**BIS 2203 Systems Analysis and Design (4 CU)**

**Course Description:** This course introduces established and evolving methodologies for the analysis and design of an information system. Great emphasis is placed on system characteristics, managing projects, prototyping, CASE/OOM tools, systems development life cycle phases, the role of the systems analyst, systems selection, definition of systems requirements, feasibility analysis, system design, and system architecture are topics included. Upon completion, students should be able to analyze a problem and design an appropriate solution using a combination of tools and techniques.

**Indicative Content:**

• SAD Fundamentals: Introduction to IS & types of IS; Need for SAD & role of Analyst; SDLC & use of CASE tools; Determining feasibility & mgt of SAD activities.

• Information Requirements Analysis Information gathering (Interactive methods, unobtrusive methods, RAD, prototyping); Determining Systems requirements (types of requirements)

• The Analysis Process: Structuring systems requirements (describing process specifications &

structured decisions) Data modelling; Process modelling; Preparing System proposals.

• The Design Process: Designing effective output; Designing effective input (Accurate Data entry

Procedures); User Interface design; Database Design.

• System Implementation: Quality Assurance through Software Engineering (design with structured charts, testing, maintenance, auditing, Quality mgt); Implementing Information Systems (user training, conversion strategies, systems evaluation.

• Project Management: Stages of system Development; Project planning; Estimation & Project

Monitoring & Control.

• Introduction to Object-oriented Systems Analysis & Design using UML

**Reference Books:**

i. Kendall & Kendall, *Systems Analysis and Design,* 6th edition*,* Pearson Prentice Hall, 2005.

ii. A. J. Hoffer, F. J. George and J. S. Valacich, *Modern Systems Analysis and Design,* 2nd edition*,*

Addison-Wesley, 1999