Syllabus

Course Information	
Course:	ITN257 Cloud Computing: Infra. and Services
Format:	**In person**
Section:	001N
Semester:	Spring 2022 (15-week)
Date/Time:	M/W @ 1110-1230
Location:	**CT-230**

Instructor	
Name:	Prof. Ryan Ammons, JD, MS-Soft.Eng.
Email:	rammons@nvcc.edu
Phone:	202.618.9646 *(voice+text)*
Office:	AN-CC-120A (+Zoom)
Office Hours:	W/F @ 1400-1600 *(or by appt.)*
	www.ProfAmmons.com

Course Objectives and NVCC Course Content Summary

Select the link for further details on ITN257 - Course Content Summary.

Course Description

Entails instruction in fundamentals of cloud infrastructure and services. This course is intended for students seeking a general understanding of cloud computing—essential concepts, services and technologies. It provides a fundamental overview of cloud concepts, services, security, architecture, pricing, and support. Lecture 3-4 hours per week.

Course Prerequisites/Co-requisites

Prerequisite: fundamental understanding of networking protocols, services, and security.

Technical Competencies

Basic Canvas knowledge is assumed. Click here for Canvas tutorials.

Textbooks

1. Instructor-provided materials *(free)*
2. Instructor-provided PowerPoint slides *(free)*
3. *Recommended:* AWS Certified Cloud Practitioner: Study Guide with Practice Questions and Labs - Third Edition (ISBN-13: 979-8537959502).

Required Materials/Software/Hardware

The above four items will help you to prepare for this class. Each student must have access to a laptop or desktop (Windows, macOS, or Linux) with Internet connectivity to be able to complete the class work.

Course Outline

Module 1: Cloud Concepts
- What is Cloud Computing?
- AWS Global Infrastructure Overview

Module 2: AWS Core Services
Core Service Introduction
- Introduction to Compute Services
  - Compute Service Overview
  - Amazon Elastic Compute Cloud (EC2)
  - Elastic Load Balancer (ELB)
  - AWS Lambda
  - AWS Elastic Beanstalk
- Introduction to Storage Services
  - Elastic Block Store (EBS)
  - Amazon Simple Storage Service (S3)

- ➢ Amazon Elastic File System (EFS)
- ➢ Amazon Glacier
- Introduction to Database Services
  - ➢ Amazon Relational Database Systems (RDS)
  - ➢ Amazon DynamoDB
  - ➢ Amazon Redshift
  - ➢ Amazon Aurora

Module 3: AWS Security
- AWS Shared Responsibility Model
- AWS Access Identity and Access Management (IAM)
- AWS Security and Compliance Programs
- AWS Trusted Advisor
- AWS Security Resources
- AWS Day One Best Practices

Module 4: AWS Architecting
- Introduction to the Well-Architected Framework
- Well-Architected Design Principles
- Understanding Reliability and High Availability

Module 5: Cloud Billing and Support Services
- Fundamentals of Pricing
- Pricing Details
- Cost Optimization
- Overview of AWS Technical Support Plans and Costs
- Total Cost of Ownership (TCO)

Course Grading, Examinations, & Grades Composition

Grading can comprise of factors such as student participation, discussions, assignments, and exams.
Your final grade is based on the following scale:
A 89.5 – 100, **B** 79.5 – 89.49, **C** 69.5 – 79.49, **D** 59.5 - 69.49, **F** 0 – 59.49

Proctored Exams / Tests	Percent
Midterm Exam	20%
Final Exam	20%

Non-Proctored Assignments	Percent
Quizzes	30%
Homework / Labs	30%
Total	*100%*

Schedule
Please note: The instructor reserves the right to adjust the schedule.

Unit	Lecture Material	Chapter/Section	Assignments
1-2	Cloud Concepts AWS Core Services	Module 1: Cloud Concepts Module 2: AWS Core Services	*TBD, see Canvas.*
3-7	AWS Core Services	Module 2: AWS Core Services	*TBD, see Canvas.*
7/8	**Midterm**	--	--
8-9	AWS Security	Module 3: AWS Security	*TBD, see Canvas.*
9-10	AWS Architecting	Module 4: AWS Architecting	*TBD, see Canvas.*
11-12	Cloud Billing and Support Services	Module 5: Cloud Billing, Support Serv.	Prepare for final exam
13-15	Certification Review Questions **Final Exam**	Cert. Review Questions Final Exam is 1:40 in length	--

Instructor Policies
I follow all college policies as detailed below.

College Policies
Incomplete Grades
A grade of "I" (Incomplete) is given only when a student has completed the majority of the course (60% or more) and becomes unable to attend class or to complete course requirements near the end of the course due to a mitigating circumstance.
Also, read the Withdrawal Policy section below for further grade information.

Mitigating Circumstances
Mitigating circumstances are defined as unavoidable situations that can be verified and documented. Examples would include situations like the serious illness of the student, the serious illness or death of a family member, family financial problems, a change in employment hours, or temporary absence from the area because of employment.

Attendance Policy
Attendance is expected in both in-class meetings and participation in Canvas. Students are expected to attend every scheduled face-to-face class meeting and to enter Canvas weekly. When absence from class becomes necessary, please attempt to inform the instructor ahead of time. Students are responsible for all material missed in class due to an absence. Any instruction missed and not subsequently completed either in-class or on Canvas will necessarily affect the grade of the student regardless of the reason for the absence.

Disclaimer
I reserve the right to modify the syllabus contents, policies, and course schedule assignments if I determine that such a change will improve the effectiveness of the course presentation without unfairly penalizing student assessment.
- ➢ **All assignments must be submitted no later than the assigned due TIME and DATE. Assignments turned in late will not get credit (i.e. graded as a zero).**
- ➢ A grade of zero will be calculated into your final grade for any exams or assignments not completed and submitted.
- ➢ Exams may be paper or Canvas-generated with multiple choice, fill-ins, essays, true or false, or any other chosen format. All tests are a closed book, with all personal devices put away. The test must be completed within a set timeframe and must be taken in the class, on the scheduled date. In the event of a system failure,

the backup method for taking a test will be at the discretion of the instructor. In the event of inclement weather, the exam may be administered at home, but that is at the discretion of the instructor

➢ Students must complete each assignment and take each exam without the help of others. Please become familiar with the Academic Integrity Policy of Northern Virginia Community College. The policy can be found at http://www.nvcc.edu/resources/stuhandbook/. I will strictly adhere to this policy.

   o **The first time a student is caught cheating (giving help to another or receiving help from another) on an exam or an assignment, the student will receive a zero for the respective exam or assignment.**
   o **If a cheating incident happens again, the student will receive an F in the course.**

➢ There is a make-up exam in this course that is only given at the end of the semester, except for valid emergencies, which will be verified. An excused absence is typically defined as death in immediate family, or a student's emergency admission to the hospital, which must be verified. I will exercise judgment as to whether an absence is excused for all other situations and documentation will be required. If you miss an exam or project, a zero grade is recorded in the grade book. The makeup exam is a comprehensive exam covering all the material of the course.

➢ Electronic devices must be on silent.

➢ Plagiarizing is dishonest and a form of cheating. Consequently, plagiarized work will receive an **"F,"** or a zero. In addition, such a practice may prevent students from passing a course and may result in other disciplinary action. (Taken directly from NOVA's website on plagiarism). If I find that you have plagiarized any work you will receive a zero grade, if it happens again you will be reported to academic affairs for it to appear on your transcript.

"NOVA is a place for learning and growing. You should feel safe and comfortable anywhere on this campus. In order to meet this objective, you should: a) let your instructor, his/her supervisor, the Dean of Students or Provost know if any unsafe, unwelcome or uncomfortable situation arises that interferes with the learning process (Campus Police-703-764-5000); b) inform the instructor within the first two weeks of classes if you have received a special needs or a disability accommodation that may affect your performance in this course

Academic Integrity

Academic integrity requirements are found in the NOVA Catalog.

Attendance/Student Participation/Tardiness Policy

Review the student attendance/student participation guidelines Attendance & Student Participation

Safety & Emergency Preparedness

Select the link for detailed information on college Safety & Emergency Preparedness

Students with Special Needs

Select the link for updated information on DSS Support Services

NVCC Policy Statement

Select the link for information pertaining to IT Policies, Procedures, & Plans

Inclement Weather & Closing

Select the link for information on Inclement Weather & Closing
If classes are canceled due to Inclement Weather or other closures, I will post assignments via the "Announcements" tab on our class's Blackboard.

NOVA Alert

To receive alerts and emergency notifications register for **NOVA ALERT**

Note: In the event of class cancelation we will continue with class assignments and lessons using online resources. Thus students are responsible for monitoring their email and checking the class Blackboard page for assignments and lessons material.

Important Dates

Important dates corresponding with your semester are located in the Academic Calendar.