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TECHNICAL UNIVERSITY OF KENYA

**ECSE 2203 : System Design & Implementation**

COURSE OUTLINE

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| **Week** | **Topic/subtopic** |
| 1 | Reporting |
| 2 | * Introduction to System design: objectives, activities, qualities of a design, constraints * Design tools and methods |
| 3 | * System development methodologies: traditional, structured, object oriented * Software prototyping: introduction, prototyping process and approaches * Design methods: JSP, SSADM, * choosing a development method; system specifications |
| 4 | * Structured walk through: objectives, types, guidelines, benefits * Functional decomposition: module and level cohesion and coupling; |
| 5 | **CAT 1** |
| 6 | * System design models: physical, logical, data modeling and analysis, process modeling, data structures and states |
| 7 | * Designing a system: system design procedure, System design components: Input design, output design, process design, file design, dialog design, screen design, Code design, Design tools, Design controls |
| 8 | * System implementation: implementation procedure, system testing, system change over, documentation, * System maintenance: meaning, types of system maintenance, evaluation and review, |
| 9 | * Software quality assurance, system acquisition |
| 10 | **CAT 2** |
| 11 | * System project management: project management tools, * Evaluating ICT project symptoms and causes of project failure * Strategies of managing failing ICT project; |
| 12 | * CASE STUDY and RESEARCH: students identify areas of computer applications for research and carry out system design on a system |
| 13 | * CASE STUDY and RESEARCH |
| 14 | Examinations |

**Course Assessment**

30% Continuous Assessment (Tests 10%, Assignment 10%, Assignment 10%)

70% End of Semester Exam.