

**CENTER FOR APPLIED INFORMATION TECHNOLOGY
TOWSON UNIVERSITY**

AIT 626: Advanced Topics in Software Engineering

Credit Hours: 3

Prerequisite: AIT 624

Course Description: This course provided an in depth understanding of the important software engineering topics such as requirement engineering, software architecture, component-based software engineering, distributed software system architecture and real-time software design. It also provides the knowledge to apply the current software development methodologies to software development projects in such a way that producing distributed and component-based quality software is possible.

Learning Objectives:

1. Understand various aspects of requirements engineering including processes, modeling, and evaluation
2. Gain knowledge on the analysis and evaluation of software architecture
3. Understand component-based software engineering
4. Know various distributed systems architectures including CORBA and DCOM
5. Perform economic justification studies of software development strategies
6. Critically compare and analyze various software development techniques

Suggested Textbooks:

1. Sommerville, I, *Software Engineering*, Seventh edition, Addison-Wesley
2. Pressman, R., *Software Engineering: A Practitioner's Approach*, Sixth edition, McGraw Hill

Other references/journals:

1. Young, R.R., *Effective Requirements Practices*, Addison-Wesley
2. Cockburn, A, *Writing Effective Use Cases*, Addison-Wesley
3. Ferdinandi, P.L., *A Requirements Pattern*, Addison-Wesley