I. Pre-Authorization: Notice of Intent

COLLORORATIVE ONLINE MASTER OF SCIENCE DEGREE IN DATA SCIENCE

University of Wisconsin-Eau Claire
University of Wisconsin-Green Bay
University of Wisconsin-LaCrosse
University of Wisconsin-Oshkosh
University of Wisconsin-Stevens Point
University of Wisconsin-Superior

With administrative and financial support from the University of Wisconsin-Extension

A. Name of proposed degree, institutional setting, mode of delivery, and institutional contact information.

Name of Proposed Degree: Master of Science in Data Science
Institutional Setting: Collaborative program across the UW System
Mode of Delivery: Online
Institutional Contact Information: David Schejbal, Dean
University of Wisconsin-Extension
Continuing Education, Outreach and E-Learning
Email: David.Schejbal@uwex.edu
Phone: 608-262-2478

B. Clear statement on how the program fits with institutional mission, strategic plan, and existing program array.

The online M.S. in Data Science degree program contributes directly to the institutional mission of the University of Wisconsin System and its campus affiliates by supporting all three elements of the UW Growth Agenda to include:

• Increase the number of degree holders in Wisconsin.
• Increase the number of high-paying jobs.
• Build stronger communities.

The online M.S. in Data Science provides a degree in a recognized high-need area as supported by research to include extensive input from employers throughout the state, and develops competencies that will enable graduates to contribute immediately to serve this important function and role within the Wisconsin workforce. It is a degree targeted at adult and nontraditional students possessing a bachelor’s degree. The online M.S. in Data Science also supports the institutional missions of the six partner campuses by contributing to the core of liberal education by developing communication, critical thinking, problem-solving, analytical skill, leadership, teamwork, and collaboration skills. Furthermore, this will be a multidisciplinary degree that helps build bridges between disciplines and develops students’ abilities to think in terms of systems and interrelationships and within complex organizations.
C. Program description.

This program responds to the emergence of Data Science as one of the fastest growing professions and academic disciplines in the 21st Century and research suggests that the demand for data scientists exceeds the current supply of trained professionals in this area primarily because the discipline is so new. Due primarily to the ongoing explosion of “big” data, companies have more information available than ever before but lack the people with the training necessary to translate it in ways that better inform business decisions. The goal of this professional degree program, as designed, is to educate data science leaders. The program will prepare students to derive insights from real-world data sets, using the latest tools and analytical methods, and to interpret and communicate their findings effectively. The curriculum closely complements what have been identified as typical data science tasks to include, but not limited to, the identification and interpretation of rich data sources, the management of large amounts of data, the merging of data sources, ensuring consistency of data-sets, creating visualizations to aid in understanding data, building mathematical models using the data, and presenting and communicating the data insights/findings to diverse expert and non-expert audiences. The online M.S. in Data Science degree program will focus primarily on adult and nontraditional students who hold an undergraduate degree and have the desire to continue their education towards a graduate degree primarily to expand knowledge and specialized skills in this area and for career advancement. The program features a multi-disciplinary curriculum that draws primarily from computer science, math and statistics, management, and communication and represents a fixed curriculum comprised of 36 credits (12 three-credit courses) to include a required capstone course which represents the culminating experience for students.

D. Need for program (brief description of programs in the context of local, regional and system wide programs).

There is consensus among the six academic partners that the M.S. in Data Science degree program will serve as a valuable complement to the existing graduate program array at each of their institutions and will not compete with any program currently offered. A comprehensive search of current graduate-level degrees or specializations in the areas of data science, predictive analytics, business analytics or related areas within the UW System yields no same or similar program to the M.S. in Data Science currently offered. It is clear that a gap exists within the state consistent with our original research. There are a small number of graduate degrees within the System which demonstrate minimal overlap in courses and/or course topics, however, none of these offerings are provided in a fully online format targeting working adults. An example of this would include the recently approved and introduced Master of Science in Computer Science degree offered in a hybrid delivery format through UW-River Falls. This program includes several common or similar courses to those offered in the M.S. in Data Science curriculum.

The MS in Data Science curriculum planning workgroup also identified several similar regional graduate programs in the area of data science or related topics only two of which were offered in an online format. Our review of these programs not only proved valuable in our planning but also assisted the workgroup in developing a distinctly unique online offering for professionals in this developing field.