The Graduate Certificate in Data Analytics is available to all graduate students in the university. Graduate students can select courses from the list below. Courses taken must span all three departments: Computer Science, Statistics and Electrical and Computer Engineering (cross-listed courses can count either way). Per university requirements, at most 6 of the 12 required credits for the certificate can be double counted toward a student’s degree program. All courses are 3-hour credit unless otherwise noted in the Graduate Catalog. Students must achieve GPA of at least 3.0 in the four courses. Transfer credits are not permitted.

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<th>Student Name:</th>
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<tr>
<td>Department:</td>
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<td>Degree (MS/Ph.D.):</td>
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Advisor: ____________________________

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<th>Credit Hours</th>
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<th>Final Project Grade</th>
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A. Required Core Courses: (6 credit hours minimum)

- CS/STAT 5525 Data Analytics I
- CS/STAT 5526 Data Analytics II
- CS 5824/ECE 5424G Advanced Machine Learning

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B. Restricted Elective Courses: (6 credit hours minimum)

- CS 5234 Advanced Parallel Computation
- CS 5604 Information Storage and Retrieval
- CS 5614 Database Management Systems
- CS 5764 Information Visualization
- CS 5804 Introduction to Artificial Intelligence
- CS 6604 Advanced Topics in Data and Information
- STAT 5114 Statistical Inference
- STAT 5314 Monte Carlo Methods in Statistics
- STAT 5414 Time Series Analysis I
- STAT 5444 Bayesian Statistics
- STAT 5444G Advanced Applied Bayesian Statistics
- STAT 5504 Multivariate Statistical Methods
- STAT 5544 Spatial Statistics
- ECE 5524 Pattern Recognition
- ECE 5554 Computer Vision
- ECE 5605 Stochastic Signals and Systems
- ECE 5606 Signal Detection and Estimation
- ECE 5734 Convex Optimization
- ECE 6504 Deep Learning for Perception
- ECE 6554 Advanced Computer Vision
- CS6424/ECE6424 Probabilistic Graphical Models and Structured Prediction
- UAP 5644: Transportation Systems Planning

Courses span all 3 departments? >= 3.0? Y / N Y / N
The above student has successfully completed the program requirements.

Signed: _________________________________ (Chair, Oversight Committee)

Date: ________________

STUDENT: Based on what you have learned, please answer the following required essay question to the best of your ability. Attach your answer essay as a separate PDF document.

Describe how you would take into account interdisciplinary perspectives, namely computer science, statistical and engineering perspectives, when taking on a challenging big data analytics problem. As an example context, consider a scenario in which you are consulting for a major city government to tackle the problem of understanding new trends in citizen use of alternative transportation, such as ride sharing and rental scooters.