



SOUTH DAKOTA BOARD OF REGENTS
ACADEMIC AFFAIRS FORMS
New Certificate

UNIVERSITY:	University of South Dakota
TITLE OF PROPOSED CERTIFICATE:	Business Analytics
INTENDED DATE OF IMPLEMENTATION:	Fall 2017
PROPOSED CIP CODE:	52.1301
UNIVERSITY DEPARTMENT:	Beacom School of Business
UNIVERSITY DIVISION:	Economics and Decision Sciences

University Approval

To the Board of Regents and the Executive Director: I certify that I have read this proposal, that I believe it to be accurate, and that it has been evaluated and approved as provided by university policy.

Click here to enter a
date.

Institutional Approval Signature
President or Chief Academic Officer of the University

Date

1. Is this a graduate-level certificate or undergraduate-level certificate?

Undergraduate Certificate Graduate Certificate

2. What is the nature/purpose of the proposed certificate?

This certificate will use existing courses developed for the MBA program with Business Analytics (BA) specialization to prepare students to strengthen the decision-making processes through data analysis. The program offers integration of the science and technology underlying business analytics with solving key business problems in the areas of operations management, sales, marketing, finance, and economics. Graduates will have the ability to strengthen their competitive position, achieve operational efficiency, and anticipate trends in the marketplace. There are three main kinds of students we expect to attract to this program. First, it would allow potential students who already hold an MBA from USD who graduated before the Business Analytics specialization existed to supplement their coursework with more in-depth BA knowledge. Second, it may attract students who hold an MBA from another institution wishing to supplement their knowledge base with more in-depth BA study. Finally, it may also attract students with an undergraduate degree who are interested in only enhancing their BA knowledge without earning a full MBA. Students who pursue the MBA program and earn a transcribed MBA with BA specialization would not be eligible for this certificate program. Students will need to have undergraduate coursework in Information Systems, Calculus, and Statistics to be eligible as these are prerequisites for courses in the program.

3. Provide a justification for the certificate program, including the potential benefits to students and potential workforce demand for those who graduate with the credential.¹

The first semester the BA specialization in the MBA program was introduced, three students started the program. Two years later, the Beacom School of Business has 45 students enrolled in this specialization. As the business environment moves further into data-driven decision-making and more firms utilize large scale data to optimize their organizational efficiency and profitability, the need for business professionals who understand BA also grows. The U.S. Bureau of Labor Statistics anticipates job growth in Computer Systems Analysts to be 20.9%, Market Research Analysts to be 18.6%, and Management Analysts to be 13.6% over the next 8 years². Additionally, the South Dakota Department of Labor and Regulation estimates job growth for Management Analysts to be over 8.68% over the next 8 years.³ Typical jobs in this area include market researchers, management analyst, data analyst, data consultant, marketing analyst, marketing consultant, forecasting analyst, industrial analyst, and management consultant.

4. Who is the intended audience for the certificate program (including but not limited to the majors/degree programs from which students are expected)?

Initially, the targeted audience will be students who graduated with an MBA from USD but would like to have transcribed, in-depth knowledge of BA. Our MBA graduates will have taken 1-2 courses from this list already. Going forward, we may attract students who completed an MBA from another institution who are interested in a more in-depth understanding of BA or students who have completed an undergraduate degree and would like the knowledge of BA but are not interested in an MBA program.

5. List the courses required for completion of the certificate in the table below (if any new courses are proposed for the certificate, please attach the new course requests to this form):⁴

Prefix	Number	Course Title	Credit Hours	New (yes, no)
BADM	720	Quantitative Analysis	3	No
DSCI	723	Data Management and Warehousing	3	No
DSCI	724	Data Mining for Managers	3	No
DSCI	725	Data Mining for Competitive Advantage	3	No
DSCI	726	Operational Analytics	3	No
Subtotal			15	

Background in foundation pre-requisite business courses is required before a student may be admitted to the certificate program. Students would at least need undergraduate coursework in

¹ For workforce related information, please provide data and examples; data sources may include but are not limited to the South Dakota Department of Labor, the US Bureau of Labor Statistics, Regental system dashboards, etc.

² <https://data.bls.gov/projections/occupationProj>

³ <https://www.sdvlmi.com/vosnet/analyzer/results.aspx?session=occproj&pu=1&plang=E>

⁴ Regental system certificate programs typically are a subset of the curriculum offered in degree programs, include existing courses, and involve 9-12 credits for completion. Deviations from these guidelines require justification and approval.

statistics, calculus, and information systems to be eligible to meet the prerequisites for the courses in this certificate. It is possible to complete the certificate with only an undergraduate operations management course as a prerequisite. Graduate foundations courses, undergraduate equivalents, or challenge exams are available for students who need to demonstrate prerequisite knowledge.

We recognize that the 15 credit hours exceeds the typical requirements for most certifications but we feel that the additional hours are warranted given the complexity of this field. Students must have a strong foundation in quantitative reasoning and processes, a knowledge of how to collect and store data, and how to analyze that data. We believe that a significant number of applicants will already have completed an MBA that includes a course in Quantitative Analysis thus effectively reducing the requirements for the certificate to 12 hours.

6. Student Outcome and Demonstration of Individual Achievement.⁵

A. What specific knowledge and competencies, including technology competencies, will all students demonstrate before graduation?

Students who complete this program will be able to apply concepts management science and business analytics to solve business problems and strengthen business decision making. Students will learn to build and utilize linear and non-linear decision making models, store and manage big data, data mining techniques, and will conclude their program with a capstone experience which combines concepts from all previous courses.

B. Complete Appendix A – Outcomes using the system form. Outcomes discussed below should be the same as those in Appendix A.

See Appendix A.

7. On-line and Off-campus Delivery.⁶

A. Complete the following charts to indicate if the university seeks authorization to deliver the entire certificate at any off-campus location (e.g., UC Sioux Falls, Capital University Center, Black Hills State University-Rapid City, etc.) or seeks authorization to deliver the entire certificate through distance technology (e.g., as an on-line program)?

	Yes/No	If Yes, list location(s), including the physical address	Intended Start Date
Off-campus	No		

	Yes/No	If Yes, identify delivery methods	Intended Start Date
Distance Delivery	Yes	Online	Fall 2017

⁵ Board Policy 2:23 requires certificate programs to “have specifically defined student learning outcomes.”

⁶ The accreditation requirements of the Higher Learning Commission (HLC) require Board approval for a university to offer programs off-campus and through distance delivery.

B. Complete the following chart to indicate if the university seeks authorization to deliver more than 50% but less than 100% of the certificate through distance learning (e.g., as an on-line program)?

Not applicable

	Yes/No	If Yes, identify delivery methods	Intended Start Date
Distance Delivery	No		
Delivery Method (if applicable)			

8. Additional Information: *Additional information is optional. Use this space to provide pertinent information not requested above. Limit the number and length of additional attachments. Identify all attachments with capital letters. Letters of support are not necessary and are rarely included with Board materials. The University may include responses to questions from the Board or the Executive Director as appendices to the original proposal where applicable. Delete this item if not used.*

Appendix A.

Individual Student Outcomes and Program Courses

List specific individual student outcomes—knowledge and competencies—in each row. Label each column with a course prefix and number. Indicate required courses with an asterisk (*). Indicate with an X the courses that will provide the student with an opportunity to acquire the knowledge or competency listed in the row. All students should acquire the program knowledge and competencies regardless of the electives selected. Modify the table as necessary to provide the requested information for the proposed program.

Individual Student Outcome	Program Courses that Address the Outcomes				
	BADM 720	DSCI 723	DSCI 724	DSCI 725	DSCI 726
Describe core concepts, vocabulary, tools, and limitations of analytics used in business decision-making.	X		X	X	X
Formulate, solve, and interpret analytic models.	X	X	X	X	X
Integrate information technology resources to leverage analytical problem solving.	X	X	X	X	X
Explain the integrated role of analytics in contributing to the resolution of business problems and taking advantage of business opportunities.	X			X	X
Employ critical-thinking, analytic, and problem solving skills	X	X	X	X	X