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

PH.D. IN COMPUTER SCIENCE WORKSHEET
DATA SCIENCE AND ANALYTICS CONCENTRATION

Name: _____ **Z#:** _____ **Advisor:** _____

Date of Candidacy Exam: _____ **Date of Admission to Candidacy:** _____

Date of PhD Proposal Presentation*: _____

* PhD proposal must be presented and approved by the committee at least 6 months before the oral dissertation defense.

Prerequisites:

List deficiency courses assigned by the Admission Committee, if applicable:

Grade	Semester	Course Number/Name

The PhD in Computer Science program with concentration in Data Science and Analytics requires gaining expertise, through both coursework and research activity, in theoretical and applied data science and analytics.

MS to PhD Requirements (for students entering with a Master's Degree) 72 Credits

Master's Credits (30):

Grade	Semester	Course Number/Name

Graduate Courses (18 credits):

A minimum of 12 credits must be Computer Science and Engineering courses. A minimum of 9 credits of 6000-level. No more than 3 credits of Directed Independent Study or Advanced Research may be used and the subject matter may not overlap the student's dissertation. Must take two semesters of CGS 5937 Graduate Seminar.

Must contain at least 4 graduate courses from Data Science and Analytics course list. Additional courses may be approved by the dissertation advisor. Graduate courses completed during a master's degree can be used to meet this requirement.

Grade	Semester	Course Number/Name
		CGS 5937 Graduate Seminar (Mandatory, 0 credits)
		CGS 5937 Graduate Seminar (Mandatory, 0 credits)

Dissertation Credits (At least 24 credits taken over multiple terms):

The student's PhD dissertation research and scholarship must have a strong emphasis on one or more areas of data science and analytics, including, but not limited to applied and/or theoretical areas.

Grade	Semester	Course Number/Name
		COT 7980 Dissertation Computer Science

Directed Independent Study or Advanced Research (No more than 3 credits)

Grade	Semester	Course Number/Name
		COT 6900 Directed Independent Study
		EGN 6918 Advanced Research

Data Science and Analytics Courses

Course Number/Name
CAP 5768 Introduction to Data Science
CAP 5615 Introduction to Neural Networks
CAP 6315 Social Networks and Big Data Analytics
CAP 6546 Data Mining for Bioinformatics
CAP 6673 Data Mining and Machine Learning
CAP 6776 Information Retrieval
CAP 6640 Natural Language Processing
CAP 6617 Sparse Learning
CAP 6777 Web Mining
CAP 6778 Advanced Data Mining and Machine Learning
CAP 6618 Machine Learning for Computer Vision
CAP 6780 Big Data Analytics with Hadoop
CEN 6405 Computer Performance Modeling
CAP 6619 Deep Learning
CAP 6635 Artificial Intelligence

DIRECT PATH PHD

BS to PhD Requirements (for students entering with a Bachelor's Degree) 72 Credits

Graduate Courses (42 credits):

A minimum of 27 credits must be Computer Science and Engineering courses. A minimum of 18 credits of 6000-level. No more than 6 credits of Directed Independent Study or Advanced Research may be used, and the subject matter may not overlap the student's dissertation. Must take two semesters of CGS 5937 Graduate Seminar.

Must contain at least 4 graduate courses from Data Science and Analytics course list. Additional courses may be approved by the dissertation advisor.

Grade	Semester	Course Number/Name
		CGS 5937 Graduate Seminar (Mandatory, 0 credits)
		CGS 5937 Graduate Seminar (Mandatory, 0 credits)

Dissertation Credits (At least 30 credits):

The student's PhD dissertation research and scholarship must have a strong emphasis on one or more areas of data science and analytics, including, but not limited to applied and/or theoretical areas.

Grade	Semester	Course Number/Name
		COT 7980 Dissertation Computer Science

Directed Independent Study or Advanced Research (No more than 6 credits)

Grade	Semester	Course Number/Name
		COT 6900 Directed Independent Study
		EGN 6918 Advanced Research

Data Science and Analytics Courses

Course Number/Name
CAP 5768 Introduction to Data Science
CAP 5615 Introduction to Neural Networks
CAP 6315 Social Networks and Big Data Analytics
CAP 6546 Data Mining for Bioinformatics
CAP 6673 Data Mining and Machine Learning
CAP 6776 Information Retrieval
CAP 6640 Natural Language Processing
CAP 6617 Sparse Learning
CAP 6777 Web Mining
CAP 6778 Advanced Data Mining and Machine Learning
CAP 6618 Machine Learning for Computer Vision
CAP 6780 Big Data Analytics with Hadoop
CEN 6405 Computer Performance Modeling
CAP 6619 Deep Learning
CAP 6635 Artificial Intelligence

All PhD Students

Publication Requirement

A Doctoral Candidate is expected to have at least one research paper published or accepted for publication in a fully refereed conference or journal prior to graduation.

Layout and Content of "Dissertation Proposal"

This document provides general guidelines for the layout and content of the dissertation proposal. The guidelines may be modified to suit the project and the student's advisor may require additional material to be added to the proposal. The purpose of this document is to provide a starting point from which the final proposal can be developed.

Format

The dissertation proposal should be written using MS word or LaTeX. Please use the layout below and number each section accordingly.

Cover Page

The proposal cover page should include:

- Title (up to 25 words) - The title can be a working title in that it can be changed at a later date. It should convey the essence of the proposed work.
- Student Name
- The statement Dissertation Proposal submitted in partial fulfillment of a Doctoral Degree in Computer and Electrical Engineering and Computer Science.
- Date
- Names and room for signature of the student's advisor and advisory committee.

Content

The dissertation proposal should include the following sections:

1. **Introduction -** Gives the background to the work in general terms and the layout of the document.
2. **Dissertation Objective -** A statement, which is less than half a page long, specifying the objective of the work.
3. **Literature Review -** Reviews pertinent literature with the objective of placing the research in the context of work that has been done before. Having read this section, the committee will have a clear understanding of how the dissertation will provide new insights and advance the state of the art. A dissertation proposal must clearly identify the uniqueness of the study.
4. **Approach -** Describes the theoretical, experimental, or numerical approach that will be used in the study, including background theory where necessary. The derivation of major equations can be added in an appendix if required by the student's supervisor.
5. **Tasks to be completed -** This should describe the expected series of tasks that will be undertaken during the study.
6. **Timetable -** Defines the timeline for the completion of the work.
7. **References -** A list of references should be provided in an appropriate academic format such as Harvard or Author-Date.
8. **Figures and Tables -** Figures and tables may be placed in the document or at the end of the document. Each figure and table should be numbered in the order that it is referred to in the text and have a caption/heading that describes the content of the figure/table.

Student Signature: _____ Date: _____