ESOF - Software Engineering

ESOF 322  Software Engineering: 3 Credits (3 Lec)
PREREQUISITE: CSCI 232. Software lifecycles, Unified Modeling
Language, design patterns, software engineering standards, requirements
analysis, development issues, efficiency tools, verification and validation,
configuration management, testing and maintenance

ESOF 422  Advanced Software Engineering: 3 Credits (3 Lec)
PREREQUISITE: ESOF 322. Course focuses on the early and late phases
of the software lifecycle, extending the knowledge developed in ESOF 322
around UML specifications to formulate precise requirements and develop
an understanding of the theoretical foundations of the most common forms
of software testing

ESOF 423  Software Engineering Applications: 3 Credits (1 Lec, 2 Lab)
PREREQUISITES: ESOF 322
Application of software engineering techniques and methodologies acquired
in previous courses to solve an open-ended software engineering problem
provided by stakeholders. Students will use a team based approach to
requirements gathering, designing, implementation, testing, integration and
delivery of the software solution. CSCI 440 is recommended.

ESOF 491  Special Topics: 1-4 Credits (4 Lec, 4 Lab)

ESOF 522  Empirical Software Engr: 3 Credits (3 Lec)
Empirical software engineering focuses on improving software quality
through the use of metrics. The course will provide guidance on designing,
analyzing and reporting empirical studies, provide information on
techniques and metrics needed to measure desired qualities, and the use of
practical approaches to study software evolution. ESOF 322 or equivalent
and STAT 216Q are recommended.

ESOF 523  Software Testing and Analysis: 3 Credits (3 Lec)
Students learn and apply state-of-the-art techniques for analyzing and
testing programs. This includes automatic test case generation, measuring
test adequacy, mutation testing, fault localization and program repair. This
course prepares students for practical work in the software industry by
exposing them to the latest approaches and tools. This course also prepares
students who are interested in cutting-edge research in software testing and
analysis. CSCI 232, CSCI 246, and ESOF 322 are recommended.