COURSE TITLE: CERAMICS III COURSE CODE: IFA 3114 Course Description:

Individual project in Ceramics Research in either and or studio and industrial setting. Ceramics tasks based on selected theme, or re-designing a specific product(s) locally produced, under the guidance and supervision of the selected lecturers. Theory and practice in refractory raw materials, fire bricks, mortars, kilns:- updraft and down draft. Cross draft kilns and electric kiln use, continuous firing kilns, industrial kilns and fuels.

Course Objectives / Aims

- To train learners in real life ceramics through research and production using available and sustainable ceramic materials.
- To allow learners to use problem based learning with full participation of all involved.
- To strengthen confidence and maturity amongst learners in handling clients and community demands.
- To equip learners with life long skills in tackling in kiln materials, production and use. **Course outline**

Week 1

- Learners engage in creating refractory raw materials (both for studio and industry) that include; kaolin, aluminous materials and other refractory students are exposed to skills of identifying refractory materials. Learners will also engage in identifying workable themes for use as inspirational materials. Students will carry out exercises in brainstorming while recording the idea as sketches and models with some of technical drawing.

Week 2

The making of fire bricks, insulating bricks and mortars. Creation and presentation of sketches and drawings as instructed from week 1. Preparation of clays for use in the ceramic project. Use and selection of ceramics production methods and techniques. The use of Grog/fire clay and sodium silicate. The creation of cement fondo (calcium silicate and grog).

Week 3

Ceramic fibre-its use and advantages. Kilns:-

- Intermittent - continuous. Introduction to the early kiln, the bone fire kiln - it advantages, disadvantages and
- Limitations. Guided project preparatory stages working with supervisors. Approval of project plans and drawings.
- Getting set with the kind of ideal clay for the planned project.

Week 4

The theory and practice of updraft kilns, its advantages, disadvantages and examples in real life.

How a draft works and benefits to the ceramicists on potter. Contemporary local and international ceramic design. Drawings for the kiln. Construct a model of updraft kiln.

Week 5

Down draft kilns, with detailed drawings, the different parts and how they function. The theory and practice; and heat movement of the draft. The sizing of the kiln chimney in both updraft and down draft kilns. Execute the preliminary stages of ceramic design developed by the learner. The drying of industrial ceramics versus studio ceramics.

Week 6

The making and practice using Cross draft kilns; how they work, advantages and disadvantages. The theory of the climbing kiln of the Orient and the Tamba tube kilns. How to transform a while ants mould into a kiln. The bottle design kiln and the history of stoke-on-Trent. Firing biscuit using some of the model kilns and works from the set project(s).

Week 7

Double cross draft kilns how it works, advantage and disadvantages of it use. Making, drawing and model of the double cross draft kiln. Construction of the expanded works from the proposed project work. Working on the selected project work(s).

Week 8

Theoretical course work assignment/test. Student critique & presentation of the project progress. Students to present a mini exhibits of work(s) and sit for the theoretical paper. Presentation of work to the entire class by students.

Week 9

The theory and practice of the electric kilns. Oxidation firing. The advantage and disadvantage of using electric kilns. The issue of power supply and cost in Uganda. The elements in the kiln - leather and chrome elements. Refractory furniture - props and bats. Firing work using electric kiln.

Week 10

The use of continuous kilns for industry. Roller Hearth Kilns (RHK); tunnel kilns (TK); Rotary Kilns (RK); Hoffman Kilns and Shuttle kilns. Fuel sowing in industry production. The nature and type of bulk firing. The 24/7 working schedule. Cleaning works of the project(s) and firing. Dust and the effects of on glazing.

Week 11

The use of fuels in pottery and ceramics, the sagger blocks, common fuels; wood, charcoal, coal, gas, diesel, kerosene, used oil, coffee husks and calorific values of fuels. Last chance on late construction especially on big and large ceramic products for the individual projects.

Week 12

Advancement in the understanding and use of calorific values in fuels. Specific values of different fuels. Second firing of the project work(s). understanding of finishes; reliefs, sgraffits, mabling, engobe, transfers. Decoration before firing and decoration after firing.

Week 13

Choosing the right fuel for the ceramicists/potter's kiln. Costs, value, availability and handling of fuels. Extended projects to have a work plan. Situational pottery and ceramics. Site firing for large pieces of ceramics. Making of simple and complex glazes. Selection of glazes and other surface finishes for students.

Week 14

Treatment and handling of the various types of kiln firing. Soaking, steaming, dumping and cooling. Crazing in glazes and surfaces. Dunting and crawling. Avoiding having glazing and firing flaws. Final preparation for project presentation.

Week 15:

Project presentation and Revision for exams. Similar for production of a major work in ceramics. Final presentation of the work for evaluation of the end of semester project(s) cleaning bases, photography for ceramics and simple cataloguing for ceramics.

Week 16 & 17

Examination time

Learning outcomes

- The student will have acquired skills and knowledge necessay to carry out ceramic design project from the start to the finish and have experience in running personal research project in the field of ceramics.

- The students will be observing how ceramic studio/industry operates in the real world situation and gain confidence in starting their own undertaking on completion of the BIFA programme.

- The student will have skills and knowledge to present in writing, visually and orally practical projects findings based on appropriate methods/techniques in solving product design problems in ceramics practice. The students will have acquired the skills necessary to carry out ceramic independent project from the start to finish. They will show also that they have gained confidence and maturity in respect of the way in which they approach and develop designs for ceramic products running the project and coordinating it under the guidance of the lecturer. The students will develop capacity in personal/group design philosophy and interests in ceramics based on the choice for their themes for exploration. Most of the tasks to be executed by the students will be project oriented especially intended to provide students with;

- Ceramic concepts based on problem solving and studio/industrial investigation

- Experience on use of studio resources (equipment, material and firing)
- Experience on project planning, management, coordination and execution.
- Further experience in ceramic mass production and individual aesthetic ceramic works.

Methods of Teaching/Delivery

- Visual resource materials/portfolio development/sketch book
- Practical material experimentation and exploration
- Studio demonstration instruction and technical inputs.
- Group review/presentations/critique
- Self directed studio assignments/projects/courseworks
- Weekly lectures
- Field visits

Mode of Assessment

Course work 40%

- Planning and Developmental studies/sketches 10%
- Execution of the practical work (Reasonable body of work) 20%
- Tests in theory based on ceramic technology 10%

End of semester Examination: 60%

- Theory examination: 20%
- Practical examination: 40% Final total work: 100%

Reading/References & Learning Materials:

1. Atkin, Jacqui (2005): Pottery Basics, A & C Black, Landon ISBN- 10:0713673389

2. Atkin, Jacqui (2004) Hand built pottery Techniques Revealed, Barrons Educational, London ISBN-10:0764126660.

3. Connell, Jo (2002) The Potter's Guide to Ceramic Surfaces, Apple Press, ISBN-10:1840923601.

4. Cohen, Dave (2008) The Basics of Throwing; A & C Black, London ISBN-10:0713681292.

5. Anthony Phillips; Slips and slip ware

6. Daniel Rhodes; Clay and Glazes for the potter A and C Black London

7. David Harvey; Imaginative Pottery (2nd Edition) 1989

8. Diane Earl; Ceramic Decoration, step by step.

9. Emmanuel Copper ; The Potter's Book of Glazes Recipes

10. Emmanuel Copper; Glazes for the studio potter

11. Frank and Janet Hamer The Dictionary of Materials and Techniques

12. Glenn C. Nelson; Ceramics "A Potters handbook" Fourth Edition Holt, Rinehart and Winston, 1978.

13. Harry Frazer Ceramic Faults and their remedies.

14. Harry Frazer Glazes for the craft potter.

15. Henrick Norsker, James Danish Forming Techniques for the self-reliant potter

16. Henrik Norsker ; Refractories and Kilns for the Self-Reliant Potter

17. Henrik Norsker, James Danish Glazes for the self-reliant potter

18. John Colbeck; Pottery Technique of Decoration, BT Batsford Ltd, London 1991

19. Peter Cosentine; Creative Pottery, "A complete guide to designing, making and decorating ceramics" Ebury Press, London, 1987.

20. Peter Dormer The new ceramics: Trends and Traditions.

21. Peter Lane Contemporary Porcelain

22. Richard Zakin ; Ceramics, Mastering the craft

Taylor, B.; The Art of Today, London, Every man, Library, 1