FLORIDA ATLANTIC UNIVERSITY

NEW COURSE PROPOSAL
Undergraduate Programs

Department Electrical Engineering and Comp Science

College Engineering and Comp Science

*(To obtain a course number, contact **erudolph@fau.edu**)*

UUPC Approval 4-27-26
UFS Approval
SCNS Submittal
Confirmed
Banner Posted
Catalog

Prefix CIS

Number 4080

(L = Lab Course; C = Combined Lecture/Lab; add if appropriate)

Lab Code

Type of Course Lecture

Course Title Foundations of Cloud Security

Credits *(See Definition of a Credit Hour)* 3

Effective Date *(TERM & YEAR)* SPRING 2027

Grading *(Select One Option)*

Regular (●)

Sat/UnSat ( )

Course Description *(Syllabus must be attached; see Template and Guidelines)*

This course introduces cloud computing security concepts, architectural principles, and best practices for securing cloud-based services. Topics include cloud service models, shared responsibility frameworks, identity and access management, data protection, network security in cloud environments, and regulatory compliance. Students gain hands-on experience configuring and securing cloud infrastructure through lab exercises. Students may not enroll in this course if they have already taken CIS 5645.

Prerequisites, with minimum grade* CNT 4007 with a minimum grade of C

Corequisites

Registration Controls *(Major, College, Level)*

Default minimum passing grade is D-.** **Prereqs., Coreqs. & Reg. Controls are enforced for all sections of course

WAC/Gordon Rule Course

☐ **Yes** ☑ **No**

WAC/Gordon Rule criteria must be indicated in syllabus and approval attached to proposal. See WAC Guidelines.

Intellectual Foundations Program (General Education) Requirement *(Select One Option)*

None

General Education criteria must be indicated in the syllabus and approval attached to the proposal. See Intellectual Foundations Guidelines.

Minimum qualifications to teach course

PhD in Computer Science or related field

Faculty Contact/Email/Phone

Hari Kalva, hkalva@fau.edu

List/Attach comments from departments affected by new course

Approved by	***Date***
Department Chair: Hari Kalva	4/16/26
College Curriculum Chair: Galan Liu	4/17/26
College Dean: Korey Sorge	4-27-26
UUPC Chair: Dan Meeroff	4-27-26
Undergraduate Studies Dean:	
UFS President:	
Provost:	

Email this form and syllabus to mjenning@fau.edu seven business days before the UUPC meeting.

FLORIDA ATLANTIC UNIVERSITY

CIS 4080
Foundations of Cloud Security
3 Credit(s)
Spring 2027 - 1 Full Term

Instructor Information

TBD

TA Information

TBD

Course Description

This course introduces cloud computing security concepts, architectural principles, and best practices for securing cloud-based services. Topics include cloud service models, shared responsibility frameworks, identity and access management, data protection, network security in cloud environments, and regulatory compliance. Students gain hands-on experience configuring and securing cloud infrastructure through lab exercises. Students may not enroll in this course if they have already taken CIS 5645.

Prerequisites/Corequisites

CNT 4007 with a minimum grade of C

Instructional Method

In-person

Required Texts/Materials

No purchased textbook. All readings are open-access or available through FAU library.

Course Objectives/Student Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Identify and analyze threats, vulnerabilities, and privacy risks specific to cloud computing architectures, service models, and multi-tenant environments.
2. Design secure cloud architectures that enforce isolation, data protection, identity and access management, and network security across IaaS, PaaS, and SaaS deployments.
3. Evaluate cloud deployments against industry compliance frameworks, regulatory mandates, and audit requirements to verify security controls and governance policies.
4. Implement and test cloud security configurations, monitoring solutions, and vulnerability assessments using industry cloud platforms.

This is the undergraduate version of CIS 5645 being taught in the department currently.

Faculty Rights and Responsibilities

Florida Atlantic University respects the rights of instructors to teach and students to learn. Maintenance of these rights requires classroom conditions that do not impede their exercise. To ensure these rights, faculty members have the prerogative to:

Establish and implement academic standards.

Establish and enforce reasonable behavior standards in each class.

Recommend disciplinary action for students whose behavior may be judged as disruptive under the Student Code of Conduct University Regulation 4.007.

Disability Policy

In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to properly execute coursework must register with Student Accessibility Services (SAS) and follow all SAS procedures. SAS has offices across three of FAU's campuses – Boca Raton, Davie and Jupiter – however disability services are available for students on all campuses. For more information, please visit the SAS website at www.fau.edu/sas/.

Code of Academic Integrity

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, includes allowing another student to copy your work unless specifically allowed by the instructor, copying blocks of code from external sources without proper attribution, results in a grade of 0 for the assignment or exam and initiation of the disciplinary action at the university level, because it interferes with the university mission to provide a high quality education in which

no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see University Regulation 4.001.

Attendance Policy Statement

Students are expected to attend all their scheduled University classes and to satisfy all academic objectives as outlined by the instructor. The effect of absences upon grades is determined by the instructor, and the University reserves the right to deal at any time with individual cases of non-attendance. Students are responsible for arranging to make up work missed because of legitimate class absence, such as illness, family emergencies, military obligation, court-imposed legal obligations, or participation in University-approved activities.

Examples of University-approved reasons for absences include participating on an athletic or scholastic team, musical and theatrical performances, and debate activities. It is the student's responsibility to give the instructor notice prior to any anticipated absences and within a reasonable amount of time after an unanticipated absence, ordinarily by the next scheduled class meeting. Instructors must allow each student who is absent for a University-approved reason the opportunity to make up work missed without any reduction in the student's final course grade as a direct result of such absence.

Attendance is graded and will be taken at the beginning of class. One absence is allowed with no deduction regardless of the reason. You do not need to notify the instructor. Participation in class is also graded while participation on the Slack channel is encouraged.

Religious Accommodation Policy Statement

In accordance with the rules of the Florida Board of Education and Florida law, students have the right to reasonable accommodations from the University in order to observe religious practices and beliefs regarding admissions, registration, class attendance, and the scheduling of examinations and work assignments. University Regulation 2.007, Religious Observances, sets forth this policy for FAU and may be accessed on the FAU website at www.fau.edu/regulations.

Any student who feels aggrieved regarding religious accommodations may present a grievance to the executive director of The Office of Civil Rights and Title IX. Any such grievances will follow Florida Atlantic University's established grievance procedure regarding alleged discrimination.

Course Grading Scale

Grade	Total (%)
A	[93 – 100]
A-	[90 – 92)
B+	[87 – 89)
B	[83 – 86)
B-	[80 – 82)
C+	[77 – 79)

Grade	Total (%)
C	[73 – 76)
C-	[70 – 72)
D+	[67 – 69)
D	[63 – 66)
D-	[60 – 62)
F	[0 – 59)

Grade Appeal Process

You may request a review of the final course grade when you believe that one of the following conditions apply:

- There was a computational or recording error in the grading.
- The grading process used non-academic criteria.
- There was a gross violation of the instructor's own grading system.

University Regulation 4.002 of the University Regulations contains information on the grade appeals process

Time Commitment Per Credit Hour

For traditionally delivered courses, not less than one (1) hour of classroom or direct faculty instruction each week for fifteen (15) weeks per Fall or Spring semester, and a minimum of two

(2) hours of out-of-class student work for each credit hour. Equivalent time and effort are required for Summer Semesters, which usually have a shortened timeframe. Fully Online courses, hybrid, shortened, intensive format courses, and other non-traditional modes of delivery will demonstrate equivalent time and effort.

Policy on Make-up Tests, Late work, and Incompletes

All coursework items are due on their posted deadlines.

Policy on the Recording of Lectures

Students enrolled in this course may record video or audio of class lectures for their own personal educational use. A class lecture is defined as a formal or methodical oral presentation as part of a university course intended to present information or teach students about a particular subject. Recording class activities other than class lectures, including but not limited to student presentations (whether individually or as part of a group), class discussion (except when incidental to and incorporated within a class lecture), labs, clinical presentations such as patient history, academic exercises involving student participation, test or examination administrations, field trips, and private conversations between students in the class or between a student and the lecturer, is prohibited. Recordings may not be used as a substitute for class participation or class attendance and may not be published or shared without the written consent of the faculty member. Failure to adhere to these requirements may constitute a violation of the University's Student Code of Conduct and/or the Code of Academic Integrity.

Artificial Intelligence Preamble

FAU recognizes the value of generative AI in facilitating learning. However, output generated by artificial intelligence (AI), such as written words, computations, code, artwork, images, music, etc., for example, is drawn from previously published materials and is not your own original work.

FAU students are not permitted to use AI for any course work unless explicitly allowed to do so by the instructor of the class for a specific assignment. **[Policy 10.16 Artificial Intelligence]**

Class policies related to AI use are decided by the individual faculty. Some faculty may permit the use of AI in some assignments but not others, and some faculty may prohibit the use of AI in their course entirely. In the case that an instructor permits the use of AI for some assignments, the assignment instructions will indicate when and how the use of AI is permitted in that specific assignment. It is the student's responsibility to comply with the instructor's expectations for each assignment in each course. When AI is authorized, the student is also responsible and accountable for the content of the work. AI may generate inaccurate, false, or exaggerated information. Users should approach any generated content with skepticism and review any information generated by AI before using generated content as-is.

If you are unclear about whether or not the use of AI is permitted, ask your instructor before starting the assignment.

Failure to comply with the requirements related to the use of AI may constitute a violation of the

Florida Atlantic Code of Academic Integrity, Regulation 4.001.

Proper Citation: If the use of AI is permitted for a specific assignment, then use of the AI tool must be properly documented and cited. For more information on how to properly cite the use of AI tools, visit **https://fau.edu/ai/citation**

Counseling and Psychological Services (CAPS) Center

Life as a university student can be challenging physically, mentally and emotionally. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services – individual therapy, group therapy, and crisisservices, to name a few - offered to help improve and maintain emotional well-being. For more information, go to http://www.fau.edu/counseling/

Student Support Services and Online Resources

Center for Learning and Student Success (CLASS) Counseling and Psychological Services (CAPS) FAU Libraries

Math Learning Center

Office of Information Technology Helpdesk Center for Global Engagement

Office of Undergraduate Research and Inquiry (OURI) Science Learning Center

Speaking Center

Student Accessibility Services

Student Athlete Success Center (SASC) Testing and Certification

Test Preparation

University Academic Advising Services

University Center for Excellence in Writing (UCEW) Writing Across the Curriculum (WAC)

Course Evaluation Method

Midterm and Final Exams	50%
Assignments (6)	30%
Project	20%

Course Topical Outline

- Cloud computing architectures: service models (IaaS, PaaS, SaaS), deployment models, and shared responsibility
- Cloud infrastructure operations: provisioning, configuration management, and the sysadmin's role in cloud environments
- Cloud threat landscape: known attack vectors, vulnerabilities, and evolving risk profiles for cloud services
- Privacy and data sovereignty in cloud environments
- Identity and access management: authentication, authorization, federation, and zero-trust principles
- Network security in the cloud: virtual networks, segmentation, firewalls, and secure connectivity
- Secure compute isolation: hypervisors, containers, serverless, and multi-tenancy boundaries
- Data protection: encryption at rest, in transit, and in use; key management; and data lifecycle security
- Designing for cloud-native security: elasticity, on-demand resources, shared infrastructure, and metered usage
- Security monitoring, logging, and incident response in cloud environments
- Compliance frameworks and regulatory mandates: FedRAMP, SOC 2, HIPAA, GDPR, and PCI-DSS
- Auditing and governance: policies, controls, and continuous compliance verification
- Hands-on lab: securing a cloud deployment (AWS, Azure, or GCP)
- Hands-on lab: penetration testing and vulnerability assessment in a cloud environment
- Emerging topics: AI-driven threats, supply chain risks, and the future of cloud security

Title IX Statement

In any case involving allegations of sexual misconduct, you are encouraged to report the matter to the University Title IX Coordinator in the Office of Civil Rights and Title IX (OCR9). If University faculty become aware of an allegation of sexual misconduct, they are expected to report it to OCR9. If a report is made, someone from OCR9 and/or Campus Victim Services will contact you to make you aware of available resources including support services, supportive measures, and the University's grievance procedures. More information, including contact information for OCR9, is available at **https://www.fau.edu/ocr9/title-ix/**. You may also contact Victim Services at **victimservices@fau.edu** or 561-297-0500 (ask to speak to an Advocate) or schedule an appointment with a counselor at Counseling and Psychological Services (CAPS) by calling 561- 297-CAPS