Course Identifiers

Title: Cloud Computing Technology and Management
Semester: Spring 2017
CRN: 58535 Section 11
Department Designator: ISTM 6290
Bulletin Listed Name: Special Topics Lecture

Meeting Time and Place

Day: Wednesday
Time: 4:30 pm - 7:00 pm
Location: Duques-Bus Sch room# 350
01/17/17 - 05/01/17

Course Summary

Title: Cloud Computing Technology and Management

This course explores the technology, management, and economic aspects associated with cloud computing. Students will examine the impact of Virtualization, Big Data systems, and other technologies on industry and business economies with a focus upon rapid provisioning, metered service, and trade-offs between operational and capital expenditures. Students will receive hands on experience with Virtualization technologies and available Cloud Service Offerings (CSOs). Students will study the Cloud Application Lifecycle (CAL), including development-to-operations (DevOps) and Security within the cloud. Student’s will exercise learned skills to quickly program
and provision working enterprise scale cloud solutions employing an array of National Institute of Standards and Technology (NIST) service and deployment models.

**Course Learning Objectives**

In this course, students will learn:

- Theory, Technologies, and Practices behind Cloud Computing
- Cloud Architectures and Ecosystems
- Cloud Application Lifecycle
- Cloud Application Engines & Programming.
- Specific hands-on skills using Cloud Service Offerings (CSOs) of prominent Cloud Service Providers (CSPs)

**Assigned Text**

[Bahga and Madisetti 2013]

Cloud Computing - A Hands-on Approach

- **ISBN-13:** 978-1494435141


**Hands-on with AWS**

Students will receive AWS accounts with 100 credits., Students should apply for accounts using their GWU email addrees at:

1) awseducate.com
2) aws.amazon.com

For account assistance, contact: OITSHelp@gwu.edu. You will need to specify the problem, your username, and web page error.

You may sign up for both AWS Regular and AWS Educate Starter Accounts: [https://www.awseducate.com/faqs?app=2](https://www.awseducate.com/faqs?app=2).

Reference Text: awsgsg-intro.pdf

**Course Ruberics**

Students will be measured upon their ability to grasp and to apply principles discussed and presented in reading and and learned through assignments. Accordingly, scoring criteria will attach to:
• Class Discussion & Relevant Participation
• Comprehension of Assigned Reading
• Mastery of Hands-on Laboratories

Scoring for elements will be as provided in the Grade Center of the course web site and summarize as follows (1000 pts possible target*):

• Lecture Participation (100 pts); Support Class Discussion
• Collaboration (100 pts); Support Your Peers
• Lab Assignments (700 pts); Exercise Your Knowledge
• Final Exam (100 pts); Test Your Understanding

*Note: Actual final course point totals may vary slightly to adjust learning objective emphasis.

Assignments that are late will be graded at no greater than 75% of their allowed possible score.

Letter grades will be assigned at the end of the course as follows:

• 93.0 % of total pts. or more = A
• 90.0 to 92.9 % of total pts. = -A
• 87.0 to 89.9 % of total pts. = +B
• 83.0 to 86.9 % of total pts. = B
• 80.0 to 82.9 % of total pts. = -B
• 77.0 to 79.9 % of total pts. = +C
• 73.0 to 76.9 % of total pts. = C
• 70.0 to 72.9 % of total pts. = -C
• 67.0 to 69.9 % of total pts. = +D
• 63.0 to 66.9 % of total pts. = D
• 60.0 to 62.9 % of total pts. = -D
• 0 to 59.9 % of total pts. = F

For special situations, a grade of "I" may be granted to allow a student finish course material in a period not to exceed one (1) year following course closeout.

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**Extra Credit**

Students may perform and complete the any of the Intermediate or Advanced AWS mini labs for extra credit. The amount of credit awarded will be based upon the complexity and effort required to complete the lab exercise.

**Extra Credit Posting Link**

Please post extra credit files here.

**Class Participation Posting Link**

Please post a selfie for use in grading class participation.
Instructor Bio

Enabled: Statistics Tracking
Dr. MARI SPINA, PMP, CISSP-ISSEP, CCSP, ITILv3,

PROFESSORIAL LECTURER

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Mari.jpg

Dr. Spina is Cyber Security Engineer for the MITRE Corp. focused upon Cloud Security. She recently served as Director of Cloud Architecture Solutions for NJVC, LLC. At the Army IT Agency (ITA), she lead a project applying Agile Scrum management techniques to develop the ITA “Living Architecture” that is real-time maintained and supports financial and strategic decision making. At NJVC, she was in charge of technology architectures for service offerings in Infrastructure as a Service (IaaS), Software as a Service (SaaS), Platform as a Service (PaaS), Cloud Readiness Assessments, and Cloud Technology Training. Previously, she served as IT/IS Program Director of Engineering overseeing National Geospatial Agency (NGA) Infrastructure Service Provider (ISP) activities. Prior to that, she served as a ManTech Program Director for the DARPA Strategic Technologies Office (STO) SETA Contract. While at ManTech, she also served as Program Manager for the company’s Intelligence Community Data Layer (ICDL) SIPRNET deployment contract and as Program Manager for the Greyhound Protection Level 3 (PL3) US Navy IT service delivery Program. Prior to this, she performed in leadership roles of increasing responsibility for Science Application International Corporation (SAIC) including Deputy Division Manager, Deputy Program Manager, Cost Account Manager, Chief Systems Engineer, and New Product Development Manager contributing to large- and small- scale engagements for the Defense Advanced Research Projects Agency (DARPA), Future Combat Systems (FCS), Defense Intelligence Agency (DIA), National Geospatial-Intelligence Agency (NGA), Tri-Service Infrastructure Management Program Office (TIMPO), Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD), and Aerospace Vehicle Systems Institute (AVSI). Before joining SAIC, she was a Hughes Aircraft Company (HAC) Technical Fellow and Systems Engineer contributing to the success of Intelligence Community (IC) mission critical communication and collection satellite programs. As a Research Scientist and Professorial Lecturer for the George Washington University, her work is helping to advance the state of the art in Cloud Computing, IT systems, software engineering, and enterprise management. Dr. Spina holds a BS in Mechanical Engineering from California State University Northridge, an MS in Electrical Engineering from the University of Southern California, and DS in Engineering Management from the George Washington University.

Good Reading, Not Assigned

[Rafael 2015]

Cloud Computing from Beginning to End

[Arora, Biyany, Dave 2012]
To the Cloud: Cloud Powering an Enterprise
To The Cloud.pdf

[Portnoy 2012]
Virtualization Essentials
Virtualization Essentials.pdf

[Rhoton 2013]
Cloud Computing Explained
Cloud Computing Explained.pdf

[Weinman 2012]
Cloudonomics The Business Value of Cloud Computing
CLOUDONOMICS.pdf

**Foul Weather Response**

Should weather or other factors inhibit on-campus attendance, class discussion may be conducted via the university WebEx system at this link: