



**UNIVERSITY OF NAIROBI**  
**COLLEGE OF EDUCATION AND EXTERNAL STUDIES**  
**DEPARTMENT OF EDUCATION COMMUNICATION AND TECHNOLOGY**  
**BACHELOR OF EDUCATION (ICT)**

**DETAILED COURSE OUTLINE**

**Unit Code:** TCT 335

**Unit Title:** Instructional Methods – Computer Studies

**Contact Hours:** 45hrs

**Lecture:** Monday, 9.00am – 1.00pm

**a) Course Description**

This is an instructional methods course which focuses on computer studies teaching strategies, resources and the application of learning theories in computer studies. In this course, you will review and critique the secondary school computer studies syllabus. You will comprehensively cover strategies for the preparation for teaching, preparing schemes of work, lesson plans & records of work, choosing and censoring teaching & learning media/resources for computer studies. You will be introduced to the pedagogical integration of ICT in teaching, ICT trends, procurement, storage & disposal of computer & related hardware & software resources and issues affecting teaching of computer studies. In this course, you will be engaged in micro/peer-teaching in order to build your computer studies teaching experience. Lastly, you will cover techniques for testing and evaluation of computer studies from the classroom level to the national level.

**b) Course Objectives**










By the end of the course the learner should be able to;

- Explain the objectives of teaching computer studies
- Plan and deliver a computer studies lesson
- Describe computer studies teaching methods
- Identify computer learning resources
- Demonstrate skills in pedagogical integration of ICT in teaching computer studies
- Demonstrate skills in computer studies classroom management
- Explain the procedure for acquiring and disposing Computer hardware and software
- Discuss ICT trends and issues affecting teaching of computer studies
- Acquire skills in examining computer studies

### c) Course Content/Lecture Schedule

Week/Lecture	Topic/subtopic
1	<ul style="list-style-type: none"> <li>• <b>Objectives of teaching computer studies</b> <ul style="list-style-type: none"> <li>🔗 Definition of terms: aims/goals of education, objectives of education</li> <li>🔗 National aim/goals of education, objectives of secondary education</li> <li>🔗 The general objectives of computer studies</li> </ul> </li> <li>• <b>The secondary school computer studies curriculum</b> <ul style="list-style-type: none"> <li>🔗 Overview of computer studies syllabus: History of computer studies in Kenya; content organization and coverage, specific objectives and time allocation</li> <li>🔗 Course requirements: general requirement, hardware &amp; software requirements</li> <li>🔗 Critique of the secondary computer studies curriculum</li> <li>🔗 Philosophy of computer science/studies education</li> </ul> </li> </ul>
2	<ul style="list-style-type: none"> <li>• <b>Learning theories application in teaching computer studies</b> <ul style="list-style-type: none"> <li>🔗 Definition of terms: learning; teaching; learning theory</li> <li>🔗 Behaviorism; Cognitivism; Social Learning Theory; Social Constructivism; Multiple Intelligences; Brain-Based Learning, andragogy</li> <li>🔗 Application of learning theories to computer studies</li> </ul> </li> </ul>
3	<ul style="list-style-type: none"> <li>• <b>Planning for Teaching Computer Studies</b> <ul style="list-style-type: none"> <li>🔗 Schemes of work (SoW): Definition; purposes; elements; layout; samples; exercises</li> <li>🔗 Lesson plans (LP): Definition; purposes; elements; layout; samples; exercises on lesson plans</li> <li>🔗 Records of work: definition; purposes; elements; layout; samples; exercises on RoW</li> </ul> </li> </ul>
4	<ul style="list-style-type: none"> <li>• <b>Teaching Strategies</b> <ul style="list-style-type: none"> <li>🔗 Introduction to teaching strategies</li> <li>🔗 Computer Studies teaching strategies: Expository and heuristic, the teaching strategies continuum, characteristics and example of each strategy</li> <li>🔗 Teaching methods and their applications in computer studies: Lecture method; demonstration; discussion; field trip/excursion; project method; experiential/problem solving methods; practicals; simulation; computer aided learning software (CALs), note taking techniques</li> </ul> </li> </ul>
5	<ul style="list-style-type: none"> <li>• <b>Media and Resources for Computer Studies Instruction</b> <ul style="list-style-type: none"> <li>🔗 Teaching/teaching media and resources: Computers &amp; PDAs, printers/scanners/digital camera, storage media, any other relevant teaching/learning electronic device; Print media: Books, magazines, journals, newspapers, etc; Internet connectivity; Digital content, simulation software and videos; Online educational portal, blogs, journals/books/newspapers, encyclopedia, slide shares, etc; Presentation equipment: Whiteboards, Smart board, Projectors, screens; Electronic presentations/slides/photographs; Automation and utility tools/software e.g. office suite, Desktop publishing, Graphics design software, video editing</li> </ul> </li> </ul>

	<p>tools, compilers, diagnostic and trouble-shooting tools, etc; Wall charts; Computer laboratory; Realia (Real life experience)</p> <ul style="list-style-type: none"> <li>✎ Choosing and censoring of ICT instructional media</li> <li>✎ Referencing/citing online computer studies resources</li> </ul>
<b>6</b>	<ul style="list-style-type: none"> <li>• <b>Continuous Assessment Test (CAT 1)</b></li> </ul>
<b>7</b>	<ul style="list-style-type: none"> <li>• <b>Classroom and laboratory management in computer studies</b> <ul style="list-style-type: none"> <li>✎ General design and organization of a computer laboratory</li> <li>✎ Communication in the classroom</li> <li>✎ Motivation and motivational strategies in the classroom</li> <li>✎ Class room control and sustaining learner attention in the classroom</li> <li>✎ Computer studies lesson delivery techniques</li> <li>✎ Learner-centered teaching</li> <li>✎ Providing for individual learner differences in a computer studies classroom</li> </ul> </li> </ul>
<b>8</b>	<ul style="list-style-type: none"> <li>• <b>Micro-teaching/peer teaching in computer studies</b> <ul style="list-style-type: none"> <li>✎ Definition and purpose of micro-teaching</li> <li>✎ Peer teaching</li> <li>✎ Self and peer evaluation</li> </ul> </li> </ul>
<b>9</b>	<ul style="list-style-type: none"> <li>• <b>Measurement and Evaluation in Computer Studies</b> <ul style="list-style-type: none"> <li>✎ Meaning of measurement and evaluation</li> <li>✎ Types of Computer Studies tests: essay, structured, short answer, objective tests, assignments, case studies, practical and project work</li> <li>✎ Examining computer studies: Continuous assessments, End term examinations, National examinations; Marking schemes for theory, practical and project examinations; Application of Bloom's Taxonomy</li> <li>✎ Evaluation of Computers studies lesson/course</li> </ul> </li> </ul>
<b>10</b>	<ul style="list-style-type: none"> <li>• <b>Continuous Assessment Test (CAT 2)</b></li> </ul>
<b>11</b>	<ul style="list-style-type: none"> <li>• <b>Issues affecting teaching and learning of Computer studies</b> <ul style="list-style-type: none"> <li>✎ Social issues: Ethical issues, legal issues; copyright &amp; plagiarism, information systems security issues, technophobia, etc</li> <li>✎ Economic issues: Financing models of ICTs in education, resources and resource mobilization, infrastructural issues, etc</li> <li>✎ Political issues: Policy formulation, implementation and review issues, etc</li> </ul> </li> <li>• <b>Procurement and storage of hardware and software</b> <ul style="list-style-type: none"> <li>✎ Hardware and software specifications design and development</li> <li>✎ Methods of acquisition of computer studies software: Tailor-made, off-the-shelf, software as a service (SaaS)</li> <li>✎ Methods of acquiring computer studies hardware: buying, leasing, out-sourcing</li> <li>✎ National and Institutional procurement and disposal regulations/policies</li> <li>✎ Safe handling, storage and disposal of computer hardware and other educational electronic waste (e-waste)</li> </ul> </li> </ul>
<b>12</b>	<ul style="list-style-type: none"> <li>• <b>Trends in ICT</b> <ul style="list-style-type: none"> <li>✎ ICT Development Framework (The 7Cs Framework)</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li> Chronology of ICT Developments</li> <li> Projection of ICT Developments</li> <li> The future World ICT Outlook</li> </ul>
<b>13</b>	<ul style="list-style-type: none"> <li>• <b>Pedagogical Integration of ICT</b> <ul style="list-style-type: none"> <li> Introduction to ICT integration in education</li> <li> National ICT integration policy</li> <li> ICT integration tools</li> <li> Effective ICT integration framework</li> <li> ICT integration challenges</li> <li> Web-based teaching/learning</li> </ul> </li> </ul>
<b>14 - 15</b>	<ul style="list-style-type: none"> <li>• End of Semester Examinations</li> </ul>

#### d) References

- i) Alessi S M and Trollip S R (1991), *Computer-Based Instruction: Methods and Development Paperback*, Prentice Hall College
- ii) Ayot H O and Patel M W (1987), *Instructional Methods, Nairobi*, K.U and U.L.I.E
- iii) Bloom, B S and other (1973), *Taxonomy of Educational Objectives, Handbook I: The cognitive Domain*, New York, David Mckay
- iv) Cohen and Marion (1981), *Perspective on classroom and schools*, London, Halt Rinchart and Winston
- v) Gayne and Brigs (1979), *Principles of Instructional Design*, New York, Halt Rinchart
- vi) K.I.E (2002), *Computer Studies Secondary Education Syllabus*, KIE, Nairobi
- vii) Tami Lapidot and Orit Hazzan (2003), *Methods of Teaching a Computer Science: Course for Prospective Teachers*, inroads – The SIGCSE Bulletin 29 Volume 35, Number 4, 2003 December

#### e) Instructional materials/facilities

- i) Computer laboratory
- ii) Internet
- iii) Projector
- iv) Relevant computer software

#### f) Methodology

- i) Lectures and tutorials
- ii) Presentations and discussions
- iii) Project work

#### g) Assessment

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|-----------------|------|
| i) CATS         | 20%  |
| ii) Assignments | 10%  |
| iii) Exam       | 70%  |
| iv) Total       | 100% |

#### h) Course Lecturer

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