THE OHIO STATE UNIVERSITY

**Data Analytics Major**
**College of Arts and Sciences**

Department of Computer Science and Engineering
Department of Statistics

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December 21, 2016

Vice Provost Randy W. Smith
Council on Academic Affairs
Office of Academic Affairs
203 Bricker Hall
190 North Oval Mall
Columbus, OH 43210

Dear Vice Provost Smith:

The College of Arts and Sciences requests that the Council on Academic Affairs approve a revision to the existing major in Data Analytics. The major is jointly administered by the Department of Statistics and the Department of Computer Science and Engineering and in its current form has four specializations: Biomedical Informatics, Business Analytics, Social Science Analytics and Computational Analytics. We are proposing to add a fifth, Data Visualization Specialization, to the major.

The proposed specialization was developed by faculty in the Division of the Arts and Humanities (represented by Professor Mary Anne Beecher, Chair of the Department of Design, and Professor Maria Palazzi, Director of ACCAD) and faculty in the College of Engineering (represented by Raghu Machiraju, Professor of Computer Science and Interim Director of TDA) in consultation with the management and steering committees of the Data Analytics major, the memberships of which include faculty members from the College of Arts and Sciences, the College of Engineering, the College of Medicine and the Fisher College of Business. The proposed specialization has been reviewed and approved by these committees, and it has also been reviewed and approved by the faculty responsible for curricular matters in the Department of Statistics and the Department of Computer Science and Engineering.

Please feel free to contact us with any questions or concerns about this proposed revision to the major.

Sincerely,

Dr. Christopher Hans
Associate Professor, Statistics
Co-director of the Data Analytics Major

Dr. Srinivasan Parthasarathy
Professor of Computer Science and Engineering
Co-director of the Data Analytics Major

Enclosures:
1. Details of the proposed revision to the Data Analytics major.

**General Information**

The major in Data Analytics leads to the B.S. degree in the College of Arts and Sciences. The major was approved by the Council on Academic Affairs on November 6, 2013, and was approved by the Ohio Board of Regents on February 4, 2014. Students have been able to declare a major in Data Analytics since May 2014. As of September 2016, 172 students are in the major or pre-major.

The major is structured in three parts: core fundamentals, an area of specialization, and an integrative experiential education component. There are currently four specializations in the major: Biomedical Informatics, Business Analytics, Computational Analytics and Social Sciences Analytics. Each specialization is required to consist of a number of technical courses and a capstone experience that is optimized for the subject. The capstone experience serves as the integrative experiential component.

We are proposing to add a new **Data Visualization Specialization** (DVS) to the major.

**Rationale for the Proposed Specialization**

The rationale for the proposed DVS is given in the attached document "Overview of the Data Visualization Specialization."

**Impact of the Proposed Revision on the Existing Major**

The proposed revision to the major adds a fifth option for a specialization. All other aspects of the existing major remain intact. The proposed DVS does *not* change the minimum number of credit hours for a student to major in Data Analytics.

**Management of the Proposed Specialization**

The Data Analytics major is a jointly managed program between the Department of Statistics (in the College of Arts and Sciences) and the Department of Computer Science and Engineering (in the College of Engineering). The Chairs (or their designees) of the two departments manage the program in conjunction with advising resources—together, the Chairs (or their designees) represent the Management Committee for the Data Analytics major. The Management Committee is aided by a Steering Committee, the membership of which includes one representative from each of the approved specializations in the Data Analytics major.

The proposed specialization is part of the Data Analytics major and, as such, will be managed by the above committees.

Upon approval of the DVS by the Council on Academic Affairs, the Management Committee will work with the dean of the Division of the Arts and Humanities to identify a faculty member from the Division to serve on the Steering Committee.

## Learning Objectives

The Data Analytics major has five approved core program objectives.  These core objectives are augmented with objectives associated with each specialization.  The existing, approved major objectives (M.# notation) and the proposed objectives associated with the specialization (S.# notation) can be found in the curriculum map in the attachments.

## Assessment

After establishing an initial assessment plan at the major's inception, we have been updating the plan yearly as our first batch of students has progressed through the major. The assessment plan takes into account both the major-specific learning outcomes as well as specialization-specific learning outcomes. Details for how the Data Visualization Specialization will be assessed are provided in the attached documents.

## Implementation Issues

- How will the proposed revision of the major affect students, faculty, and staff outside the proposing units?

    As described in the original proposal for the Data Analytics major, we have set a cap of 50 new students per year in the major for the first five years.  As students in the major will be distributed among the specializations, we expect any short-term extra demand for courses in the proposed specialization to be manageable.

- Advising support for the major from the College of Arts and Sciences

    Advising for all students in the Data Analytics major is handled by the Academic Planning Specialist who is housed in the Department of Statistics in the College of Arts and Sciences.  This individual will provide advising support for students interested in the DVS of the Data Analytics major.