ITMD 466 SYLLABUS

ITMD 466 Service-Oriented Architecture

Hours: 3 credit hours / 45 contact hours

Instructor: Hosea Lee

Textbook, title, author, and year: *SOA with REST,* Thomas Erl & Benjamin Carlyle, 2012. https://javabrains.io/courses/javaee_jaxrs

Specific course information

a. **Catalog description:** This course covers IT enterprise systems employing web services technologies in SOA and ESB architectural patterns. The student considers SOA which defines and provisions IT infrastructure and allows for a loosely-coupled data exchange over disparate applications participating in business processes. The simplification of integration and flexible reuse of business components within SOA is greatly furthered by ESB. Lab exercises using contemporary tool-kits are utilized to reinforce platform-agnostic course topics.

b. **Prerequisites:** ITMD 411 and 461

Specific goals for the course

a. **Course Outcomes:** Each student will learn the fundamentals of SOA and REST and SOA with REST. Also, we will implement an existing RESTful service on a custom web page. In this class we will build REST services using JAX-RS. After the class, each student will have a strong understanding of SOA, REST services and be able to build his/her own REST services.

b. **Course student outcomes:**
At the conclusion of this course each student will be able to:
- Explain and employ Service-Oriented Computing
- Describe SOA Design Principles with REST
- Explain analysis and service modeling of REST
- Recall REST restraints and goals
- Describe the role and use of XML in SOA
- Employ service-oriented design with REST
- Build a REST service using JAX-RS
- Implement an existing REST service (twitter) on a custom HTML page

Topics to be covered
a. Introduction to SOA/Services
b. Goals and benefits of Service Oriented Computing Service
c. Orientation Design Principles
d. Introduction to REST
e. JAX-RS Project Overview
f. REST Constraints and Goals
g. Service Contracts with REST
h. Service-Orientation with REST – JAX-RS
i. Analysis and Service Modeling with REST
j. REST design patterns
k. SOA Methodology and REST

Each ITM Departmental Syllabus *represents a recent offering of the course. The instructor, textbook(s), course outcomes, and course student outcomes/learning objectives may vary in future semesters.*

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