Course Code/Title	**ECSII 2105** **SYSTEM ANALYSIS**	
Lecturer	**Sarah Osida:0712299119,osidahs@tukenya.ac.ke**	
Day/Time of week	**Monday, Tuesday and Thursday**	**TERM 3 2021/2022**

1. Course objectives

System Analysis **& Design -** is a step-by-step process for developing high-quality information systems This course will allow students to acquire knowledge and training to enable them apply in the project management process.

2. Course Content

ECSII 2105: System Analysis

Introduction to System Analysis; Definition, Importance of System analysis, system analyst, Practice and theory interaction; Systems: introduction to systems, information systems, System theory; System Development Life Cycle: overview of life cycle phases, alternative Approaches to life cycle; problem definition; feasibility study: types, study, report; system investigation: introduction, terms of reference, fact finding, fact recording; system analysis: introduction, methodologies, tool and techniques: Data flow modeling, Logical data analysis, entity-event modeling, Data dictionary, Relational data analysis, software development models, requirements specifications, hard systems thinking, soft systems thinking, practical systems thinking, cost benefit analysis; case study and research: students identify areas of computer applications for research and carry out system analysis on a system;

3. Detailed Course Outline

Week	Subject area	Discussion topics	Remarks
1	Introduction to Systems Analysis	• Definition • Systems analyst in information systems development projects, definition, functions and roles • The fundamental four-stage systems development life cycle (planning, analysis, design, and implementation) is established as the basic framework for the IS development process • Importance of System analysis • System components • System Development methods	

		• System Development Life Cycle	
2	Systems Development Methodology Options	• Waterfall Development • Parallel Development • V-model (variation of the Waterfall Development) • Rapid Application Development (RAD) - Iterative Development - System prototyping • Agile Development • **CAT /Assignment**	
3	Requirements Determination	• Requirement determination. • Requirement elicitation techniques. • Requirement analysis strategies	
4	REQUIREMENTS MODELING	• Output Examples • Input Examples • Process Examples • Performance Examples • Control Examples • **CAT/ Assignment**	
5	Use Case Analysis	• Elements of a use case. • Alternative use case formats. • Use cases and functional requirements. • Use cases and testing. • Building use cases • **Practical Assignment**	
6	Process Modeling	• Data flow diagrams. • - Reading data flow diagrams • - Elements of data flow diagrams • - Using data flow diagrams to define business processes • Process descriptions o Creating data flow diagrams	
7	Data Modeling	• The Entity Relationship Diagram (ERD). - Elements of ERD - The Data Dictionary and Metadata • Creating an Entity Relationship Diagram. • Validating an ERD.	
8		• Exams	

4. **Teaching methodology**

   Lectures, Practical Class Exercises, Group Discussions and Presentations

5. **Course evaluation**

   Course Work: Continuous Assessment tests, assignments and practical =30%, Final Examination =70%