

BACHELOR OF EDUCATION SPECIAL NEEDS EDUCATION WITH IT

1.0 INTRODUCTION

The Bachelor of Education (Special Needs Education) With IT degree programme has been designed to respond to the emerging needs of providing skilled and competent teachers who can handle the Special Needs Curriculum in the secondary education system in Kenya. Specifically, the programme focuses on preparing teachers to handle curriculum for the Hearing Impaired, Visually Impaired, and the mentally and physically challenged persons. In addition to taking the foundation courses in Education and Special Needs Education, students will be expected to take one teaching subject from the prescribed secondary school curriculum.

2.0 PROGRAMME OBJECTIVES

The Bachelor of Education (Special Needs Education) With IT degree programme is designed to produce graduate teachers well equipped with the requisite competencies and values of teaching special needs curriculum areas as prescribed in the secondary education curriculum in Kenya. Specifically, the programme is planned in order to accomplish the following objectives:

- a) to prepare the student for an active career in all aspects of the profession of education
- b) to provide a comprehensive training background necessary for the students to become competent experts in the profession of education
- c) to enable the student identify the varied intellectual and special needs of the learner
- d) to develop the intellectual, professional and social characteristics that will enable the student to become responsible leaders in their schools and the community
- e) to develop the scientific character and capabilities of dealing with issues and problems in education and society
- f) to provide the students a rich basis for interest in further training and education in their areas of expertise, ability and interest

3.0 ADMISSION REQUIREMENTS

To be admitted to the programme, candidates must;

Satisfy the University entry requirements i.e. a minimum mean grade of C+

Or

Satisfy the University entry requirements i.e. a minimum mean grade of C+ and C+ in one teaching subject

Or

Have two Principal Passes at KACE/EAACE

Or

Have a relevant Diploma from a recognized educational institution

4.0 COURSE STRUCTURE AND DURATION

- 4.1 The degree shall normally take four academic years of 8 semesters.
- 4.2 Courses shall be offered in units. A course unit is defined as that part of a subject described by a coherent syllabus and taught normally over a period of a semester. It is designated as a total of 42 hours of study in a semester. For this purpose one 1-hour lecture is equivalent to one 2-hour tutorial or 3-hour practical or any combination as may be approved by the Board of the School of Education.
- 4.3 Part-time students shall be allowed to take not less than 50% of the courses prescribed for the year.
- 4.4 All courses will be taught for a total of 42 contact hours, including examinations except Teaching Practice which will be undertaken for the durations when schools are in session.
- 4.5. Students shall be required to undertake teaching practice of a whole school term of 3 months at the end of 3rd year of study.

5.0 EXEMPTION FROM COURSES

Students may be exempted from some courses by Senate on recommendation of the School Board.

6.0 EXAMINATIONS REGULATIONS

University Senate Examinations rules and regulations shall apply.

7.0 COURSE DISTRIBUTIONS

FIRST YEAR, FIRST SEMESTER

UNITS

ESE 101	Patho-Biology of Human Body Impairment	3
SCS 101	Introduction to Computer	3
SCS 114	Introduction to Spreadsheets and Databases	3
EDU 110	Introduction to Special Needs Education	3
PSY 110	Introduction to Educational Psychology	3
	Two courses for each of the two teaching subjects	10
	TOTAL:	25

FIRST YEAR, SECOND SEMESTER

UNITS

ESE 102	Education and Psychology of Learners with Special Needs	3
SCS 103	Programming in Pascal	3
SCS 112	Desktop Publishing	3
EMA 111	Environmental Education	3
EDF 111	History of Education	3
	Two courses for each of the two teaching subjects	10
	TOTAL:	25

*One week of ESE 102 will be set-aside for school visits.

SECOND YEAR, FIRST SEMESTER

UNITS

ESE 201	Introduction to Sign Language and Total Communication	2
ESE 202	Introduction to Braille	2
ESE 203	Introduction to Learning Disability and Individualized Education Programme (IEP)	2
EDF 210	Philosophy of Education	3
SCS 207	Web design and Publishing	3
SCS 203	Information System Analysis and Design	3
ECT 210	General Methods of Teaching	3
	Two courses for each of the two teaching subjects	10
	TOTAL:	28

SECOND YEAR, SECOND SEMESTER

UNITS

ESE 204	Behaviour Modification	2
ESE 205	Cognition and Learning Process	2
ESE 206	Identification, Assessment and Intervention Strategies with Children who are Gifted and Talented	2
ESE 207	Attachment	1
SCS 212	Database Systems	3
SCS 214	Management Information Systems	3
ECT 211	Educational Media and Resources	3
ECT 212	Curriculum Development	
	Two courses for each of the two teaching subjects	10
	TOTAL:	29

THIRD YEAR, FIRST SEMESTER

UNITS

ESE 301	Speech, Language Development and Communication Disorders	2
SCS 306	Internet Computing	3
SCS 310	Multimedia and Graphics	3
PSY 310	Human Growth and Development	3
	Special Methods of Teaching Two Subjects	6

Two courses for each of the two teaching subjects	10
Any One Elective from the list below	1

TOTAL: 28

ELECTIVES

ESE 302	Medical Conditions Associated with Mental Handicap	1
ESE 303	Kenyan Sign Language I	1
ESE 304	Braille II	1
ESE 305	Motor, Neurological, Physical and Health Impairment	1

THIRD YEAR, SECOND SEMESTER

UNITS

ESE 306	Adapted Physical Education for the Handicapped	2
SCS 322	Electronic Commerce	3
SCS 324	Statistical Analysis with SPSS	3
PSY 311	Educational Technology	3
	Human Behaviour and Learning	2
	Two courses for each of the two teaching subjects	10
	Any One Elective from the list below	

TOTAL: 25

ELECTIVES

ESE 307	Perception Training For Learners with Mental Retardation	2
ESE 308	Kenyan Sign Language II	2
ESE 309	Alternative Communication Skills and Barrier Free Environment For Physical Handicapped	2
ESE 310	Orientation and Mobility	2

FOURTH YEAR, FIRST SEMESTER

UNITS

ESE 401*	Pscyo-Educational Assessment	2
ESE 402	Early Childhood Education for Children with Special Needs	2
SCS 409	IT and Society	3
SCS 436	Internal Controls & Security Issues	3
EMA 411	Educational Administration and Management	3

EDF 410	Sociology of Education and Comparative Education	3
PSY 410	Educational Tests and Measurements	2
	Two courses for each of the two teaching subjects	10
	Any One Elective from the list below	2
	TOTAL:	30

* Student will be expected to undertake 2 weeks of practical assessment in an operational centre.

ELECTIVES

ESE 403	Kiswahili, Mathematics and Music Braille	2
ESE 404	Sign Language Interpreting	2
ESE 405	Adapted Physical Education for the Physically Handicapped	2
ESE 406	Diagnostic Assessment for the Mentally Handicapped	2

FOURTH YEAR, SECOND SEMESTER

UNITS

ESE 407	Disability, Society, Community Based Rehabilitation And Inclusive Education	2
ESE 408	Education of Learners with Severe Disabilities and Cerebral Palsy	2
SCS 416	Human-Computer Interaction	3
SCS 427	Social and Professional Issues in Computing	3
EMA 412	Planning and Economics of Education	3
ECT 390*	Teaching Practice	6
PSY 410	Guidance and Counselling	2
	Two courses for each of the two teaching subjects	10
	Any One Elective from the list below	2
	TOTAL:	27

ELECTIVES

ESE 409	Functional and Vocational Skills for Learners with Mental Handicap	2
ESE 410	Audiology	2

ESE 411	Rehabilitation of Motor Deviations for Physical Handicapped	2
ESE 412	Low Vision	2

* Teaching Practice will be offered after completion of fourth year.

8.0 COURSE DESCRIPTIONS

FIRST YEAR, FIRST SEMESTER COURSES

ESE 101: Patho-Biology of Human Body Impairment

Biological contribution to human development. Anatomy and Physiology of human body structure; eye, ear, skeleton muscles the central nervous system. Intergumentary systems; bones and bone tissues; muscle tissues. Development stages; Common abnormalities of human organs; pathogenic and non-pathogenic; congenital abnormalities.

EDU 110: Introduction to Special Needs Education

Definition of Education and Special Needs Education; historical development of Special Education; Special and Regular Education; categorization of education, special education and society, sociology of special education and characteristics of various exceptionalities; causes and prevalence of handicapping conditions on each exceptional case.

SCS 101: Introduction to Computer

Historical background of computers, components of a computer system, basic computer organization, computer soft ware, operating systems with hands on experience with the operating systems currently in use as the University, Hands on experience with typical word processors.

SCS 114: Introduction to Spreadsheets and Databases

Database Types: Advantages and disadvantages; filed types creating and modifying fields in database. Data entry and validation checks. Importing and exporting tables. Data handling: Add, view edit, sort or filter data in a database creating using view files. SQL and query files; creating, saving, modifying query files. Forms: creation and application. Data entry and

viewing through forms: Form within a form. Report: Crating, customizing and printing of reports and mailing labels (mailing lists). Designing and Running of MaCros.

PSY 110: Introduction to Educational Psychology

Introduction; Personality theories; personality development; Personality assessment; Biological foundations of human behavior: The nervous system, the learning process, sensation, perception, consciousness, attention and interest, emotion and aggression, frustration, conflict, anxiety, stress and stress management, memory and forgetting; Types of exceptionalities: Learning disabled, minimal brain damage, social-emotional problems, mentally challenged, gifted and talented, sensory handicap, multiply handicapped.

FIRST YEAR, SECOND SEMESTER COURSES

ESE 102: Education and Psychology of Learners with Special Needs

Classification, prevalence, characteristics of learners with Special Needs Medial and educational placement intervention for the following categories of the handicapping conditions, visually impaired, hearing impaired, physically handicapped, mentally handicapped, learning disabilities, communication disorders, emotional and behavioural disorders, gifted and talented and the multiply handicapped. Learning process, general methods of learning, attention, memory, motivation, the role of Intelligence quotient in learning, the role of the teacher and parents in the education of various categories of exceptionality:

EDF 111: History of Education

Development of education throughout history; Education in classical times; Education during the middle ages; The emergence of states in the 17th and 18th centuries and its influence upon the development of education; Education in the 19th and 20th centuries with historical study of the ideas of selected important educational thinkers; History of education in Kenya: patterns, problems and developments from the pre-colonial times to the present.

SCS 103: Programming in Pascal

Notations and fundamental concepts, data type and declaration, statement, expression and assignments, simple input and output, basic control structures, procedures and function, arrays, records, sets, files, pointers:- pointer concept, programming a stock, non linear structures, storage tailoring (3 credit hours).

SCS 112: Desktop Publishing

Basic concepts of desktop Publishing Packages. Crating and Publications; The toolbox, working with pallets and setting preferences: Formatting texts: Working with graphs and managing windows; Constructing a publication and using the dictionary: Indexing; creating tables of contents. Colour management Systems.

EMA 111: Environmental Education

Environmental Education perspectives. The earth – its environmental systems and resources. Environmental management, Demography and the environment; Human settlements. Society, culture and environmental awareness. Technology and environment; Development and environment; Legal aspects of environment; Chemicals and environment; the teaching of environmental Education in the 8.4.4 education system.

SECOND YEAR, FIRST SEMESTER COURSES

ESE 201: Introduction to Sign Language and Total Communication

Definition of Sign Language (SL) and Total Communication (TC). Difference between Sign language and spoken language. Sign language acquisition. Emergence of Sign Language and Total Communication. Universal properties of languages and how they relate to Signed Languages. Sign Language structure: morphology, phonology, syntax; Components of Total Communication, Educational application of Sign Language and Total Communication.

ESE 202: Introduction to Braille

Braille equipment and types, letters of the alphabet words; upper and lower contractions based on English Braille.

ESE 203: Introduction to Learning Disabilities and Individualized Educational Programme (IEP)

Characteristics of students with Learning Disabilities, Diagnosis of learning disabilities, Analysis of the students mode of information processing of content to be learned.

ECT 210: General Methods of Teaching

The nature of teaching and learning; a systems' approach to teaching; teaching methods and strategies; educational aims, goals and objectives; planning for instruction; communication and interaction in the classroom; providing for individual differences; motivation and sustenance of learners' attention and evaluation of learning outcomes.

EDF 210: philosophy of Education

An introduction to philosophy as a discipline of knowledge: the origin, purpose and development of educational philosophy of education as a distinct discipline of knowledge; The content of education; Education and knowledge, education and values; The method of education; The creative and social dimensions of education; The concept of teaching and learning; The teaching of social education and ethics.

SCS 203: Information Systems Analysis and Design

Conducting feasibility studies, selecting the team, terms of reference. Technical, cost sizing of equipment and man power, operational feasibility, Implicating for people on organization, participative systems design, management of innovation, Economic feasibility cost/benefit and capital investment analysis, estimation of cost, economics of information, valuation of benefits, the feasibility report.

SCS 207: Web Design and Publishing

Internet and the world web (WWW) Browsing and searching techniques; the Internet as a research tool. Search engines; Introduction to Hypertext Mark Up language (HTTP); Web design, hosting and development; Intranet concept: evolution, benefits and challenges.

SECOND YEAR, SECOND SEMESTER COURSES**ESE 204: Behaviour Modification**

Definition and importance of behavior modification; strengthening appropriate behavior; weakening inappropriate behavior, principles of reinforcement; procedures based on principles of reinforcement; Respondent and operant conditioning, assessment of behaviours, behavior modification process; observation, recording; intervention and evaluation.

ESE 205: Cognition and Learning Process

Normal human cognitive development, deficits in memory attention, perceptual motor acquisition of knowledge; role of environmental factors in learning; cognitive development and concept formation; learning channels.

ESE 206: Identification, Assessment and Intervention Strategies with the Gifted and Talented Children

History of, characteristics, intelligence and I.Q on giftedness. Underachievers, culturally gifted, extra ordinary ability, gifted women, the gifted in the society, educational intervention, curriculum, environment, special groups and acceleration, programme variation.

ESE 207: Attachment

Individualized Education programme (IEP) identification of children with special learning needs development of test tools, setting of short and long term objectives intervention, interpretation of test results, classroom observation and teaching, final recommendation.

ECT 211: Educational Media and Resources

Communication Models and Learning; barriers to effective communication and how to overcome them; visual communication in learning; verbal and non-verbal communication; introduction to the range of media in teaching and learning; using educational radio and television broadcasts in schools; producing teaching and learning materials in schools; selection and use of print media; management of school multi-media center; evaluation of educational media; future developments in educational media and resources.

ECT 212: Curriculum Development

Definitions and concepts; the meaning of educational goals and purposes of education; curriculum as a field of study and as a programme of instruction; curriculum development process; models of curriculum development; patterns of curriculum organization, stages of curriculum development; principles of curriculum implementation; the process of curriculum implementation; curriculum evaluation; the teacher and the curriculum; curriculum development in Kenya; issues in curriculum development in Kenya; Relevance, strategies and processes; issues in teacher education and teaching profession: universal primary education.

SCS 212: Database Systems

Database systems; Data modeling an relational model; Database query languages; Relational database design; transaction processing: Distributed database; physical data base design.

SCS 214: Management Information Systems

Introduction to management information systems hardware and soft ware issues, application software packages, database management systems, ethical and security issues, systems analysis and design.

THIRD YEAR, FIEST SEMESTER COURSES

ESE 301: Speech, Language Development and Disorders

Organs of speech, normal development of speech, voice disorders, phonation and resonance, diagnosis and remediation, articulation disorders; diagnosis and remediation of language disorders; Forms, channels and chains of communication; importance of human communication. Communication disorders; communication techniques e.g. bliss symbols, typing, braille, finger spelling, sign language and pictographs.

ESE 302: Medical Conditions Associated with Mental Retardation

Mental retardation and mental illness, central nervous system, chromosomal disorders, down syndrome, metabolic disorders, carbohydrates, proteins and amino-acids, metabolisms, intoxicants, trauma and environmental influences; conditions related in mental handicaps

ESE 303: Kenyan Sign Language I

History, emergence and development of Kenyan Sign Language. The deaf community and their language, KSL. Kenyan Sign Language variation and standardization issues. Kenyan Sign language and the deaf culture. KSL sentences types. KSL grammar, Negation in KSL. The use of non manual signals in KSL as linguistic markers. KSL practicals. Production and comprehension skills in KSL, use of finger spelling as a component of Sign Language.

ESE 304: Braille II

Braille equipment and types, English Braille, Kiswahili Braille, Braille in Science, Introduction to Mathematics and Music Braille.

ESE 305: Motor and Neurological Impairments of Physical and Health Impairments.

Definition, causes incidence and prevalence of congenital and acquired abnormalities; arthrogyrosis, cerebral palsy, club foot, spinal bifida, congenital dislocation of the hip, fibrosis paraplegia, quadriplegia, amputation, muscular dystrophy scoliosis, polio, spinal cord injury hydro/microcephalus, leprosy and others.

ECT 311: Special Methods of Teaching Mathematics

Introduction to Mathematics Education; philosophy and foundations of mathematics education; general goals and objectives of mathematics; instructional theories of teaching and learning mathematics; strategies of teaching mathematics, secondary school mathematics curriculum in Kenya; planning for instruction; instructional resources; teaching selected topics and problem solving procedures; trends and issues in teaching mathematics; assessment in mathematics.

ECT 312: Special Methods of Teaching History

The place of History in the curriculum; aims and objectives; secondary school history syllabus; teaching and learning strategies in history preparation of scheme of work lesson plan and record of work covered; preparation, selection and use of resource materials; evaluation in history; trends in the teaching of History in Kenya.

ECT 313: Special Methods of Teaching Geography

Goals of Education and contribution of Geography as a subject to their achievement; trends in geography teaching; the nature and scope of geography in the 8-4-4 secondary school curriculum; the Kenya secondary Geography syllabus; scheme of work, lesson plan and record of work covered in Geography; use of media in Geography teaching and learning; programmed learning in Geography; the K.I.E. radio broadcasts and recorded Geography lessons; informal methods of teaching Geography: site visits, field visits, projects, resource persons; creating the Geography atmosphere in the school; making simple apparatus for Geography lessons; using the local environment and fieldwork in Geography; evaluation in geography.

ECT 314: Special Methods of Teaching English

Development of language skills necessary for the teaching of English as a second language; the recognition and identification of various purposes for which English is used; aims and objectives; secondary school syllabus in English; teaching and learning strategies, preparations of scheme of work, lesson plan and record of work covered; production, selection and use of resource materials; print media, audio/visual media, the language, laboratory; evaluation; current issues and problems in the teaching of English language in Kenya.

ECT 315: Special Methods of Teaching Literature in English

Definition and functions of literature; aims and objectives of teaching Literature in English; the relationship between English language and Literature in English in the secondary school curriculum; the Kenya secondary school Literature syllabus; current issues in the teaching of Literature in secondary schools; development of Literature appreciation; selection and use of literacy texts and material; teaching oral literature, poetry, plays, novels and short stories, scheme of work and lesson preparation; Testing and evaluation in Literature.

ECT 316: Mitindo Mahsusi ya Kufunza Lugha ya Kiswahili

- i. Kukuza ujuzi wa lugha wastani ya Kiswahili kwa kuahimiza walimu au wanafunzi umuhimu wa;
 - Kusilikiza
 - Kuongea (kuzungumza)
 - Kusoma
 - Kuandika
- ii. Uchunguzi wa lugha kama inavyotumiwa katika magazeti
- iii. Kurekebisha shida za matamshi kama ikiwezekana kwa kutimia maarifa na vifaa vya kisasa katika chumba cha lugha.
- iv. Kuchambua mfumo wa 8-4-4 wa elimu - shule za sekondari
- v. Kutayarisha muhtasari wa ratiba katika somo la Kiswahili; Taarifu ya somo ya kipindi chochote cha lugha ya Kiswahili.
- vi. Utahiri katika kufundisha lugha ya Kiswahili
- vii. Kuwaongoza wanafunzi kujifunza njia mbali mbali za kufundisha fasihi ya Kiswahili.
- viii. Kuhariri na kuzidisha ujuzi wowote unaohusu lugha sarafi na uandishi wa insha ya Kiswahili lulingana na kazi mbali mbali.

ECT 317: Special Methods of Teaching Economics

The nature of Economics Education; aims and objectives; the secondary schools Economics syllabus; strategies in the teaching and learning of Economics; preparation of the scheme of work, lesson plan and record of work covered; preparation, selection and use of resource materials; models, graphics, print media, audio visual media, realia etc; the role of Mathematics in the teaching of economics; assessment and evaluation in Economics teaching. Trends in the teaching of Economics in Kenya.

ECT 318: Special Methods of Teaching Religious Education

The nature of Religious Education; attitudes to religious education; the legal aspects of religious education in Kenya: the Kenya constitution, the Ominde report (1964), and the education act (1968); aims and objectives; the nature and the scope of Religious Education in the secondary

school curriculum; the syllabus in the teaching of Religious Education; strategies in the teaching and learning of Religious Education, preparation of the scheme of work, lesson plan and record of work covered; production, selection and uses of resource materials; realia, graphics, print media and audio visual media, resource persons; evaluation.

ECT 319: Special Methods of Teaching Home Science

Introduction to the teaching of Home Science; development of curriculum concepts and theories; scope and sequence in Home Science; aims and objectives; secondary Home Science syllabus; strategies in the teaching and learning of Home Science; preparation of the schemes of work; lesson plan and record of work covered; production selection and use of resource materials; realia, models, graphics, audio visuals, educational broadcasting; management of the home science room; evaluation; trends in the teaching of Home Science in Kenya.

ECT 320: Special Methods of Teaching French

Language skills necessary for teaching French as a foreign language; the teaching of phonetics, phonology, morphology and syntax; strategies in the teaching and learning of French; grammar problems; remedial oral French; aims and objectives; secondary school syllabus in French; preparation of schemes of work, lesson plan and record of work covered; resource materials; print media, audio visual media, the language laboratory; evaluation, trends in the teaching of French in Kenya.

ECT 321: Special Methods of Teaching Music

Foundations of Music learning; social and psychological aspects involved in teaching of Music concepts and skills; aims and objectives; the secondary school Music syllabus; strategies in the teaching and learning of Music; preparation of the schemes of work, lesson plan and record of work covered; preparation, selection and use of resource materials; evaluation, organizing the topic programmes in schools; trends in the teaching of Music in Kenya.

ECT 322: Special Methods of Teaching Hearing Impaired

Teaching language and reading to the hearing impaired; techniques of individual speech training, articulation; voice and fluency; adapting school curriculum to teach non-language subjects; use

of total communication; integration of communication techniques in teaching; non-language subjects; Kenya sign language; signing exact English, finger spelling.

ECT 323: Special Methods of Teaching Business Studies

Meaning and definition of Business Education; historical development; and present status of Business Education; goals of Business Education; Business Education in the Kenya secondary school curriculum; Business Education syllabus, scheme of work, lesson plan, and record of work covered; teaching strategies and techniques in Business Studies; motivation and sustenance of learner interest; teaching and learning resources in Business Education; evaluation in Business Education.

ECT 324: Special Methods of Teaching Mentally Handicapped

Methods related to specific subjects; language and motor; multi sensory approaches to learning music therapy; art therapy; modification of academic curriculum; adaptation of theory and teaching aids; implementation of individualized education programmes; assessment; planning teaching and evaluation.

ECT 325: Special Methods of Teaching Physically Handicapped

The course covers the learning and motivation theories, their application to classroom organization and management and remedial teaching techniques.

ECT 331: Special Methods of Teaching Visually Handicapped

Adaptations of the 8-4-4 curriculum, Mathematics Adaptations, Maps to teach pupils Vegetation relief, Methods of teaching science and agriculture, models, how to teach Braille to the adventiously blind.

ECT 332: Special Methods of Teaching Biology

An overview of Biology Education; Philosophy of Biology education; aims and objectives; secondary school Biology; preparation of scheme of works, lesson plan and record of work covered; preparation, selection and use of resource materials : realia, models, graphics mock-ups, management of Biology laboratory; evaluation.

ECT 333: Special Methods of Teaching Chemistry

An overview of Chemistry education; philosophy of Chemistry education; aims and objectives; secondary school Chemistry syllabus; strategies in the teaching and learning of Chemistry; preparations of the scheme of work, lesson plan and record of word covered; preparation, selection and use of resource materials : realia, models, graphics; management of the Chemistry laboratory; evaluation.

ECT 334: Special Methods of Teaching Computer

Introduction to Computer Education; Philosophy of Computer education; aim and objectives of the secondary school Computer Studies syllabus; strategies in the teaching and learning of Computer Studies; preparation, selection and use resource materials; secondary school Computer Studies curriculum in Kenya; teaching records, scheme of work and lesson plan; current issues in Computer Studies; IT appreciation; management of a computer laboratory; evaluation.

ECT 335: Special Methods of Teaching Physics

An overview of Physics Education; Physics of Biology education; aims and objectives; secondary school Physics syllabus; strategies in the teaching and learning of Physics; preparations of the scheme of work, lesson plan and record of word covered; preparation, selection and use of resource materials : realia, models, graphics; management of the Physics laboratory; evaluation.

PSY 310: Human Growth and Development

Introduction: Historical overview, Theories about the child, methods of studying children; Pre-natal period: Genetic counseling and phenotype, prenatal growth and development, nature/nurture concept; The birth process: Labour, delivery, dangers; Infancy; Early childhood; Mid childhood; Late childhood; Adolescence; Moral development Adulthood.

SCS 306: Internet Computing

History and evaluation of the Internet, basic tools of Internet access, emails, ftp, Telnet, news, anarchie, WWW Basic Internet Protocols, TCP/IP, SMTP, ftp, http, routers, algorithms and protocols for routing, Internet programming, Unix systems calls, socket programming, languages for the Internet, HTML, XML, Java scripts, perl, applications, network information discovery and retrieval, web servers, robots and search engines, security issues, firewalls, encryption and protocols problems with the Internet, technical issues. Future of the internet, NGI, Internet-II, IP 6 etc.

SCS 310: Multimedia Graphics

Fundamentals of design and Visualization; Creating illustrations: Image creation: Creating Editing and optimizing graphics for commercial design; 2 Dimensional animations, 3D graphics Multi media.

THIRD YEAR, SECOND SEMESTER

ESE 306: Adaptation Physical Education for the Handicapped

This course exposes students to the relevance and necessity of physical education to persons with special needs in Education, therapeutic aspects of physical education, adaptations of activities, resources, rules and regulations; practical application of adapted physical education to person with special needs, safety considerations, support personnel and services, planning for a physical education lesson.

ESE 308: Perceptual Training for Learners with Mental Retardation

Definition of perception, development of senses, perceptual-motor processes, visual perception modality; auditory perceptual modality olfactory modality, gustatory, perceptual training programmes and activities for mentally handicapped children.

ESE 310: Kenyan Sign Language II

The structure of sign language, sign language morphology and morphemes. Dominance constraints, Types and use of KSL verbs: Plain, Agreement and spatial verbs, Types and use of KSL adjectives personal pronouns in KSL; Non manual signals in KSL, Borrowing and Name signs in KSL Descriptive and Narrative stories in KSL. Emergence of Signing Exact English. Characteristics of KSLS and SEE. Difference and similarities between KSL and SEE. SEE use.

ESE 311: Alternative Communication Skills and Barrier Free Environment for the Physically Handicapped.

Philosophy and approaches to communication skills, characteristics of children who need alternative communication skills, alternative communication techniques, bliss symbols, pictographs, drawings, communication board, electronic aids, adaptation of electronic aids, typing for communication, basic sign language and sign supported speech, use of computer with severely physically handicapped.

ESE 313: Orientation and Mobility

Definition, History and development of concepts, spatial and environmental concepts, sensory development, orientation skills, land mark; clues, measurement compass directions, mobility skills, sighted guide dog guide, self protection, cane skills, mobility in rural and urban environment.

ECT 360: Educational Technology

This unit is divided into two parts, both of which are practical activities for the students in teaching and production of resource materials; The first part covers Educational media practicals: (How to use the chalkboard, graphics, construction of three-dimensional materials, operation of audio-visual equipment, preparation of audio programmes) and the second part covers Microteaching; (Lesson preparation, preparation of audio visual media for the lesson; lesson

presentation; skills application set induction, lecturing, reinforcement, stimulus variation, questioning, providing for learner participation, feed back, closure).

ECT 390: Teaching Practice

This is a practical course for students of education. It provides opportunity for the students to practice teaching principles in a real classroom and school environment. Each student is attached for a period of three months to a secondary school and relevant institute of technology or national polytechnic where they work under the guidance and co-operating teacher and the university supervisor. During this period of attachment to the education institution each student is inducted in the teaching profession and guided and graded in two teaching subjects.

PSY 311: Human Behaviour and Learning

Definition; Determinants of human behavior; Origin of group membership Group pressure; Power and influence; Group performance; Group norms and cohesiveness; Attitudes and stereotypes; Motivation; Roles and conflicts in groups; Theories of learning; Learning process; Conditions of learning; Factors affecting learning.

SCS 322: Electronic Commerce

E-commerce, benefits and shortcomings, business to business commerce, business to consumer commerce. Building blocks of electronic commerce. Applications internet and Network protocols. Electronic payment systems. Security transactions. Review of cryptographic tools, secure financial transactions. Payment transactions and standards, Smart card and e-cash technologies. Authentication, signatures, observers, Anonymity, privacy, trace ability. Key certification, Management and Escrow, technologies for building e-commerce applications, distributed objects, object quest brokers, and object oriented application frameworks. Some applications: supply chain management, Internet auctions and remote banking.

SCS 324: Statistical Analysis with SPSS

Introduction; File management; File systems, creating new files, opening saved files, saving files, Printing, editing: cut and paste, copy and paste, editing options: Data manipulation: Variable definition, inserting variables, inserting cases, variable transformation; Statistics: summarize, custom tables, comparing means, general linear model, correlation and regression,

data reduction, reliability analysis, non-parametric tests. Graphs, Bar charts, line graphs, pie chart, box plots, error bars, scatter plots, histograms, p-p plot, time series.

FOURTH YEAR, FIRST SEMESTER COURSES

ESE 401: Psycho-Educational Assessment

Development of Educational Assessment, purposes of tests, types of assessment tests, assessment instruments and scales, assessment of each type of exceptionality, assessment process, use of assessment results, social and ethical implication of testing as a form of assessment, review of various tests and their adaptation to the Kenyan cultural setting.

ESE 402: Early Childhood Education for Special Needs

Identification of exceptional children; screening of the exceptional child; intervention programmes; parental education and guidance; the pre-school child with cognitive; social sensory; speech; language and motor impairments; the role of interdisciplinary approach to remediation.

ESE 403: Kiswahili, Math's and Music Braille

Kiswahili Braille; Mathematics Braille, Music Braille operations; Algebra, indices; equations; power and roots; matrixes, geometry; - angle, shapes, lines, elementary trigonometry; Music Braille – Octave, clefs, Braille ledger lines, Braille signs altering the pitch of a note, Braille scale, pentatonic, pent chord, diatonic major, Braille noted of the staff, Braille minor scales, key signature, note values, rests, time signature, tonic – solfa in Braille.

ESE 404: Sign Language Interpreting

Definition, types of levels of interpretation and translation, qualities of an interpreter, interpreter and the code of ethics; need for interpreters; functions of interpreting for the deaf in different situations; practical in interpretation.

ESE 405: Adapted Physical Education for the Physically Handicapped

This course exposes students to adaptations in physical for persons with physical handicaps. Specific adaptation will include persons with muscular dystrophy cerebral palsy, athrocriposis, clubfoot, spine bifida, congenital dislocation of the hip, amputations, polio, spinal cord injuries hydro and micro cephalo leprosy and others. Adaptation to equipment, environment, sports and recreational activities.

ESE 406: Perceptual Training for the Mentally Handicapped

Definition of perception, development of senses, perceptual-motor processes, visual perception modality; auditory perceptual olfactory modality, gustatory, perceptual training programmes and activities for mentally handicapped children.

EDF 410: Sociology of Education and Comparative Education

Origins of Evolution of sociology and sociology of Education; Sociology as a discipline of knowledge, its branches and methods of study, the relationship between sociology and other Social Sciences; sociological theories and their relevance to Education; Education and the Socialization process; Education and Culture; Social stratification and Education; Education opportunity and Equality; Education and Politics; Education and Gender development; Education and development; Education deviance and transformation; Sociological research in Education settings; Comparative Education as a discipline encompassing the definition; purpose; significance; historical development and methodological approaches used; Comparative study of systems of education in Britain; France; Israel; South Africa; Cameroon and East African countries; Contemporary issues in education such as urbanization, higher education, technical education; teacher education; special education; science education; inspection and supervisory practices; multilingualism; dependence and interdependence in education.

EMA 411: Educational Administration and Management

Introduction to Educational Administration: definition of administration, management, educational application of administration and management; Theories of administration: scientific management including bureaucracy, human relations, behavioral approach, systems approach; legal basis of education in Kenya: party manifestos, the constitution, the Education Acts and subsequent legal notices, presidential Pronouncements; School organizations: registration categorization, management, roles of Board of Committees; Instructional management; Co-ordination of curricular activities; Selection and acquisition of instructional materials and equipment; Maintenance of school financial management: principles of book-keeping, accounting journals, sales, purchases, cash receipts and payments, ledgers inventories, petty cash and bank reconciliation, sources of school funds, estimates and budgets, spending and accounting for school finances – authority to spend legal guideline – school accounts, auditing; Teachers' Association.

SCS 409: IT and Society

History of computing, social context of computing, methods and tools of analysis, professional and ethical responsibilities, the electronic community, the changing nature of technological risks, the information economy, risks and liabilities of safety-critical systems, intellectual property, privacy and civil liberties, pornography and censorship, social implications of the internet, computer crime, economic issues in computing, philosophical foundations of ethics.

PSY 410: Educational Tests & Measurement

Introduction; Educational objectives; Types of tests; Test construction; Test specification; Item analysis; Reliability and validity; scaling; Test administration; scoring and interpretation; Introduction; Organization of data; Graphs: Measures of central tendency; Measures of dispersion; standard scores; Area under the normal curve; correlation and regression.

SCS 436: Internal Controls and Security Issues

Controls on data and information: Input controls, Processing controls, output controls : Internal Security: Protection against fraud: computer crimes, computer viruses: Security measures: Information systems audit.

FOURTH YEAR, SECOND SEMESTER COURSES

ESE 407: Disability, Society Community Based Rehabilitation and Inclusive Education

Definition of Disability and Society; The effects of disability in the society; the role of the society in accommodating persons with disabilities. Alternative placement for persons with disabilities in the society. Parents, teachers and community workers role for persons with disabilities in their respective societies. Definition, types of community based rehabilitation. Identification of persons to be placed in the rehabilitation centers. Types of courses to be offered to different categories of handicaps. Facilities and personnel involvement. Definition; History of and development of Inclusive Education worldwide and in Kenya. Difference between inclusive education and integration; environment conducive for inclusive education, facilities, personnel and adaptation.

ESE 408: Education of Learners with Severe Disabilities and Cerebral Palsy

Definition, types of cerebral palsy, athetosis, spastic, ataxia, education of learners with cerebral palsy, medical intervention and placement. History and characteristics of learners with severe disabilities. Mental retardation and cerebral palsy; mental retardation and behavioural problems; mental retardation and hearing impaired; autism; deaf and blind; mental and physical; mental and blind; dual sensory impairments.

SCS 416: Human-Computer Interaction (HCL)

The Principles of HCL, modeling user, interaction, window management system design, help systems, evaluation techniques, and computer supported collaborative work.

SCS 427: Social and Professional Issues in Computing

History of computing, social context of computing, methods and tools of analysis, professional and ethical responsibilities, risks and liabilities of safety-critical systems, intellectual property, privacy and civil liberties, social implications of the internet, computer crime, economic issues in computing philosophical foundations of ethics.

PAC 412: Planning and Economics of Education

Educational Planning; History and rationale of Educational planning; Social and psychological factors in educational planning; General problems of educational planning in and outside Kenya; Methodologies of educational planning. Planning for changes in the educational system; Administrative factors and educational planning; Economics of education; Leading economic issues of basic concern and their relevance to Kenya; Principles of economics of education and planning: micro-economics of education, macro-economics of education and socio-economic development.

ESE 409: Functional and Vocational Skills for Learners with Mental Retardation

Definition and importance of functional skills, self help skills, grooming, toileting and feeding social skills, salutations, use of appropriate language; self concept, methods of teaching functional skills, types of rehabilitation, aspects of vocational rehabilitation, assessment of vocational skills, modification of vocational curriculum.

ESE 410: Audiology

Definition and branches of audiology, nature and sources of sound, sound amplifications, use and maintenance of audiology aids, hearing and perception, malfunctions of the hearing apparatus; screening and diagnostic tests of hearing, speech tests of hearing/auditory perception assessment, interpretation of hearing assessment results, recommendations of suitable hearing aids.

ESE 411: Rehabilitation of Motor Deviations for Physical Handicapped

Definition and roles of physiotherapy, assessment of physical impairments, treatment plan, scope of occupational therapy, role of occupational therapy in rehabilitation of specific physical disabilities, cerebral palsy, polio muscular dystrophy.

ESE 412: Low Vision

Definition of low vision, categories of the partially sighted, cause of low vision, environmental factors affecting the learning of the low vision, adaptive aids for the low vision, educational facilities for the low vision, low vision training techniques.

PSY 411: Guidance and Counseling

Definition: Origin and philosophy; Theories; Skills and techniques; processes; Areas and challenges; Characteristics; Counseling models; Ethical standards; Counseling exceptional populations; current issues; Guidance programmes and services; Functions of Counseling.