DO NOT TYPE IN THIS BOX

Bulletin #: _____

Academic Year: _____

FLORIDA INTERNATIONAL UNIVERSITY
UNIVERSITY CURRICULUM COMMITTEE
Proposal for a Course Change

PART I. FILL OUT THIS SECTION COMPLETELY

1. **School/College** Engineering and Computing

   Div./Dept. in Which Taught Electrical and Computer Engineering

2. | CNT | 3 | 143 | | 3 |
   |---|---|---|---|---|
   | Alpha Prefix | 1st Digit | Last 3 Digits | "C"-lec-lab "L"-Lab | Cr. Hrs. |

3. **Present Course Title** IoT Analytics with Cloud Services

PART II. FILL OUT CHANGE INFORMATION ONLY

Change Effective 1 / 1 / 20 20

4a. **New Course Title** _____

b. **New Abbreviated course Title** *(for computer class schedules, transcripts)*

LIMITED TO 25 Characters *(including spaces)*

5a.

New Alpha Prefix	New 1st Digit	New Last 3 Digits	Change "C"-lec-lab "L"-Lab

5b. Change Credit Hours: From _____ To _____

6. **New Catalog Description/Major Topics** *(not to exceed 200 characters including spaces)*
   College of Medicine and College of Law: Attach description not exceeding 1,000 characters including spaces.

7. **New Prerequisite(s):** None

8. **New Corequisite(s):** _____

9. **Explain Reclassification Request:**

   The course has been structured in a manner that prerequisite are not required, as the course provides all of the required knowledge for students to comprehend the course concepts.

10. **Does this proposed change impact the assessment process of a program or certificate?**

PROPOSAL REQUESTED BY:

Faculty Contact Dr. Alexander Perez-Pons — 10 / 10 / 20 19
(Type name) (Signature)

aperezpo@fiu.edu
(Email address) (Phone number)

Chairperson (Dept./Div.) Dr. Shekhar Bhansali — 10 / 10 / 20 19
(Type name) (Signature)

Chairperson (Curr. Comm.) Dr. Wei-Chiang Lin — _____ / _____ / 20_____
(Type name) (Signature)

College/School Dean Dr. John Volakis — _____ / _____ / 20_____
(Type name) (Signature)

Submit one original form.

Department of Electrical and Computer Engineering

CNT 3143 IoT Analytics with Cloud Services

Catalog Data: This course will focus on IoT Hub, IoT edge and the how the sensor data is collected, stored and processed on the cloud. Student will learn about big data and relational data storage and data lake concepts with cloud architecture, data pre-processing and analytics using popular machine learning algorithms on the cloud, develop models and perform real time prediction. Students will get hands-on experience with cloud storage and analytics technologies.

Prerequisites: **None**

Corequisites: **None**

Textbooks **Building Blocks for IoT Analytics, John Soldatos, ISBN:9788793519039**

Type: Elective for All BS students

Course Objectives:

Students will have an opportunity to learn about the cloud technologies managing large datasets collected from various IoT devices / sensors and processed on the Cloud. Students will learn about various cloud computing concepts and popular platforms (Azure/AWS/Google). IoT devices and sensors generate huge volume and variety of datasets with different formats. They communicate with IoT cloud / edge computing platforms for storage and processing. This course will teach students various big data and machine learning technologies available on cloud platform to address IoT and sensor data analytics needs. This course will go through complete IoT and sensor data life cycle on cloud from ingestion, pre-processing, storage, analysis to visualization and reporting. Students will be exposed to various applied cloud/edge computing tools and techniques which are currently being used in the industry to provide analytics solutions to the IoT. Various case studies will be provided to assist students in establishing real-world scenarios for IoT cloud data storage, analysis and visualization.

Course Learning Outcomes:

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

- Understand basics of Sensor and IoT cloud / edge analytics
- Knowledge of IoT cloud architecture
- Learn about popular IoT cloud platforms – Azure/Google/AWS
- Understand the deployment architecture of IoT Hub/Edge platforms

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

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.

The prerequisite of the course have been re-evaluated and modified accordingly to reflect the background expectation required for student success. The prerequisite modification will provide a greater opportunity for students to enroll in the courses, since adequate background information is now covered in the course.