





To: Mary Cossio  
Faculty Senate

From: Dean or Assoc. Dean and College Curriculum Cmte. Chair

**Subject: Memo in Lieu of Curriculum Chair and Dean Signatures for Bulletin #1**

Date: September 16, 2022

---

As instructed by the Faculty Senate, this memo will serve as approval of the attached proposals for Bulletin #1 by our Curriculum Committee Chair, Alexander Afanasyev, and the Dean for College of Engineering and Computing (John L. Volakis), in lieu of physical signatures. The proposals in this Bulletin were approved by our Curriculum Committee on September 13, 2022.

In addition to the above, memos in lieu of signatures have also been included by departments unable to obtain physical signatures for their faculty contact and/or department chair.



To: Mary Cossio  
Faculty Senate

From: Faculty Contact and Department Chair

**Subject: Memo in Lieu of Curriculum Chair and Dean Signatures for Bulletin #1**

Date: September 16, 2022

---

As instructed by the Faculty Senate, this memo will serve as approval of the attached proposals from ECE Department for Bulletin #1 by faculty contacts (Alexander Perez-Pons) and ECE Department Chair (Deidra Hodges), in lieu of physical signatures. The proposals in this Bulletin were approved by our Curriculum Committee on September 13, 2022.

---

## Course Change Justification

The Electrical and Computer Engineering (ECE) department is requesting a course name change removing IOT from the name and adding to the end of each course name "in ECE". This accomplishes two main objectives, 1) it makes the course more general and not specific to IOT as these courses are part of several programs, tracks, and concentrations, and 2) the name change will directly associate the courses to the ECE department avoiding any possible confusion with the academic unit the course is situated.

The goal is to broaden the opportunity for students within the ECE department to take courses and have them represented appropriately in their transcripts to manifest accurately the content from the course's name. The name change will serve ECE students and the academic unit in promoting the course to the ECE students.

Department of Electrical and Computer Engineering  
**CNT 4147 Big Data Analytics in ECE**

**Catalog Data:** This course examines the ingestion, storage, analysis and reporting of massive quantities of data collected from distributed data sources and processed using streaming and big data technologies.

**Prerequisites:** **EEL 2880 or COP 2210 or COP 2250 or equivalent or instructor permission**

**Corequisites:** None

**Textbooks** **Making Sense of NoSQL , By Dan McCreary and Ann Kelly  
Manning Publications**

**Type:** Elective for All BS students

**Course Objectives:** This course will focus on big data technologies and its application to large volumes of data. Students will be exposed to Hadoop ecosystem with focus on voluminous data storage and processing. Students will learn about data structures – structured, semi-structured and unstructured data, Kafka message broker to import data, storage using Hadoop Distributed File System (HDFS) and No SQL database like Cassandra, sensor data stream / batch processing with in memory analytics using Spark.

**Course Learning Outcomes:**

At the end of this course, the students will be able to:

- Explain fundamentals of data analytics
- Identify the main data architectures
- Identify and apply Big Data platforms
- Implement NoSQL database for data storage
- Compare traditional and big data storage for large data processing
- Execute Batch processing of large dataset
- Use stream data processing and perform analysis
- Describe Machine Learning Libraries and its application to large datasets

**Topics Covered:**

- Data Architecture and platforms
- Data storage using different techniques
- Batch and Stream Processing for data
- Data Ingestion with Message Broker
- NoSQL- Cassandra / DocumentDB
- Hadoop/Spark/Kafka Ecosystem
- Machine Learning with Spark
- Application of Spark Libraries to datasets

## Grading Scheme

<b>Grading Scale: NOTE:</b> There are <i>no makeup exams</i> offered	
Quiz	20%
Midterm	30%
Final	30%
Final Project	20%

## Tentative Grading Scale

<b>A</b>	<b>100-95</b>	<b>B+</b>	<b>86-89</b>	<b>C+</b>	<b>74-77</b>	<b>D</b>	<b>60-69</b>
<b>A-</b>	<b>90-94</b>	<b>B</b>	<b>82-85</b>	<b>C</b>	<b>70-73</b>	<b>F</b>	<b>0-59</b>
		<b>B-</b>	<b>78-81</b>				

## University's Code of Academic Integrity

"Florida International University is a community dedicated to generating and imparting knowledge through excellent teaching and research, the rigorous and respectful exchange of ideas, and community service. All students should respect the right of others to have an equitable opportunity to learn and honestly to demonstrate the quality of their learning. Therefore, all students are expected to adhere to a standard of academic conduct, which demonstrates respect for themselves, their fellow students, and the educational mission of the University. All students are deemed by the University to understand that if they are found responsible for academic misconduct, they will be subject to the Academic Misconduct procedures and sanctions, as outlined in the Student Handbook."

More information can be found at [http://academic.fiu.edu/academic\\_misconduct.html](http://academic.fiu.edu/academic_misconduct.html)

## Department Regulations Concerning Incomplete Grades

*To qualify for an Incomplete, a student:*

1. Must contact (e.g., phone, email, etc.) the instructor or secretary before or during missed portion of class
2. Must be passing the course prior to that part of the course that is not completed
3. Must make up the incomplete work through the instructor of the course
4. Must see the Instructor. All missed work must be finished before last two weeks of the following term.

**University policies:** on sexual harassment, and religious holidays, and information on services for students with disabilities

<http://academic.fiu.edu/>

<http://drc.fiu.edu>

## Policies:

- **Academic Misconduct:** For work submitted, it is expected that each student will submit their own original work. Any evidence of duplication, cheating or plagiarism will result at least a failing grade for the course.

- **Unexcused Absences:** Two unexcused absences are permitted during the term. More than two will result in the loss of points from your final grade. (**1 point** per absence above two, **3 points** per absence above 5).
- **Excused Absences:** Only emergency medical situations or extenuating circumstances are excused with proper documentation. After reviewing documentation you are **required to email** a description of the excuse and absence dates as a written record to apons@fiu.edu.
- **On Time:** As in the workplace, on time arrival and preparation are required. Two “lates” are equivalent to one absence. (Leaving class early is counted the same as tardy.)
- **Deadlines:** Assignments are due at the beginning of the class period on the date specified. Assignments submitted late (within 1 week) will receive **half credit**.
- **DO NOT** send assignments by email.
- Instructor reserves right to change course materials or dates as necessary.