



**SED 734**

**SCIENCE AND TECHNOLOGY  
IN SOCIETY**

**Course Guide**

**COURSE  
GUIDE****SED734****SCIENCE, TECHNOLOGY & SOCIETY**

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## **Introduction**

Science, Technology and Society (STS) is a three-credit course. It is a core course for all those offering Masters in Science Education M. Sc (Ed). The course consists of twenty-six units' approximately five modules. The course assists you in understanding and interpreting the natural world as well as enhancing your effective participation in any academic discourse on STS. It will also widen your knowledge on some of the issues raised such that when you intend to teach them at any level of our educational system they become easy. The course is spelt out under the following headings: nature of STS, interaction of STS, biotechnology education, science of the millennium and environmental education.

## **What you will learn in this course**

The overall aim of the course in Science, Technology and Society is expose you to the general socio-cultural impact of the products of science and technology on humankind. The course is developed on the premise that the awareness of technological development and its associated consequences are a must for every citizen. The course will further inform you that technology ranges from material fabrication, weaving, artifact, automobiles to the very floor you are standing on. For those of you who have been reading wide and paying attention to issues around you, you will accept that science does not only constitute the basis of our material comfort but also a means of achieving technological development and economical survival.

It will help you to pay attention especially to what happens in the community that is, the awareness of changes taking place and the challenges faced by individuals. Some of the issues raised in the course will also assist you accepting that science and technology is the prime mover of our society. Simply put, it is civilization. As more discoveries are made in science, technological breakthroughs become apparent. The society is the recipient of all the scientific and technology output. It is therefore necessary to be aware of happenings around and the consequences of such happenings on the quality our life.

## **Aims of the Course**

This course aims at providing a detail explanation of science , technology and society, interrelatedness of the concepts, approaches to teaching STS, science and technology in African and modern societies, technology transfer, linking STS, biotechnology, genetic engineering, modern information technologies, environmental education and issues in science and technology.

## Course Objectives

To achieve the aims of this course, the course sets overall objectives. In addition, each unit also has specific objectives. The unit objectives are always included at the beginning of a unit, you should endeavour to read them before you start reading through the unit. You may as well want to refer to them during your study of the unit to check on your progress. You should always look at the unit objectives after completing a unit. In this ways, you can be sure that you have done what was required of you by the unit.

The wider objectives of the course as a whole are stated below. For you to say you have achieved these objectives, you should have successfully achieved the aim of the course. On successful completion of this course, you should be able to:

- discuss how:
  - science has affected technology
  - science has affected society
  - technology has affected science
  - technology has affected society
  - society has affected technology
  - society has affected science
- identify what constitutes science of the millennium and strategies for coping with them.
- discuss how the environment has been affected by the activities of man.
- draw out the implications of technological advancements on the quality of life.
- explain how man has misused the knowledge of science and technology to his own detriment.
- analyse the energy crises.
- analyse the impact of various forms of environmental degradation on society.

## Working through this Course

To complete this course, you are required to read the study units which a times include reading materials obtained from journals, articles, read set of recommended books and other materials prescribed by your tutor. The articles are intended to serve as a kind of lecture notes to introduce you to the topics being discussed in the units. Where necessary the names of the authors and relevant references have been included. Take time to go through each of them carefully. Each study unit contains

activities to enable you follow the trend of what you are reading and be sure you understand it. There are Tutor-Marked-Assignments which you are expected to complete and submit to your tutor for assessment. There will be a final examination at the end of the course.

## **Assessment**

There are two aspects to the assessment of this course. First are the Tutor- Marked Assignments, second is a Written Examination. In doing the assignments, you are expected to apply information, knowledge and technique gathered during the course. The assignments must be submitted to your tutor for formal assessment in accordance with the deadline agreed upon in the Assessment File.

The work you submit to your tutor for assessment will count for 30% of your total course mark. At the end of the course, you will need to sit for final written examination of three hours duration. This examination will also count for 70% of your total course mark.

## **Tutor – Marked Assignments (TMAs)**

There are many TMAs in this course. You are encouraged to submit answers to all except any counter directive from your tutor, in which the best required number will be counted. Make sure that each assignment reaches your tutor on or before the deadline given in the Assignment File. If for any reason you cannot complete your work on time, contact your tutor before the assignment is due to discuss the possibility of an extension. Extension will not be granted after the due date unless there are exceptional circumstances.

## **Tutors and Tutorials**

There are 12 hours of tutorial provided in support of this course. You will be notified of the dates, times and location of these tutorials, together with the name and phone number of your tutor, as soon as you are allocated a tutorial group. Your tutor will mark and comment on your assignments, keep a close watch on your progress and on any difficulties you might encounter and provide assignment to you during the course. You must mail your TMAs to your tutor well before the due date (at least two working days are required). They will be marked by your tutor and returned to you as soon as possible.

Do not refuse to contact your tutor by telephone, e-mail or direct discussion if you need help. The following might be circumstances in which you would find help necessary. Contact your tutor incase:

- you do not understand any part of the study units or the assigned readings;
- you have difficulty with self-tests or exercises;
- you have a question or problem with an assignment with your tutor's comments on an assignment or with the grading of an assignment.

You should try your best to attend the tutorials. This is the only chance to have face contact with you and to ask questions which are answered instantly. You are free to raise any problem encountered in the course of your study. To maximize the benefit from course tutorials, prepare question list before attending them. You will learn and gain a lot from participating in discussions group actively.

### **Summary**

SED.722 intends to introduce you to Science, technology and society with particular reference to the general socio-cultural impact of the products of science and technology on humankind. Upon completing this course, you will be equipped with the proper knowledge of technological development and its associated consequences on living organisms and its environment. You as a science teacher will also be in a better position to discuss and teach the students issues relating to how science, technology and society affects each other, such that they will be aware of happenings around and the consequences of such happenings on the quality of their life. You will as well be able to answer these kinds of questions.

- What is science, technology and society?
- What is the justification for inclusion of STS in Secondary and Tertiary Institutions' Curricula?
- What does the current Nigeria National Development Plan have for STS?
- Mention the vital issues central to the teaching and learning of STS?
- How does STS relate?
- What are the attitudes a science teacher needs to develop to function effectively in school?
- Describe the educational objectives of biotechnology.
- Discuss how genetic engineering works
- Discuss the impact of research on space exploration
- List the ecological education content.
- List areas where people in your community have misused science and technology knowledge
- List alternative sources of energy
- Discuss some of the challenges faced by developing nations.



