dressed in ucation | | | |
| expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked and developed from the course specification Learning indicators for | By the end of the lesson, the studenteacher will be able to: • Demonstrate knowledge and understanding or through and through method of conversion of timber • Demonstrate knowledge and understanding or quarter sawnmethod of | Make a vid internet so following n conversion The the Queen conversion of the conve | eo from ources on the nethods of of timber: nrough and rough | and transfer addressing d addressed. Crosscutting the lesson: Gender Issues of Needs) ICT skills Transferable lesson: Team we | able skills, equitiliversity. How wing Issues to be added for SEN (Special Education of SEN) (Special | y and ill these be dressed in ucation | | | |
| expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked and developed from the course specification Learning indicators for | By the end of the lesson, the student teacher will be able to: • Demonstrate knowledge and understanding or through and through method of conversion of timber • Demonstrate knowledge and understanding or quarter | Make a vid internet so following n conversion The the Queen conversion of the conve | eo from ources on the nethods of of timber: nrough and rough | and transfer addressing d addressed. Crosscutting the lesson: Gender Issues of Needs) ICT skills Transferable lesson: Team we Critical to | able skills, equitiliversity. How wing Issues to be added for SEN (Special Education of SEN) (Special | y and ill these be dressed in ucation | | | |

| Topic Title | Sub-topics (if any): | Stage/Time | depending on the delive collaborative group work of | | | | |
|---|--|------------------|--|--|--|--|--|
| | | | Teacher Activity | Student Activity | | | |
| Conversion of timber - through and through, and quarter sawn | Relevant Previous Knowledge | 1/ 10 minutes | Introduction of Lesson Tutor facilitates student teachers' revision of their knowledge of the lesson from pre-tertiary. Tutor asks the following question: 1. What needs to be done to timber before it could be used in the woodworking industry? | Introduction of Lesson Students answer questions and do brief discussions | | | |
| | Through and through | 2/ 80 minutes | Student-Led Discussion Tutor facilitates the use e-learning facilities for videos and write-ups to prepare a discussion on the method through and through | Student-Led Discussion Student teachers use e-learning facilities for videos and write-ups to prepare a for discussion on the method through and through | | | |
| | Quarter Sawn | 3/ 80 minutes | Presentation Tutor facilitates the use e-learning facilities for videos and write-ups to prepare a presentation on the method quarter sawn | Presentation Student teachers use e-learning facilities for videos and write-ups to prepare and make a presentation on the method quarter sawn | | | |
| | Conclusion | 4/ 10 minutes | Conclusion of Lesson Tutor reflects with student teachers on the lesson and summarize the key points of the lesson | Conclusion of Lesson Student teachers reflect with the tutor on the lesson and note down the key points of the lesson | | | |
| Lesson assessments – | In Lesson Asses | ssment: Assessr | nent for and as Learning | | | | |
| evaluation of learning: of, | Component 1: | | | | | | |
| for and as learning within the lesson (link to Learning Outcomes) | Assessment Type: Assessment of Learning Category of Assessment: Written Examination/Test Students teachers are assessed by summative examination on: Conversion of timber | | | | | | |
| | NTS 2c. (Has secure content knowledge, pedagogical knowledge and pedagogical content knowledge) | | | | | | |
| | Learning Outcomes Assessed: CLO2 Weighting: 40% | | | | | | |
| | Component 2: Continuous Assessment Assessment Type: Assessment for and as Learning Category of Assessment: Student teachers assessed through class assignment with oral presentation as follows: Make a presentation from internet sources on the following methods of conversion of timber: Through and through Quarter sawn | | | | | | |
| | contentknowle | dge. | wledge,pedagogicalknowledg action research to improve pr | | | | |

| | Learning Outcomes Assessed: CLO 2 Weighting: 30% |
|-------------------------|---|
| Teaching Learning | Audio-visual equipment and images /videos on conversion of timber |
| Resources | Brailler, Scanner and Embosser Sign language (Resource Person). |
| | internet facility, laptop computer/PCs, projector |
| | JHS Syllabus for Basic Design and Technology (Pre-Tech) |
| Required Text (core) | Amoakohene, S.K. et al (1998). <i>Technical skills and drawing for teacher training Book 2</i> (Tools and processes and methodology). Accra: Unimaxin association with Macmillan Educ. Ltd. Cambridge University Press. Walker, J. C. F. (1993). <i>Primary wood processing principles</i> . London: Chapman & Hill. |
| Additional Reading List | Oteng-Amoako, A. A. (2006). 100 tropical African trees in Ghana. Kumasi: Graphic Packaging. |
| CPD Needs | Use of ICT in teaching Issues of SEN (Special Education Needs) Gender stereotyping/issues |

| Year of B.Ed. 2 | Semester | 1 | Place of lesson in semester | 12345 6 789101112 |
|-----------------|----------|---|-----------------------------|--------------------------|
|-----------------|----------|---|-----------------------------|--------------------------|

| Title of Lesson | Conversion of timbe | er – tangential sawr | n and radial saw | /n | Lesson | 180 | | | | |
|--------------------------|---|--|------------------|------------------------------|--------------------|----------------|--|--|--|--|
| | | | | | Duration | Minutes | | | | |
| Lesson description | This lesson focuses | on the conversion o | of timber with e | emphasis on the | following metho | ds of | | | | |
| | conversion of timbe | conversion of timber: Tangential sawn; and radial sawn | | | | | | | | |
| Previous student | Student Teacher are: | | | | | | | | | |
| teacher knowledge, | Familiar with the fact that timber has to be converted before being used in the woodworking | | | | | | | | | |
| prior learning (assumed) | industry | | | | | | | | | |
| | = | | | | | | | | | |
| Possible barriers to | | | | | | | | | | |
| learning in the lesson | Large class size | · · · · · · · · · · · · · · · · · · · | | | | | | | | |
| _ | _ | oratories and work | shops | | | | | | | |
| Lesson Delivery – | Face-to- Practic | | Seminars | Independent | e-learning | Practicum | | | | |
| chosen to support | face Activit | | V | Study | opportunities | | | | | |
| students in achieving | √ I.d. | Leaning | 1 | √ | ۷ | | | | | |
| the outcomes | | 2008 | | | - | | | | | |
| Lesson Delivery – main | Cooperative | re Learning Techniq | ues (Learning T | ngether Model\ | to enable studer | nt teachers to | | | | |
| mode of delivery chosen | • | groups, tangential: | , - | | | | | | | |
| to support student | 4136433, 111 | Broups, turiberitiur. | awn ana raaiai | Sawminethous | or thriber convers | 51011 | | | | |
| teachers in achieving | | | | | | | | | | |
| the learning outcomes. | | | | | | | | | | |
| Purpose for the | The purpose of this | lesson is to predist | ose student te | achers to the co | ncept of convers | ion of timber | | | | |
| lesson, what you | focusing on tangent | | | | - | non or annoci | | | | |
| 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 | Learning Outcome | s: By Learning I | ndicators | Identify whi | ch cross cutting i | ssues – core | | | | |
| for the lesson, | the end of the le | | | _ | able skills, equit | | | | | |
| picked and | the student teache | - | | | liversity. How wi | - | | | | |
| developed from the | be able to: | | | addressed. | • | | | | | |
| course specification | Demonstrate | Make a | video fron | Crosscutting | g Issues to be ad | dressed in | | | | |
| Learning indicators | knowledge and | internet | sources on the | | _ | | | | | |
| for each learning | understanding | | methods o | f • Gender | | | | | | |
| outcome | tangential | | n of timber: | Issues o | f SEN (Special Ed | ucation | | | | |
| | sawnmethod o | f • 7 | angential sawr | | | | | | | |
| | timber convers | | Radial sawn | ICT skills | 5 | | | | | |
| | Demonstrate | | • | | | | | | | |
| | knowledge and | | | Transferabl | e skills to addres | sed in the | | | | |
| | understanding | | | lesson: | | | | | | |
| | radial sawnmet | | | | ork/collaborative | skills | | | | |
| | of timber conve | | | | thinking skills | | | | | |
| | | | | • Inquiry | _ | | | | | |
| | <u> </u> | | | - iliquity | ONIIIO | | | | | |

| Topic Title | Sub-topics (if any): | Stage/Time | | ty to achieve learning outcomes mode selected. Teacher led, dependent |
|---|--|-------------------|---|---|
| | | | Teacher Activity | Student Activity |
| Conversion of timber - tangential sawn and radial sawn | Relevant Previous Knowledge | 1/ 10 minutes | Introduction of Lesson Tutor facilitates student teachers' revision of their knowledge of the lesson from pre-tertiary. Tutor asks the following question: 1. What did we learn about through and through, and quarter sawn methods of | Introduction of Lesson Tutor facilitates student teachers' revision of their knowledge of the lesson from pre-tertiary. Tutor asks the following questions: |
| | Tangential Sawn | 2/ 80 minutes | timber conversion? Video Presentation Tutor asks student teachers to form small groups (five or six members each) and task them to research and prepare a video presentation on tangential sawn | Video Presentation Working in small groups, student teachers research, prepare and make a video presentation on tangential sawn Groups share their work with the |
| | | | NB: consider mixed ability, gender and SEN in the grouping of students | class |
| | Radial Sawn | 3/ 80 minutes | Video Presentation Tutor asks student teachers to form small groups (five or six members each) and task them to research and prepare a video presentation on radial sawn | Video Presentation Working in small groups, student teachers research, prepare and make a video presentation on radial sawn Groups share their work with the class |
| | | | NB: consider mixed ability, gender and SEN in the grouping of students | |
| | Conclusion | 10 minutes | Conclusion of Lesson Tutor reflects with student teachers on the lesson and summarize the key points of the lesson | Conclusion of Lesson Student teachers reflect with the tutor on the lesson and note down the key points of the lesson |
| Lesson assessments – | In Lesson As | sessment: Assessi | ment for and as Learning | |
| evaluation of learning: of, for and as learning within the lesson (link to Learning Outcomes) | presentation as follows: bllowing methods of conversion of and pedagogical content ources including ICT, toenhance | | | |
| Teaching Learning Resources | | ual equipment an | d images /videos on conversion c osser Sign language (Resource Pel | |

| | internet facility, laptop computer/PCs, projector |
|-------------------------|--|
| | JHS Syllabus for Basic Design and Technology (Pre-Tech) |
| Required Text (core) | Amoakohene, S.K. et al (1998). <i>Technical skills and drawing for teacher training Book 2 (Tools and processes and methodology</i>). Accra: Unimaxin association with Macmillan Educ. Ltd. Cambridge University Press. |
| | Walker, J. C. F. (1993). <i>Primary wood processing principles</i> . London: Chapman & Hill. |
| Additional Reading List | Oteng-Amoako, A. A. (2006). 100 tropical African trees in Ghana. Kumasi: Graphic Packaging. |
| CPD Needs | Use of ICT in teaching Issues of SEN (Special Education Needs) Gender stereotyping/issues Teaching mixed ability group |

| Year of B.Ed. | 2 Semester | 1 | Place of lesson in semester | 123456789101112 |
|---------------|------------|---|-----------------------------|-----------------|
|---------------|------------|---|-----------------------------|-----------------|

| | Т | | | | | | | 1 | T |
|---|-----------|------------------|--------------|---------|----------------|--------------------------|----------|--------------|-------------|
| Title of Lesson | Seasonir | ng of timber - | natural (a | ir) sea | soning | | | Lesson | 180 |
| | | | | | | | | Duration | |
| Lesson description | This less | on focuses or | the seasc | oning o | of timber with | emphasis on na | atural | (air) seasor | ning |
| Previous student teacher | Student | Teachers are: | | | | | | | |
| knowledge, prior learning | • Fam | iliar with the | fact that | the m | noisture conte | ent of timber ha | as to b | e reduced | to make it |
| (assumed) | suita | able for use ir | n certain ir | nstanc | es | | | | |
| Possible barriers to learning | • Ster | eotyping of w | oodwork | as ma | le occupation | | | | |
| in the lesson | • | Large class size | | | | | | | |
| | • | III equipped I | aboratorie | es and | workshops | | | | |
| Lesson Delivery – chosen to | Face- | Practical | Work- | Sem | inars | Independent | e-lea | rning | Practicum |
| support students in | to-face | Activity | Based | ٧ | | Study | oppo | ortunities | |
| achieving the outcomes | ٧ | | Leaning | | | √ | ٧ | | |
| Lesson Delivery – main | • Use | internet soul | ces to cor | nduct | research and | prepare a repo | rt on i | natural (air |) seasoning |
| mode of delivery chosen to | for | oresentation | | | | | | | |
| support student teachers in | • Coo | perative Lear | ning Techr | niques | (Learning Tog | gether Model) to | o enab | le student | teachers to |
| achieving the learning | disc | uss, in groups | , natural (| air) se | asoning | | | | |
| outcomes. | | | | | | | | | |
| | | | | | | | | | |
| Purpose for the lesson, | purpose | of this lesson | is to intro | duce s | student teach | ers to natural (a | ir) sea | soning | |
| 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 | | | | | | 1.1 | | | |
| Learning Outcome for | _ | Outcomes: | - | Learr | _ | Identify whi | | _ | |
| the lesson, picked and | | the lesso | • | Indic | ators | core and tra | | | |
| developed from the | | teacher will | be able | | | addressing d | liversi | ty. How wi | ii tnese be |
| course specification | to: | | | | | addressed. | - 1 | | duaaaad !.a |
| Learning indicators for | | nonstrate kno | _ | | Prepare a | Crosscutting the lesson: | g issue | es to be add | aressea in |
| each learning outcome | | understandir | _ | | report on the | | | | |
| | | cept of seasor | _ | | natural (air) | Gender | CEN | /C: E- | |
| | | ted terminolo | | | seasoning | | ı SEN (| (Special Edu | ucation |
| | | onstrate kno | - | | Make a | Needs) | | | |
| | | understandir | - | - | oresentation | ICT skills | • | | |
| | timb | ıral seasoning | ; OI | | on the natural | | داداد | . +0 04445- | cad in the |
| | uint | וכו | | (| air) seasoning | | e skiiis | s to addres | sea in the |
| | | | | | | lesson: | ork/0- | llahorati :- | ckille |
| | | | | | | | | ollaborative | SKIIIS |
| | | | | | | Critical t | | ig skills | |
| | | | | | | Inquiry s | skills | | |

| Topic Title | Sub-topics (if any): | Stage/Time | Teaching and Learning Activity to achieve learning outcomes depending on the delivery mode selected. Teacher led, collaborative group work or independent | | | | | |
|--|---|--|---|--|--|--|--|--|
| | | | Teacher Activity | Student Activity | | | | |
| | Relevant Previous Knowledge | 1/ 10 minutes | Introduction of Lesson Tutor facilitates student teachers' revision of their knowledge of the lesson from pre-tertiary. Tutor asks the following questions: 1. Why is it necessary for the moisture content of timber to be reduced? | Introduction of Lesson Students answer questions and do brief discussions | | | | |
| Seasoning of timber - natural (air) seasoning | The concept of seasoning andrelated terminologie s | 2/ 70 minutes | Report Presentation Tutor facilitates the use e- learning facilities to prepare and present a report on concept of seasoning and related terminologies | Report Presentation Student teachers use e- learning facilities to prepare and present a report on the concept of seasoning and related terminologies | | | | |
| | Natural (air) seasoning | 3/90 minutes | Report Presentation Tutor facilitates the use e- learning facilities to prepare and make a report on natural seasoning for discussion | Report Presentation Student teachers use e- learning facilities to prepare and present a report on natural seasoning for discussion Student teachers share the reports | | | | |
| | Conclusion | 4/10 minutes | Conclusion of Lesson Tutor reflects with student teachers on the lesson and summarize the key points of the lesson | Conclusion of Lesson Student teachers reflect with the tutor on the lesson and note down the key points of the lesson | | | | |
| Lesson assessments – evaluation of learning: of, for and as learning within the lesson (link to Learning Outcomes) | In Lesson Assessment: Assessment for and as Learning Component 2: Continuous Assessment Assessment Type: Assessment for and as Learning Category of Assessment: Student teachers are assessed through class assignment with oral presentation as follows: Prepare a report on the natural (air) seasoning Make a presentation on natural (air) seasoning NTS 2c. Has secure content knowledge, pedagogical knowledge and pedagogical content knowledge. NTS 3j (Produces and uses a variety of teaching and learning resources including ICT, | | | | | | | |
| | toenhance learning} Learning Outcomes Assessed: CLO 2 Weighting: 30% | | | | | | | |
| Teaching Learning Resources | Brailler, Seinternet fe | canner and Embo acility, laptop con | d images /videos on seasoning o sser Sign language (Resource Pe nputer/PCs, projector | | | | | |
| Required Text (core) | Amoako | JHS Syllabus for Basic Design and Technology (Pre-Tech) Amoakohene, S.K. et al (1998). Technical skills and drawing for teacher training Book 2 (Tools and processes and methodology). Accra: Unimaxin association with Macmillan Educ. Ltd. Cambridge University Press. | | | | | | |
| Additional Reading List | | | wood processing principles. Lon 00 tropical African trees in Ghan | | | | | |
| CPD Needs | • Use o | of ICT in teaching | | | | | | |

| | • | Issues of SEN (Special Education Needs) |
|--|---|---|
| | • | Gender stereotyping/issues |

| Title of Lesson | Seasoning of | timber–artifici | al seasoni | ng | | Lesson Duration | 180 Minutes |
|---|---|---|--|---|--|--|------------------------|
| Lesson description Previous student teacher knowledge, prior learning (assumed) Possible barriers to learning in the lesson Lesson Delivery – chosen to support students in achieving the outcomes | Student Teac Familiar make it: Aware ti timber Stereoty Large cla Ill equip Face-to- face V | chers are: with natural (assuitable for use hat there may rping of woodwass size ped laboratoric Practical Activity | air) season e in certair be other vork as ma es and wor Work- Based Leaning | le occupation kshops Seminars | Independent Study | e-learning opportunities | f timber to content of |
| Lesson Delivery – main mode of delivery chosen to support student teachers in achieving the learning outcomes. | presentaUse coo | ation | ng techni | research and prepare ques (Learning Toget ing | | | _ |
| Purpose for the lesson, 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 | e purpose of t seasoning | nis iesson is to | o introduc | e student teachers to | o artificial seaso | oning with emph | asıs on kıln |
| Learning Outcome for the lesson, picked and developed | | tcomes: By the the student to: | | Learning Indicators | core and tra | ch cross cutting i nsferable skills, e liversity. How wi | quity and |
| from the course specification Learning indicators for each learning outcome | understa artificial • Demons | trate knowledg anding of the ty seasoning trate knowledg anding of kiln ng | pes of | Prepare a report on the types of artificial seasoning Prepare a report on kiln seasoning | Crosscutting the lesson: Gender Issues or Needs) ICT skills Transferable lesson: Team we | e skills to addres ork/collaborative hinking skills | ucation sed in the |

| Topic Title | Sub-topics (if any): | Stage/Time | Teaching and Learning Activity to achieve learning outcomes on the delivery mode selected. Teacher led, collaborative gor independent | | | | |
|--|---|--|---|--|--|--|--|
| | | | Teacher Activity | Student Activity | | | |
| | Relevant Previous Knowledge | 1/ 10 minutes | Introduction of Lesson Tutor facilitates student teachers' revision of their knowledge of the lesson from pre-tertiary. Tutor asks the following questions: 1. What is the purpose of natural (air) seasoning? 2. What other method could be used to reduce the moisture content of timber? | Introduction of Lesson Students answer questions and do brief discussions | | | |
| | Types of artificial seasoning | 2/ 70 minutes | PowerPoint Presentation Tutor facilitates the use e- learning facilities to prepare PowerPoint presentation on types of artificial seasoning | PowerPoint Presentation Student teachers use e-learning facilities to prepare PowerPoint presentation on types of artificial seasoning | | | |
| Seasoning of timber – artificial seasoning | Kiln seasoning | 3/90 minutes | PowerPoint Presentation Tutor asks student teachers to form small groups (five or six members each) and task them to use the internet to research and make a PowerPoint presentation on kiln seasoning | PowerPoint Presentation Working in small groups, student teachers use the internet to research and prepare a PowerPoint presentation on kiln seasoning Groups share their work with the class | | | |
| | | | NB: consider mixed ability, gender and SEN in the grouping of students | | | | |
| | Conclusion | 3/10 minutes | Tutor reflects with student teachers on the lesson and summarize the key points of the lesson Tutor tasks student teachers to look out for how the knowledge and skills acquired over the period are being applied in the school environment by their mentors during the period of supported teaching | Student teachers reflect with the tutor on the lesson and note down the key points of the lesson Student teachers perform the task during the next Supported Teaching visit to the school and write a report | | | |
| Lesson assessments – evaluation of learning: of, for and as learning within the lesson (link to Learning Outcomes) | Component Assessment Category of Students tea | 1: Examination Type: Assessm Assessment: V | essment for and as Learning nent of Learning Vritten Examination/Tests ssed by summative examination | on: | | | |
| | NTS 2c. Has | secure content | t knowledge, pedagogical knowle | dge and pedagogical content knowledge. | | | |
| | Learning Ou | tcomes Assess | sed: CLO 2 | | | | |

| | Weighting: 40% |
|----------------------|--|
| | Component 2: Continuous Assessment |
| | Assessment Type: Assessment for and as Learning |
| | Category of Assessment: |
| | Student teachers assessed through class assignment with PowerPoint Presentations and Reports on: |
| | Report on the types of artificial seasoning |
| | Report on kiln seasoning |
| | Presentation on kiln seasoning |
| | NTS 2c. (Has secure content knowledge, pedagogical knowledge and pedagogical content knowledge) NTS 3j (Produces and uses a variety of teaching and learning resources including ICT, toenhance learning) |
| | Learning Outcomes Assessed: CLO 2 Weighting: 30% |
| Teaching Learning | Audio-visual equipment and images /videos on seasoning of timber |
| Resources | Brailler, Scanner and Embosser Sign language (Resource Person). |
| | internet facility, laptop computer/PCs, projector |
| | JHS Syllabus for Basic Design and Technology (Pre-Tech) |
| Required Text (core) | Amoakohene, S.K. et al (1998). <i>Technical skills and drawing for teacher training Book 2 (Tools and processes and methodology</i>). Accra: Unimaxin association with Macmillan Educ. Ltd. Cambridge University Press. |
| | Walker, J. C. F. (1993). <i>Primary wood processing principles</i> . London: Chapman & Hill. |
| Additional Reading | Oteng-Amoako, A. A. (2006). 100 tropical African trees in Ghana. Kumasi: Graphic Packaging. |
| List | a construction of the cons |
| CPD Needs | Use of ICT in teaching |
| | Issues of SEN (Special Education Needs) |
| | Gender stereotyping/issues |
| | Teaching mixed ability group |

| Title of Lesson | Preservati | on of timber – p | ressure | preservation | | Lesson | 180 | | | |
|---|---|--|------------------|---|--|--|---------------------------------------|--|--|--|
| | | | | | | Duration | | | | |
| Lesson description | | | _ | imber with empha | asis on concept | and related termi | inologies, | | | |
| | | ure preservation | 1 | | | | | | | |
| Previous student teacher | | Student Teachers are: | | | | | | | | |
| knowledge, prior learning | | | | | | | | | | |
| (assumed) | metho | methods are adopted by users of timber to prevent or slow the process of deterioration | | | | | | | | |
| Possible barriers to | • Gender issues in the choice of career in woodwork: Woodwork is a male dominated | | | | | | | | | |
| learning in the lesson | occupation. | | | | | | | | | |
| | • Large | class size | | | | | | | | |
| | • III equ | iipped laborator | ies and v | workshops | | | | | | |
| Lesson Delivery – chosen | Face- | Practical V | Work- | Seminars | Independent | e-learning | Practicum | | | |
| to support students in | to-face | Activity B | Based | ٧ | Study | opportunities | | | | |
| achieving the outcomes | V | L | eaning. | | √ | √ | | | | |
| Lesson Delivery – main | • Use in | nternet resource | s to prep | oare a report on th | e concept of tir | nber preservation | n and related | | | |
| mode of delivery chosen | termi | nologies | | | | | | | | |
| to support student | • Use in | nternet resource | s to prep | oare seminar prese | entation on pres | sure preservation | n | | | |
| teachers in achieving the | | | | | | | | | | |
| learning outcomes. | | | | | | | | | | |
| | | | | | | | | | | |
| Purpose for the | The purpo | se of this lesson | is to int | roduce student te | achers to the pr | eservation of tim | ber, focusing | | | |
| lesson, what you | on the con | ncept of timber p | preserva | tion and related te | erminologies, an | d pressure prese | rvation | | | |
| want the students to | on the concept of timber preservation and related terminologies, and pressure preservation | | | | | | | | | |
| | | | | | | | | | | |
| achieve, serves as | | | | | | | | | | |
| achieve, serves as basis for the learning | | | | | | | | | | |
| • | | | | | | | | | | |
| basis for the learning | | | | | | | | | | |
| basis for the learning outcomes. An | | | | | | | | | | |
| basis for the learning outcomes. An expanded version of | | | | | | | | | | |
| basis for the learning outcomes. An expanded version of the description. | | | | | | | | | | |
| basis for the learning outcomes. An expanded version of the description. Write in full aspects of the NTS addressed | Learning C | Outcomes: By th | ne end | Learning | Identify whi | ch cross cutting i | ssues – core | | | |
| basis for the learning outcomes. An expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome | _ | Outcomes: By th lesson, the st | | Learning Indicators | _ | ch cross cutting i | | | | |
| basis for the learning outcomes. An expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked | of the I | - | | _ | and transfer | ch cross cutting i able skills, equit liversity. How wi | y and | | | |
| basis for the learning outcomes. An expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome | of the I | lesson, the st | | _ | and transfer | able skills, equit | y and | | | |
| basis for the learning outcomes. An expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked and developed from the course | of the I teacher w | lesson, the st ill be able to: | tudent | _ | and transfer addressing of addressed. | able skills, equit liversity. How wi | y and ill these be | | | |
| basis for the learning outcomes. An expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked and developed from the course specification | of the I teacher w | lesson, the st ill be able to: onstrateknowled | tudent lge | IndicatorsProduce a | and transfer addressing of addressed. Crosscutting | able skills, equit | y and ill these be | | | |
| basis for the learning outcomes. An expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked and developed from the course specification Learning indicators | of the I teacher w • Demo | lesson, the st ill be able to: onstrateknowled nderstanding of | tudent lge | Produce a report on the | and transfer addressing of addressed. Crosscutting the lesson: | able skills, equit liversity. How wi | y and ill these be | | | |
| basis for the learning outcomes. An expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked and developed from the course specification | • Demo | lesson, the st ill be able to: onstrateknowled nderstanding of opt of timber | lge the | Produce a report on the concept of | and transfer addressing conduction addressed. Crosscutting the lesson: Gender | able skills, equit liversity. How wi | y and ill these be dressed in | | | |
| basis for the learning outcomes. An expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked and developed from the course specification Learning indicators for each learning | Demo and un conce presented. | lesson, the st ill be able to: onstrateknowled nderstanding of opt of timber rvation and relat | lge the | Produce a report on the concept of timber | and transfer addressing of addressed. Crosscutting the lesson: Gender Issues o | able skills, equit liversity. How wi | y and ill these be dressed in | | | |
| basis for the learning outcomes. An expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked and developed from the course specification Learning indicators for each learning | Demo and urconce preser terming | lesson, the still be able to: onstrateknowled inderstanding of ept of timber rivation and relationologies | ge the | Produce a report on the concept of timber preservation | and transfer addressing of addressed. Crosscutting the lesson: Gender Issues of Needs) | rable skills, equition in the | y and ill these be dressed in | | | |
| basis for the learning outcomes. An expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked and developed from the course specification Learning indicators for each learning | Demo and ur conce preser termin Demo Demo | enstrateknowled nderstanding of the pt of timber rvation and relationstrate knowled enstrate knowled | ge the ted | Produce a report on the concept of timber preservation and related | and transfer addressing of addressed. Crosscutting the lesson: Gender Issues of Needs ICT skills | rable skills, equition in the | y and ill these be dressed in | | | |
| basis for the learning outcomes. An expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked and developed from the course specification Learning indicators for each learning | Demo and un conce presentermin Demo and un | enstrateknowled nderstanding of ept of timber rvation and relational process on the standing of the standing o | ge the ted | Produce a report on the concept of timber preservation and related terminologies. | and transfer addressing of addressed. Crosscutting the lesson: Gender Issues of Needs) ICT skills | able skills, equitiliversity. How wind its able skills, equiting the state of the s | y and ill these be dressed in ucation | | | |
| basis for the learning outcomes. An expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked and developed from the course specification Learning indicators for each learning | Demo and un conce presentermine Demo and un pressonal un pres | enstrateknowled nderstanding of timber rvation and relationstrate knowled notogies onstrate knowled nderstanding of the preservation and relationstrate knowled nderstanding of the preservation and restanding the preservation | ge the ted | Produce a report on the concept of timber preservation and related terminologies | and transfer addressing of addressed. Crosscutting the lesson: Gender Issues of Needs) ICT skills | rable skills, equition in the | y and ill these be dressed in ucation | | | |
| basis for the learning outcomes. An expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked and developed from the course specification Learning indicators for each learning | Demo and un conce presentermin Demo and un | enstrateknowled nderstanding of timber rvation and relationstrate knowled notogies onstrate knowled nderstanding of the preservation and relationstrate knowled nderstanding of the preservation and restanding the preservation | ge the ted | Produce a report on the concept of timber preservation and related terminologies Produce a | and transfer addressing of addressed. Crosscutting the lesson: Gender Issues of Needs) ICT skills Transferable lesson: | able skills, equitiliversity. How wing Issues to be added on the second of SEN (Special Edge) and the skills to addresses and the skills to ad | y and ill these be dressed in ucation | | | |
| basis for the learning outcomes. An expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked and developed from the course specification Learning indicators for each learning | Demo and un conce presentermine Demo and un pressonal un pres | enstrateknowled nderstanding of timber rvation and relationstrate knowled notogies onstrate knowled nderstanding of the preservation and relationstrate knowled nderstanding of the preservation and restanding the preservation | ge the ted | Produce a report on the concept of timber preservation and related terminologies Produce a report on | and transfer addressing of addressed. Crosscutting the lesson: Gender Issues of Needs) ICT skills Transferable lesson: Team w | able skills, equition in the stills, equition in the skills to address to be address to be skills to address ork/collaborative | y and ill these be dressed in ucation | | | |
| basis for the learning outcomes. An expanded version of the description. Write in full aspects of the NTS addressed Learning Outcome for the lesson, picked and developed from the course specification Learning indicators for each learning | Demo and un conce presentermine Demo and un pressonal un pres | enstrateknowled nderstanding of timber rvation and relationstrate knowled notogies onstrate knowled nderstanding of the preservation and relationstrate knowled nderstanding of the preservation and restanding the preservation | ge the ted | Produce a report on the concept of timber preservation and related terminologies Produce a | and transfer addressing of addressed. Crosscutting the lesson: Gender Issues of Needs) ICT skills Transferable lesson: Team we Critical for the lessing of the lesson of the lesso | able skills, equition in the stills, equition in the skills, equition in the skills to address or k/collaborative thinking skills | y and ill these be dressed in ucation | | | |

| Topic Title | Sub-topics (if any): | Stage/Time | Teaching and Learning Activity to achieve learning outcomes depending on the delivery mode selected. Teacher led, collaborative group work or independent | | | |
|--|--|---|---|--|--|--|
| | | | Teacher Activity | Student Activity | | |
| Preservation of timber – pressure preservation | Relevant Previous Knowledge | 1/ 10 minutes | Introduction of Lesson Tutor facilitates student teachers' revision of their knowledge of the lesson from pre-tertiary. Tutor asks the following questions: 1. What happens to the quality of timber with time? 2. What are some of the methods adopted by users of timber to prevent or slow the process of deterioration of timber? | Introduction of Lesson Students answer questions and do brief discussions | | |
| | The concept of timber preservation and related terminologies | 2/ 70 minutes | Report Presentation Tutor facilitates the use e- learning facilities to prepare report on the concept of timber preservation and related terminologies for discussion | Report Presentation Student teachers use e-learning facilities to prepare report on the concept of timber preservation and related terminologies for discussion Student teachers share reports | | |
| | Pressure preservation | 3/100 minutes | Report Presentation Tutor facilitates the use e- learning facilities to prepare report on pressure preservation for discussion | Report Presentation Student teachers use e-learning facilities to prepare a report on pressure preservation for discussion | | |
| | Conclusion | 4/10 minutes | Conclusion of Lesson Tutor reflects with student teachers on the lesson and summarize the key points of the lesson | Conclusion of Lesson Student teachers reflect with the tutor on the lesson and note down the key points of the lesson | | |
| Lesson assessments – evaluation of learning: of, for and as learning within the lesson (link to Learning Outcomes) | Component 2: Assessment Ty Category of Ass Student teache follows: Produce a Produce a NTS 2c. Has sec knowledge. NTS 3j (Produce learning) | Continuous Ass pe: Assessment sessment: rs assessed thro report on the co report on press cure content knows es and uses a va | hrough class assignment with oral Presentations and Reports as e concept of timber preservation and related terminologies essure preservation of timber knowledge, pedagogical knowledge and pedagogical content variety of teaching and learning resources including ICT, toenhance | | | |
| Teaching Learning Resources | Learning Outcomes Assessed: CLO3 Weighting: 30% • Audio-visual equipment and images /videos on preservation of timber • Brailler, Scanner and Embosser Sign language (Resource Person). • internet facility, laptop computer/PCs, projector | | | | | |
| Required Text (core) | Amoakoh | nene, S.K. et al (<i>Tools and pr</i> Macmillan Educ | gn and Technology (Pre-Tech) (1998). Technical skills and dravocesses and methodology). Account the Cambridge University Press. I wood processing principles. Londo | cra: Unimaxin association with | | |

| Additional Reading List | Oteng-Amoako, A. A. (2006). 100 tropical African trees in Ghana. Kumasi: Graphic Packaging. |
|-------------------------|---|
| CPD Needs | Use of ICT in teaching Issues of SEN (Special Education Needs) Gender stereotyping/issues |

| Year of B.Ed. | 2 | Semester | ester 1 Place of lesson in semester | | | 1 2 3 | 456789 1 (| 11 12 |
|---|---|---|---------------------------------------|--|--|---|---|--------------------|
| Title of Lesson | | Preservation of impregnation | timber - non- | pressure pi | d pressure | Lesson Duration | 180 minutes | |
| Lesson description Previous student | | This lesson focuses on ways of preserving timber, namely: non-pressure preservation and pressure impregnation Student Teachers are: | | | | | | |
| knowledge, learning (assumed Possible barriers learning in the les | :0 | Familiar with the fact that the quality of timber deteriorates with time and that certain methods are adopted by users of timber to prevent or slow the process of deterioration Gender issues in the choice of career in woodwork: Woodwork is a male dominated occupation. Large class size | | | | | | |
| Lesson Delivery – to support studer achieving the out Lesson Delivery mode of delivery to support teachers in achie learning outcome | ts in comes – main chosen student ving the | Face-to-face √ Use interne pressure in | npregnation n | Work- Based Leaning o prepare a nethods of | Seminars v seminar presoreserving time | ber | e-learning opportunities v -pressure preser | |
| Purpose for t lesson, what want the stud achieve, serv basis for the outcomes. An expanded ver the description Write in full of the NTS ad | you dents to es as learning rsion of on. aspects | The purpose of on non-pressure | | | | · · · · · · · · · · · · · · · · · · · | ervation of timb | er, focusing |
| Learning Outfor the lessor picked and developed frocourse specification in the learning indiffer each learn outcome | come om the ication cators | pressure pr of timber • Demonstra knowledge understand pressure in | te and ling of non-reservation te and | non-p prese timbe • Produ press | uce a report or pressure rvation of er uce a report or ure egnation of | core and tra addressing c addressed. Crosscutting the lesson: Gender Issues o Needs) ICT skills Transferable lesson: | e skills to addres | dressed in ucation |
| | | of timber | | | | | ork/collaborative hinking skills skills | e skills |

| Topic Title | Sub-topics (if any): | Stage/Time | Teaching and Learning Activity depending on the delivery n collaborative group work or independent of the collaborative group group work or independent of the collaborative group g | node selected. Teacher led | | |
|--|---|------------------|--|--|--|--|
| Preservation of timber - non-pressure preservation and pressure impregnation | Relevant Previous Knowledge | 1/ 10 minutes | Introduction of Lesson Tutor facilitates student teachers' revision of their knowledge of the lesson from pre-tertiary. Tutor asks the following question: 3. What are some of the methods adopted by users of timber to prevent or slow the process of deterioration of timber considered in our previous lesson? | Introduction of Lesson Students answer questions and do brief discussions | | |
| | Non pressure preservation | 2/ 80 minutes | PowerPoint Presentation Tutor facilitates the use e- learning facilities to prepare and make PowerPoint presentation on non-pressure preservation for | PowerPoint Presentation Student teachers use e- learning facilities to prepare report on non-pressure preservation for presentation/discussion | | |
| | Pressure impregnation | 3/ 80 minutes | Report Presentation Tutor asks student teachers to form small groups (five or six members each) and task them to use the internet to research and prepare a report on pressure impregnation for presentation on NB: consider mixed ability, | Report Presentation Working in small groups, student teachers use the internet to research and prepare a report on pressure impregnation for presentation Groups share their work with the class | | |
| | Conclusion | 4/ 10 minutes | gender and SEN in the grouping of students Conclusion of Lesson Tutor reflects with student teachers on the lesson and summarize the key points of the | Conclusion of Lesson Student teachers reflect with the tutor on the lesson and note down the key points of | | |
| Lesson assessments – evaluation of learning: of, for and as learning within the lesson (link to Learning Outcomes) | In Lesson Assessment: Assessment for and as Learning Component 1: Examination Assessment Type: Assessment of Learning Category of Assessment: Written Examination/Tests Students teachers are assessed by summative examination on: • Preservation of timber NTS 2c. (Has secure content knowledge, pedagogical knowledge and pedagogical content knowledge) Learning Outcomes Assessed: CLO 3 Weighting: 40% Component 2: Continuous Assessment Assessment Type: Assessment for and as Learning Category of Assessment: | | | | | |

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NTS 2c. (Has secure content knowledge, pedagogical knowledge and pedagogical content

NTS 3j (Produces and uses a variety of teaching and learning resources including ICT, toenhance

PowerPoint on non-pressure preservation of timber Produce a report on pressure impregnation of timber

learning)

| | Learning Outcomes Assessed: CLO 3 Weighting: 30% |
|-------------------------|---|
| Teaching Learning | Audio-visual equipment and images /videos on preservation of timber |
| Resources | Brailler, Scanner and Embosser Sign language (Resource Person). |
| | internet facility, laptop computer/PCs, projector |
| | JHS Syllabus for Basic Design and Technology (Pre-Tech) |
| Required Text (core) | Amoakohene, S.K. et al (1998). Technical skills and drawing for teacher training Book 2 |
| | (Tools and processes and methodology). Accra: Unimaxin association with |
| | Macmillan Educ. Ltd. Cambridge University Press. |
| | Walker, J. C. F. (1993). Primary wood processing principles. London: Chapman & Hill. |
| Additional Reading List | Oteng-Amoako, A. A. (2006). 100 tropical African trees in Ghana. Kumasi: Graphic Packaging. |
| CPD Needs | Use of ICT in teaching |
| | Issues of SEN (Special Education Needs) |
| | Gender stereotyping/issues |
| | Teaching mixed ability group |

| Year of B.Ed. 2 Semester 1 Place of lesson in | 1 2 3 4 5 6 7 8 9 10 11 12 |
|---|-----------------------------------|
|---|-----------------------------------|

| Title of Lesson | , , , , , , , , , , , , , , , , , , , | | | | | | 180 minutes | | |
|---|--|---|---|--|----------------------------|--|--|-----------------|--------------------------------|
| Lesson description | The lesson | focuses on u | ises of manu | factured board | ds, namel | y: Plywo | ood and block | boar | d |
| Previous student teacher knowledge, prior learning (assumed) Possible barriers to learning in the lesson | Student Teacher are: Users of some products (furniture, cabinets, doors, windows, etc.) that have some parts made from manufactured boards Stereotyping of woodwork as male occupation Large class size | | | | | | | | |
| | · · · · · | pped laborate | | | T | | | T _ | |
| Lesson Delivery – chosen | Face-to- | | Work- | Seminars | Indepe | ndent | e-learning | | acticum |
| to support students in achieving the outcomes | face √ | | Based Leaning | ٧ | Study √ | | opportunities | ` | |
| Lesson Delivery – main | | | | l samples of the | | g manut | - | lc· | |
| mode of delivery chosen to support student teachers in achieving the learning outcomes. | a. Plyv b. Bloo | wood ck board | | es of plywood | | | | 13. | |
| Purpose for the lesson, 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 | namely: ply | wood, and b | lock board | uce student to | | | | | |
| Learning Outcome for the lesson, picked and developed from the course specification | the end of | Outcomes: the lesson, t acher will | he | g Indicators | and t | ransfera | th cross cutting the skills, equiversity. How | ity ar | nd |
| Learning indicators for each learning outcome | unders uses of Demor knowle unders uses of | edge and tanding of plywood astrate edge and tanding of block board | and the | of the g ctured boards ir uses: Plywood Block board | the I | esson: Gender ssues of Needs) CT skills sferable on: Team wo Critical th | | essed ve ski | tion I in the Ils |
| Topic Title | Sub-topics (if any): | Stage/Tin | depend collabo | ng and Learn ling on the rative group v r Activity | delive | ry mod ndepend | de selected. | _ | |
| Uses of manufactured boards - plywood and block board | Relevant Previous Knowledge | 1/ 10 minute | Tutor for teacher knowle from pr | action of Lesso acilitates stude rs' revision of t dge of the less re-tertiary. Tut e following que | ent their son cor | Studen | uction of Lesso ts answer que iscussions | | s and do |

| | | | 1. What are some of | |
|-----------------------------|------------------------------|-----------------------|---|--|
| | | | the products that | |
| | | | have some parts | |
| | | | made from | |
| | | | plywood and block | |
| | | | board that you | |
| | | | have been using? | |
| | Uses of | 2/ | Folio Preparation | Folio Preparation |
| | plywood | 80 minutes | Tutor facilitates the use e- | Student teachers use e-learning facilities and other available sources |
| | | | learning facilities and other | |
| | | | available sources to prepare folio on the uses of plywood | to prepare folio on the uses of plywood for student led discussion |
| | | | for student led discussion | prywood for student led discussion |
| | Uses of | 3/ | Folio Preparation | Folio Preparation |
| | block | 80 minutes | Tutor facilitates the use e- | Student teachers use e-learning |
| | board | | learning facilities and other | facilities and other available sources |
| | | | available sources to prepare | to prepare folio on the uses of block |
| | | | folio on the uses of block | board for student led discussion |
| | | | board for student led | |
| | | | discussion | |
| | Conclusio | 3/ | Conclusion of Lesson | Conclusion of Lesson |
| | n | 10 minutes | Tutor reflects with student | Student teachers reflect with the |
| | | | teachers on the lesson and | tutor on the lesson and note down |
| | | | summarize the key points of the lesson | the key points of the lesson |
| Lesson assessments – | In Lesson Ass | sessment: Asse | ssment for and as Learning | |
| evaluation of learning: of, | Component | 1: Examination | | |
| for and as learning within | Assessment | Type: Assessme | ent of Learning | |
| the lesson (link to | | | ritten Examination/Tests | |
| Learning Outcomes) | | | sed by summative examination | on: |
| | | s of manufactu | | |
| | • | secure content | knowledge, pedagogical knowle | edge and pedagogical content |
| | knowledge) | | | |
| | Learning Out | tcomes Assesse | ed: CLO 3 | |
| | Weighting: 4 | | | |
| | Component | 3: Continuous / | Assessment | |
| | | | hrough Folio on: | |
| | | | l block board and their uses | |
| | 1 | | knowledge, pedagogical knowle | edge and pedagogical content |
| | knowledge) | | | |
| | , | uces and uses a | variety of teaching and learning | g resources including ICT, toenhance |
| | learning) | | | |
| | Learning Out | tcomes Assesse | od: CLO 3 | |
| | Weighting: 3 | | cu. CLO 3 | |
| Teaching Learning | | | and images /videos on manufac | ctured boards |
| Resources | • Brailler, | Scanner and En | nbosser Sign language (Resource | e Person). |
| | internet | facility, laptop | computer/PCs, projector | |
| | · - | | esign and Technology (Pre-Tech | • |
| Required Text (core) | Amoak | | | drawing for teacher training Book 2 |
| | | | | Accra: Unimaxin association with |
| | Mallian I C | | duc. Ltd. Cambridge University P | |
| Additional Reading List | | | ary wood processing principles. \ . 100 tropical African trees in Gl | London: Chapman & Hill. hana. Kumasi: Graphic Packaging. |
| CPD Needs | | | | F |
| CITO INCCUS | | of ICT in teachi | ing ial Education Needs) | |
| | | der stereotypir | · · · · · · · · · · · · · · · · · · · | |
| | - Gen | aci sicieotypii | 18/ 133463 | |

| Year of B.Ed. 2 | Semester | 1 | Place | of lesson in seme | ster 1 | 1 2 3 4 5 6 7 8 9 10 11 12 | | | |
|--|--|---------------------------------------|------------------------------|--|---|---|---|-----------|--|
| Title of Lesson | | | | | | | 180 minutes | | |
| Lesson description | The lesson focuses on uses of manufactured boards, namelylamin board | | | | | | | | |
| Previous student teacher knowledge, prior learning | Student Teacher are: Users of some products (furniture, cabinets, doors, windows, etc.) that have some parts made | | | | | | | | |
| (assumed) | from manufactured boards | | | | | | | | |
| Possible barriers to learning in the lesson | Gender issues in the choice of career in woodwork: Woodwork is a male dominated occupation. Large class size | | | | | | | | |
| | Ill equipped laboratories and workshops | | | | | | | | |
| Lesson Delivery – chosen | | ctical | Work- | Seminars | Independer | l l | rning | Practicum | |
| to support students in achieving the outcomes | face Acti √ | vity | Based | , V | Study √ | oppo | ortunities | | |
| Lesson Delivery – main | | nd produc | Leaning e a folio | - 1 | | | | | |
| mode of delivery chosen | Research and produce a folio of samples oflamin board Student led discussion on types and uses of lamin boards | | | | | | | | |
| to support student | Use group discussion to get student teachers to discuss the strengths and weaknesses of the | | | | | | | | |
| teachers in achieving the | various manufactured boards | | | | | | | | |
| learning outcomes.Purpose for the | and the lease is to introduce student to the state of the | | | | | | | | |
| lesson, what you | e purpose of this lesson is to introduce student teachers to the usesof manufactured boards, namelylamin board | | | | | | | | |
| 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 | Learning Outcomes: By Learning Indicators Identify which cross cutting issues – core and | | | | | | | | |
| for the lesson, picked | the end of th | • | | | | nsferable skills, equity and addressing | | | |
| and developed from | the student teacher will be able to: diversity. How will these be addressed. | | | | | ressed. | | | |
| the course specification | Demonstrate Make a Folio of Crosscutting Issues to be addressed in | | | | sed in the | | | | |
| Learning indicators | knowledge | | samples of and lesson: | | | | iscu iii tiic | | |
| for each learning | _ | derstanding of uses of lamin • Gender | | | | | | | |
| outcome | uses of lamin boards | | b | board • | | Issues of SEN (Special Education Needs) | | | |
| | Demonstrate | | | repare a report | ICT skills | | | | |
| | knowledge and | | on strengths and | | | | | | |
| | understanding ofthe | | | _ = = : | | | | | |
| | weaknesses of the | | | | | | | | |
| | various boards | | ~ | ou. us | | | | | |
| | 5.1.1.3.1 t | | | | | - | | | |
| Topic Title | Sub-topics (if | Stage/1 | ime | _ | arning Activit | y to achi | | _ | |
| | any): depending on the delivery mode selected. To | | | | Teacher led, | | | | |
| | collaborative group work or independent | | | | | | | | |
| | | <u>L</u> | | reacher Activity | | Student | Activity | | |
| Uses of manufactured | Relevant | 1/ | | Introduction of L | | | | | |
| boards – lamin boards | Previous 10 minu | | ıtes | Tutor facilitates | | | | | |
| | | | | | S | | | | |
| | | | from pre-tertiary.Tutor asks | | | | | | |
| | the following question: | | | | | | | | |
| Uses of manufactured | strengths a weaknesse various boa Sub-topics (if any): | ond s of the ards Stage/T | time | depending on collaborative ground Teacher Activity Introduction of Land Tutor facilitates a teachers' revision knowledge of the from pre-tertiary | group work or independent ity Student Activity of Lesson es student sion of their the lesson ary.Tutor asks | | ng outcomes Teacher led, sson uestions and | | |

| 1. What are some of the products that have some parts made from lamin boards that you have been using? Uses of lamin board 75 minutes 75 minut |
|--|
| board 75 minutes Tutor facilitates the use of elearning facilities and other available sources to prepare folio on the uses of lamin board for student led discussion Strengths and weaknesses of the various manufacture d boards Conclusion 4/ 20 minutes Conclusion • Tutor reflects with student teachers on the lesson and summarize the key points of the lesson and note down the key points of the lesson and summarize the key points of the lesson and summarize the key points of the lesson and note down the key points of the lesson and summarize the key points of the lesson and summarize the key points of the lesson and note down the key points of the lesson and summarize the key points of the lesson and note down the key points of the lesson and note down the key points of the lesson and note down the key points of the lesson and note down the key points of the lesson and note down the key points of the lesson and note down the key points of the lesson and note down the key points of the lesson and note down the key points of the lesson about the course Lesson assessments — evaluation of learning: of, for and as learning within the lesson (link to Learning Outcomes) Lesson (link to Learning Outcomes) In Lesson Assessment: Written Examination/Tests Students teachers are assessed by summative examination on: |
| Strengths and weaknesses of the various manufacture d boards Conclusion Tutor reflects with student teachers on the lesson and summarize the key points of the lesson It is general impression about the course Lesson assessments – evaluation of learning: of, for and as learning within the lesson (link to Learning Outcomes) Tutor facilities and other available sources to prepare reports on the three boards on their strengths and weaknesses for student led discussion Conclusion of Lesson Tutor reflects with student teachers on the lesson and note down the key points of the lesson Tutor discusses with student teachers their general impression about the course In Lesson Assessment: Assessment for and as Learning Component 1: Examination Assessment Type: Assessment of Learning Category of Assessment: Written Examination/Tests Students teachers are assessed by summative examination on: |
| Lesson assessments – evaluation of learning: of, for and as learning Within the lesson (link to Learning Outcomes) Page 120 minutes • Tutor reflects with student teachers on the lesson and summarize the key points of the lesson elsson • Tutor discusses with student teachers their general impression about the course • Student teachers reflect with the tutor on the lesson and note down the key points of the lesson elsson about teachers discuss their general impression about the course • Student teachers reflect with student teachers on the lesson and note down the key points of the lesson about the course • Student teachers discuss their general impression about the course • Student teachers of the lesson and note down the key points of the lesson about the course • Student teachers discuss their general impression about the course • Component 1: Examination Assessment Type: Assessment of Learning Category of Assessment: Written Examination/Tests Students teachers are assessed by summative examination on: |
| Lesson assessments – evaluation of learning: of, for and as learning within the lesson (link to Learning Outcomes) In Lesson Assessment: Assessment for and as Learning Component 1: Examination Assessment Type: Assessment of Learning Category of Assessment: Written Examination/Tests Students teachers are assessed by summative examination on: |
| evaluation of learning: of, for and as learning within the lesson (link to Learning Outcomes) Component 1: Examination Assessment Type: Assessment of Learning Category of Assessment: Written Examination/Tests Students teachers are assessed by summative examination on: |
| NTS 2c. (Has secure content knowledge, pedagogical knowledge and pedagogical content knowledge) |
| Learning Outcomes Assessed: CLO 3 Weighting: 40% Component 3: Continuous Assessment Assessment Type: Assessment for and as Learning Category of Assessment: Student teachers assessed throughfolio on: • Samples of plywood, block board and lamin board and their uses NTS 2c. (Has secure content knowledge, pedagogical knowledge and pedagogical content knowledge) NTS 3j (Produces and uses a variety of teaching and learning resources including ICT, toenhance learning) |
| Learning Outcomes Assessed: CLO 3 Weighting: 30% |
| Audio-visual equipment and images /videos on manufactured boards Brailler, Scanner and Embosser Sign language (Resource Person). internet facility, laptop computer/PCs, projector JHS Syllabus for Basic Design and Technology (Pre-Tech) |
| Required Text (core) Amoakohene, S.K. et al (1998). Technical skills and drawing for teacher training Book (Tools and processes and methodology). Accra: Unimaxin association wit Macmillan Educ. Ltd. Cambridge University Press. Walker, J. C. F. (1993). Primary wood processing principles. London: Chapman & Hill. |

| Additional Reading List | Oteng-Amoako, A. A. (2006). 100 tropical African trees in Ghana. Kumasi: Graphic Packaging. | | | | | | | |
|-------------------------|---|--|--|--|--|--|--|--------------------|
| CPD Needs | Use of ICT in teaching | | | | | | | |
| | Issues of SEN (Special Education Needs) | | | | | | | |
| | Gender stereotyping/issues | | | | | | | |
| Course Assessment | | | | | | | | |
| | Component 1:Subject Portfolio Assessment (overall score = 30%) | | | | | | | |
| | Selected items of students work (3 of them=10% each) | | | | | | | |
| | Written Assignment | | | | | | | |
| | Group Presentation | | | | | | | |
| | Individual Presentation | | | | | | | |
| | Midterm | | | | | | | |
| | assessment/Quiz=20% | | | | | | | |
| | Reflective Journal | | | | | | | |
| | =40% | | | | | | | |
| | Organisation of the Portfolio= | | | | | | | |
| | 10% (how it is presented/ organized) | | | | | | | |
| | Weighting :30% | | | | | | | |
| | Assesses Learning Outcomes; CLO 1,2,3,4,5 and 6 | | | | | | | |
| | Component 2 : Subject Project(30% overall assessment) | | | | | | | |
| | Task student teachers to design a survey instrument to collect data on their peers | | | | | | | |
| | perception of various ATR beliefs. Should be analysed and the outcome used to create a poster to be presented during the 11 th lesson. | | | | | | | |
| | Introduction; clear statement of aim and purpose= 10% | | | | | | | |
| | Methodology: what the student has done and why= 20% | | | | | | | |
| | Substantive or main sections= 40% | | | | | | | |
| | • Conclusion = 30% | | | | | | | |
| | Assesses Learning Outcomes ; CLO 2,3,4 and 6 | | | | | | | |
| | Assesses Learning Outcomes, CLO 2,5,4 and O | | | | | | | |
| | Component 3: End of Semester Examination=40% | | | | | | | |
| | Assesses Learning Outcomes; CLO 1,2,3,4,5 and 6 Component 1:Subject Portfolio Assessment (overall score = 30%) Selected items of students work (3 of them=10% each) | | | | | | | |
| | | | | | | | | Written Assignment |
| | | | | | | | | Group Presentation |
| | Individual Presentation | | | | | | | |
| | Midterm | | | | | | | |
| | assessment/Quiz=20% | | | | | | | |
| | Reflective Journal | | | | | | | |
| | =40% | | | | | | | |
| | Organisation of the Portfolio= | | | | | | | |
| | 10% (how it is presented/ organized) | | | | | | | |
| | Weighting :30% | | | | | | | |
| | Assesses Learning Outcomes ; CLO 1,2,3,4,5 and 6 | | | | | | | |
| | Component 2 : Subject Project(30% overall assessment) | | | | | | | |
| | Task student teachers to design a survey instrument to collect data on their peers | | | | | | | |
| | perception of various ATR beliefs. Should be analysed and the outcome used to create a poster to be presented during the 11 th lesson. | | | | | | | |
| | | | | | | | | |
| | Introduction; clear statement of aim and purpose = 10% Methodology: what the student has done and why = 20% | | | | | | | |
| | Substantive or main sections= 40% | | | | | | | |
| | • Substantive or main sections = 40% • Conclusion = 30% | | | | | | | |
| | | | | | | | | |
| | Assesses Learning Outcomes ; CLO 2,3,4 and 6 | | | | | | | |
| | Component 3: End of Semester Examination=40% | | | | | | | |
| | Assesses Learning Outcomes ; CLO 1,2,3,4,5 and 6 | | | | | | | |
| | Assesses Learning Outcomes, CLO 1,2,3,4,3 and 0 | | | | | | | |

