ITEC641: Distributed Database Management System – Fall 2022

TR 11AM – 12:15PM

Davis 216 (Note: we'll meet in online classes for the first two weeks. Check your email for a zoom link.)

> **Instructor:** Dr. Hwajung Lee
> **Email:** hlee3@radford.edu
> **Office Hours:** TR 1-1:50PM; W 10AM-12PM (Online); T 4-5PM; and by appointment

Required Textbook:

1. Distributed and Cloud Computing: From Parallel Processing to the Internet of Things, Kai Hwang, Geoffrey C. Fox, Jack J. Dongarra, Elsevier, ISBN: 978-0-12-385880-1, 2012

Evaluation:

Activity	Percent
Midterm Exam	20%
Final Exam	20%
Quizzes & Activities	10%
Homework	5%
Term Projects 1 and 2	20% = 5% + 15%
AWS Assignments	25%
Total	**100%**
Perfect Attendance and Full Attention in Class (bonus)	**Bonus 3%** of the average of your earned exam scores

NOTE 1: If you attend 100% of the classes and give me your **full attention** in class with your zoom video on, I will add 3% of the average of your earned exam scores on top of yours at the end of the semester.

NOTE 2: **If you absence more than 6 lectures, you will get an F of this class**. Late 3 times in lecture sessions is equivalent to 1 absence. If you late more than 15 minutes, it will be considered as an absence.
As an attendance check, I will ask you to type "1" in the chat window at the beginning of each class. If you are late, please type "1" in the chat window right after you join the zoom lecture.

NOTE 3: **I will not accept late assignments.**

Honor Code:

By accepting admission to Radford University, each student makes a commitment to understand, support, and abide by the University Honor Code without compromise or exception. Violations of academic integrity will not be tolerated.   This class will be conducted in strict observance of the Honor Code. Refer to your Student Handbook for details. In this class the student is expected to do all out of class assignments on their own. All violations will be reported. **All assignments are to be done independently unless I specifically say otherwise.**

Special Assistance:

Students seeking academic accommodations under the Americans with Disabilities Act must register with the Center for Accessibility Services (CAS) to determine eligibility. Students qualified for academic accommodations will receive accommodation letters and should meet with each course professor during office hours, to review and discuss accommodations. For more information, call 540-831-6350 or visit http://www.radford.edu/content/cas/home.html.

Topics include:

1. Distributed System Models and Enabling Technologies
   a. System Models for Distributed and Cloud Computing
   b. Software Environments for Distributed Systems and Clouds
   c. Performance, Security, and Energy Efficiency
2. Virtual Machines and Virtualization of Clusters and Data Centers

3. Cloud Platform Architecture over Virtualized Data Centers
    a. Cloud Computing and Service Models
        i. Public, Private, and Hybrid Clouds
        ii. Cloud Ecosystem and Enabling Technologies
        iii. Infrastructure-as-a-Service (IaaS)
        iv. Platform-as-a-Service (PaaS) and Software-as-a-Service (SaaS)
    b. Data-Center Design and Interconnection Networks
    c. Architectural Design of Compute and Storage Clouds
    d. Public Cloud Platforms: e.g., Amazon Web Service (AWS), Google Cloud, Microsoft Azure
    e. Inter-cloud Resource Management
    f. Cloud Security and Trust Management
4. Cloud Programming and Software Environments
    a. Parallel and Distributed Programming Paradigms
    b. Programming on Cloud Platform: e.g., Amazon AWS, Microsoft Azure, and Google App Engine