



Course Information

Course Title	ITNW 1309
Course Prefix, Num. and Title	Fundamentals of Cloud Computing
Division	Technology and Business
Department	Computer Science
Course Type	WECM Course
Course Catalog Description	Introduction to Cloud computing from a business and technical perspective, including Cloud concepts, services, architecture, system integration, connectivity, data center migration, administration security, compliance and technical support. Coverage includes preparation for industry certifications. Topics may adapt to changes in industry practices.
Pre-Requisites	None
Co-Requisites	None

Semester Credit Hours

Total Semester Credit Hours (SCH): Lecture Hours:	3:2:2
Lab/Other Hours	
Equated Pay Hours	3
Lab/Other Hours Breakdown: Lab Hours	2
Lab/Other Hours Breakdown: Clinical Hours	Enter Clinical Hours Here.
Lab/Other Hours Breakdown: Practicum Hours	Enter Practicum Hours Here.
Other Hours Breakdown	List Total Lab/Other Hours Here.

Approval Signatures

Title	Signature	Date
Prepared by:		
Department Head:		
Division Chair:		
Dean/VPI:		
Approved by CIR:		

Additional Course Information

Topical Outline: Each offering of this course must include the following topics (be sure to include information regarding lab, practicum, and clinical or other non-lecture instruction).

1. What is cloud computing
2. Why do we need cloud computing
3. Understanding cloud computing
4. Fundamental concepts and models of cloud computing
5. Cloud-enable technology
6. Cloud Security Fundamentals
7. Cloud Infrastructure Mechanisms
8. Specialized Cloud Mechanisms
9. Cloud Management Mechanisms
10. Cloud Security Mechanisms
11. Fundamental Cloud Architectures
12. Advanced Cloud Architectures
13. Specialized Cloud Architectures
14. Cloud Delivery Model
15. Cost Metrics and Pricing models for cloud computing
16. Service Quality Metrics with dealing with cloud computing

Course Learning Outcomes:

Learning Outcomes – Upon successful completion of this course, students will:

- Identify the essential characteristics of Cloud services, including: on-demand self-service, broad network access, resource pooling, rapid elasticity, and measured service
- Describe the organizational capabilities relevant for realizing Cloud benefits, including: adequate planning, required IT skills, gradual/staged migration pathways, identifying critical success factors, etc.
- Describe the steps that lead to the successful adoption of Cloud and the implications for organizations
- Describe data center infrastructure management (DCIM) processes and solutions, including the software and hardware tools used to organize and manage resources.
- Create, manage, and scale a virtual server in a Cloud environment.
- Describe Cloud maintenance operations including: security patches, updating Cloud elements, and backup operations.
- Identify business drivers for Cloud computing and assessing their economic impact.

Methods of Assessment:

Individual/Group Assignments
Individual/Group Projects
Reading Assignments
Presentations
Lab Works/Assignments
Quizzes/Tests/Exams

Required text(s), optional text(s) and/or materials to be supplied by the student:

Cloud Computing: Concepts, Technology, and Architecture, Thomas Erl, Publisher: Prentice Hall, ISBN: 978-0-133387520 or similar title.

Suggested Course Maximum:

18

List any specific or physical requirements beyond a typical classroom required to teach the course.

- Instructor’s pc needs 2 monitors, 2 NICs (one to connect to student network and one to connect to WCJC network & Data Projection system ~~projector~~)
- Computer with dual or quad core 64-bit processor, 16 GB RAM, 1 TB or larger hard drive, graphics card, and monitor for each student running Windows 10 or current version of operating system for each student and the instructor
- NetLab with 10 Virtual Machines for student use
- Current VMware Workstation for each student and instructor
- Microsoft Office 2019 or current version licensed for each student and instructor
- Antivirus software for each student and instructor
- Laser Printer

Course Requirements/Grading System: Describe any course specific requirements such as research papers or reading assignments and the generalized grading format for the course.

Attendance and Housekeeping	0- 5%
Homework	10-25%
Labs	25-40%
Tests and Final Exam	45-50%

100 -90 = A
89 - 80 = B
79 - 70 = C
69 - 60 = D
and below = F

Curriculum Checklist:

- Administrative General Education Course** (from ACGM, but not in WCJC Core) – No additional documents needed.
- Administrative WCJC Core Course.** Attach the Core Curriculum Review Forms
 - Critical Thinking
 - Communication
 - Empirical & Quantitative Skills
 - Teamwork
 - Social Responsibility
 - Personal Responsibility
- WECM Course** -If needed, revise the Program SCANS Matrix and Competencies Checklist