FAU
DEPARTMENT OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCE
College of Engineering & Computer Science
Florida Atlantic University

Professional Program

2024–2025 Course Offering

Fall 2024

CNT 5109 Sensor Networks and Smart Systems (3 credits)
August 17th – September 13th
On-campus lecture days: Saturday, August 17th & August 31st
Prerequisite: Permission of instructor
This research-oriented course focuses on smart system applications and discusses sensor networks and their use in smart systems.

COP 5339 Object-Oriented Software Design (3 credits)
September 14th – October 11th
On-campus lecture days: Saturday, September 14th & September 28th
Prerequisite: Proficiency in C or C++ programming
Classes and objects as the basis of software development. Object-oriented analysis and design using OMT, implementation using C++ and Java. Credit will not be given for both COP 4331 and 5339.

COP 6819 Advanced Internet Systems (3 credits)
October 12th – November 8th
On-campus lecture days: Saturday, October 12th & October 26th
This course introduces present and new internet technologies including middleware, web services, cloud computing, fog and edge computing, distributed ledger techniques, and Internet of Things (IoT). Specific internet and web applications will be presented including Search Engine Optimization, applications of distributed ledger technology, and IoT applications for smart cities and homes.

CIS 6370 Computer Data Security (3 credits)
November 9th – December 11th
On-campus lecture days: Saturday, November 9th & November 23rd
On-campus lecture days: Saturday August 20st & September 3rd
The class will start with preliminary material and mathematical foundations of data security. It will then cover private-key encryptions, public-key encryptions, and fundamental security protocols. Finally, it will

focus on emerging technologies such as (a) digital currencies and their implementations, (b) blockchain and its applications, e.g., in supply chain and information sharing, and (c) privacy enhancing technologies using security protocols, e.g., in autonomous systems, auctions and financial paradigms.

Spring 2025

CEN 5086 Cloud Computing (3 credits)
Jan 4- Jan 31st
On-campus lecture days: Saturday, Jan 4th & Jan 18th
Prerequisite: Graduate standing
Study of cloud computing and the use and architecture of this model of computation. Exploration of the services provided by clouds, their internal structure and their possibilities and limitations.

Human Computer Interaction (3 credits)
Feb 1st - Feb 28th
On-campus lecture days: Saturday, Feb 1st & Feb 15th
Through a blend of theoretical exploration and hands-on application, students will gain a deep understanding of user-centered design, usability principles, and the latest advancements in HCI research. The course encourages iterative design thinking, prototyping, and evaluation, empowering students to create user interfaces and experiences that prioritize usability and accessibility. Engaging in group discussions, assignments, and a course project, students will hone their ability to ideate, propose and solve design problems, critically evaluate existing practices, and communicate their design solutions effectively.

CAP 6635 Artificial Intelligence (3 credits)
March 1st - March 28th
On-campus lecture days: Saturday, March 1st & March 15th
This course introduces core concepts, techniques, and applications of artificial intelligence (AI). Course subjects include intelligent agents, problem solving by search, search strategies, game playing, knowledge representation and reasoning, learning from examples, and deep learning. The class also discusses ethical and societal implications of the increasing use of AI.

CAP 5768 Introduction to Data Science (3 credits)
March 29th - Apr 25th
On-campus lecture days: Saturday, March 12th & March 29th
This course provides a comprehensive introduction to the tools and analysis workflows employed by data scientists that include data wrangling, visualization, exploration, and modeling. Specific topics include an overview of the field of data science and analytics, data visualization, exploratory data analysis, data transformation, parameter estimation, hypothesis testing, linear regression analysis, logistic regression classification, model selection, feature selection, dimensionality reduction, and clustering. The practical application of these techniques to real data, as well as the interpretation and presentation of analysis results will be emphasized throughout the course.

Summer 2025

COT 6930 Internet of Things (3 credits)
May 10th -June 6th
On-campus lecture days: Saturday, May 10th and May 24th
Prerequisite: Permission of instructor
This research-oriented course covers technical and operational aspects of the Internet of Things (IoT) and includes a discussion on the most recent advances and innovative applications.