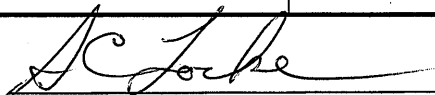

 <b>FLORIDA ATLANTIC UNIVERSITY</b>	<b>NEW COURSE PROPOSAL</b> <b>Undergraduate Programs</b>		UUPC Approval _____ UFS Approval _____ SCNS Submittal _____ Confirmed _____ Banner Posted _____ Catalog _____
	<b>Department</b> Math/CEECS/ITOM/PoliticalSci/Crim&CriminalJustice <b>College</b> Science/Eng.&CS/COB/Arts&Letters/Design&SocialInquiry <i>(To obtain a course number, contact erudolph@fau.edu)</i>		
<b>Prefix</b> ISC  <b>Number</b> 4312	<i>(L = Lab Course; C = Combined Lecture/Lab; add if appropriate)</i>  <b>Lab Code</b>	<b>Type of Course</b> Lecture	<b>Course Title</b> Data Science Capstone
<b>Credits</b> <i>(Review Provost Memorandum)</i>  1-3	<b>Grading</b> <i>(Select One Option)</i>  <b>Regular</b> <input checked="" type="radio"/> <b>Pass/Fail</b> <input type="radio"/> <b>Sat/UnSat</b> <input type="radio"/>	<b>Course Description</b> <i>(Syllabus must be attached; Syllabus Checklist recommended; see Guidelines)</i>  Students in the BS program with Major in Data Science and Analytics will apply theoretical knowledge, methods, and tools to a real-world data science problem. Students can work individually or in teams under the supervision of the course instructor or another faculty member.	
<b>Effective Date</b> <i>(TERM &amp; YEAR)</i>  Fall 2020	<b>Prerequisites, with minimum grade*</b> STA 2023, MAP 2190, CAP 2750, CAP 2751, QMB 3302, CCJ 3071		<b>Corequisites</b>  <b>Registration Controls</b> <i>(Major, College, Level)</i> Students enrolled in the BS with major in Data Science and Analytics program.
<i>*Default minimum passing grade is D-. Prereqs., Coreqs. &amp; Reg. Controls are enforced for all sections of course</i>			
<b>WAC/Gordon Rule Course</b>  <input type="radio"/> Yes <input type="radio"/> No  WAC/Gordon Rule criteria must be indicated in syllabus and approval attached to proposal. See <a href="#">WAC Guidelines</a> .		<b>Intellectual Foundations Program (General Education) Requirement</b> <i>(Select One Option)</i>  None  General Education criteria must be indicated in the syllabus and approval attached to the proposal. See <a href="#">GE Guidelines</a> .	
<b>Minimum qualifications to teach course</b> PhD in a relevant field			
<b>Faculty Contact/Email/Phone</b> William Kalies/wkalies@fau.edu/7-1107		<b>List/Attach comments from departments affected by new course</b> Joint course: Math.Sci., CEECS, ITOM, Political Sci, Crim.&Criminal Justice	
<b>Approved by</b> Department Chair  College Curriculum Chair <u>Jerry Haky (via email confirmation)</u> College Dean  UUPC Chair <u>Jerry Haky (via email confirmation)</u> Undergraduate Studies Dean <u>Edward Pratt (via email confirmation)</u> UFS President _____ Provost _____		<b>Date</b> <u>3/3/2020</u> <u>3-27-20</u> <u>3/3/2020</u> <u>3-30-20</u> <u>3-31-20</u> _____ _____	

Email this form and syllabus to [mjenning@fau.edu](mailto:mjenning@fau.edu) seven business days before the UUPC meeting.

**Florida Atlantic University  
Course Syllabus**

<b>1. Course title/number, number of credit hours</b>	
ISC 4312 Data Science Capstone	1-3 credit hours
<b>2. Course prerequisites, corequisites, and where the course fits in the program of study</b>	
Prerequisites: Senior standing in the Bachelor of Science with Major in Data Science program. Students must have completed the core courses STA 2023, MAP 2190, CAP 2750, CAP 2751, QMB 3302, CCJ 3071.	
<b>3. Course logistics</b>	
<i>Term:</i> Fall 2020 – offered all semesters thereafter.	
<b>4. Instructor contact information</b>	
<i>Instructor's name</i>	TBA
<i>Office address</i>	TBA
<i>Office Hours</i>	TBA
<i>Contact telephone number</i>	TBA
<i>Email address</i>	TBA
<b>5. TA contact information</b>	
N/A	
<b>6. Course description</b>	
Students in the BS program with Major in Data Science and Analytics will apply theoretical knowledge, methods, and tools to a real-world data science problem. Students can work individually or in teams under the supervision of the course instructor or another faculty member.	
<b>7. Course objectives/student learning outcomes/program outcomes</b>	
<i>Course objectives</i>	<p>Students will implement a solution using appropriate tools and can work individually or in teams under the supervision of the course instructor or another faculty member. This can be accomplished in the recommended three methods:</p> <ol style="list-style-type: none"> <li>1) An approved PROJECT that will be evaluated by the following: <ol style="list-style-type: none"> <li>a. Ability to design, identify, and apply analytic methods to a specific problem</li> <li>b. Ability to implement a solution using a suitable programming language and tools.</li> <li>c. Ability to measure and analyze the performance and robustness of the solution.</li> <li>d. Ability to write reports and present results</li> </ol> </li> <li>2) A RESEARCH experience which includes two consecutive DIR courses working in a laboratory with the following deliverables describing the results of their research are required in the senior year. <ol style="list-style-type: none"> <li>a. Submission of a grant proposal is required no later than the second semester of the junior year.</li> <li>b. Presentation of a poster or seminar at a local, regional, national or international research conference/symposium describing the results of the research is required in the senior year.</li> </ol> </li> </ol>

**Florida Atlantic University  
Course Syllabus**

	<p>3) A THESIS experience which involves the direct research mentorship by an eligible faculty member with the deliverables describing the results of their research which is to be directly evaluated by the mentor and if needed, a thesis committee:</p> <ol style="list-style-type: none"> <li>a. Written paper.</li> <li>b. Seminar.</li> </ol>
<b>8. Course evaluation method</b>	
<ol style="list-style-type: none"> <li>1) PROJECT             <ol style="list-style-type: none"> <li>a. Project Proposal: 15%</li> <li>b. Weekly Progress: 40%</li> <li>c. Assignments: 10%</li> <li>d. Final presentation: 10%</li> <li>e. Final report: 10%</li> <li>f. Final Demo: 10%</li> <li>g. Instructor Review: 5%</li> </ol> </li> <li>2) RESEARCH             <ol style="list-style-type: none"> <li>a. Weekly Progress: 50%</li> <li>b. Grant submission: 25%</li> <li>c. Presentation: 25%</li> </ol> </li> <li>3) THESIS             <ol style="list-style-type: none"> <li>a. Weekly Progress: 50%</li> <li>b. Written Paper: 25%</li> <li>c. Seminar: 25%</li> </ol> </li> </ol>	
<b>9. Course grading scale</b>	
<p>Grading Scale:            90 and above: "A", 87-89: "A-", 83-86: "B+", 80-82: "B", 77-79: "B-", 73-76: "C+", 70-72: "C", 67-69: "C-", 63-66: "D+", 60-62: "D", 51-59: "D-", 50 and below: "F."</p>	
<b>10. Policy on makeup tests, late work, and incompletes</b>	
<p><i>Makeup tests/material</i> are given only if there is solid evidence of a medical or otherwise serious emergency that prevented the student of participating in the exam. Makeup exam should be administered and proctored by department personnel unless there are other pre-approved arrangements</p> <p><i>Late work</i> is not acceptable.</p> <p><i>Incomplete grades</i> are against the policy of the department. Unless there is solid evidence of medical or otherwise serious emergency situation incomplete grades will not be given.</p>	
<b>11. Special course requirements</b>	
NA	
<b>12. Classroom etiquette policy</b>	
<p>University policy requires that in order to enhance and maintain a productive atmosphere for education, personal communication devices, such as cellular phones and laptops, are to be disabled in class sessions.</p>	
<b>13. Attendance policy statement</b>	

**Florida Atlantic University  
Course Syllabus**

Students are expected to attend all of 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.

**14. Disability policy statement**

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/](http://www.fau.edu/sas/).

**15. 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 counseling, support meetings, and psychiatric services, to name a few – offered to help improve and maintain emotional well-being. For more information, go to <http://www.fau.edu/counseling/>

**16. Code of Academic Integrity policy statement**

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, 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](#). If your college has particular policies relating to cheating and plagiarism, state so here or provide a link to the full policy—but be sure the college policy does not conflict with the University Regulation.

**17. Required texts/reading**

To reduce costs for our students, we strongly encourage you to explore the adoption of open educational resources (OER), textbooks and other materials that are freely accessible. We also encourage you to clearly state in the syllabus if course materials are available on reserve in the Library.

Notes posted on Canvas

**18. Supplementary/recommended readings**

NA

**19. Course topical outline, including dates for exams/quizzes, papers, completion of reading**

- 1) PROJECT
  - a. Weeks one and two:
    - i. Project management concepts
    - ii. Agile development concepts
    - iii. Data science lifecycle concepts

**Florida Atlantic University  
Course Syllabus**

- iv. Introduction to a few problem domains.
  - b. Weeks three and four:
    - i. Project selection, scoping, and project proposal
  - c. Weeks five through 14:
    - i. Students work on their project.
    - ii. Weekly meetings with project supervisor
    - iii. Guest lectures on topics relevant to projects.
  - d. Week 16:
    - i. Final presentations, demos, and reports
- 2) RESEARCH and THESIS
- a. Week 1-15
    - i. Research and preparation
  - b. Week 16
    - i. Evaluation of written project and presentation