

Florida International University
School of Computing and Information Sciences

CDA 5655 — Virtualized Systems

Course Syllabus

Schedule:

Friday 10-12:50pm, ECS134

Instructor:

Ming Zhao, PhD
Office: ECS 363, Lab: ECS 265
Email: ming@cs.fiu.edu, Web: <http://visa.cs.fiu.edu/ming>
Office hours: Thursday/Friday 2-4:30pm

Prerequisite:

COP 4610 or permission of the instructor

Major Topics:

Virtual machines (70%)
 Classic virtual machines
 Paravirtualization
 Hardware-assisted virtualization

Virtual networking (10%)
 Tunneling
 Overlay networks

Virtual storage (10%)
 File system level virtualization
 Block level virtualization

Virtualized computing (10%)
 Virtual machine based distributed computing
 Cloud computing

Text:

Recommended Text:

“Virtual Machines: Versatile Platforms for Systems and Processes”

Jim Smith, Ravi Nair

Morgan Kaufmann, ISBN 978-1558609105

Readings will also be based a collection of relevant technical papers

Course Description:

Topics include the concepts and principles of virtualization, the mechanisms and techniques of building virtualized systems, as well as the various virtualization-enabled computing paradigms.

State-of-the-art virtualization software and systems will be provided for students to conduct their course projects.

Field trips to local virtualization companies will be arranged for students to learn industry virtualization technologies and production virtualized systems.

Each student will propose a topic relevant to virtualization for term project, study the relevant materials, develop and implement a research idea, and in the end report and present the results.

Grading (tentative):

Exams: 50% (Quiz: 15%, Midterm exam: 35%)

Project: 50% (Proposal: 5%, Midterm report: 10%, Final presentation: 15%, Final report: 20%)

Policies:

Late submission of homework, project, and exam will not be graded (unless it is due to **verifiable** cases of illness and emergencies).

All assignments must be done **independently** (**zero tolerance** for academic dishonesty).