SOUTH DAKOTA BOARD OF REGENTS
ACADEMIC AFFAIRS FORMS
New Certificate

UNIVERSITY:	**USD**
TITLE OF PROPOSED CERTIFICATE:	**Healthcare Analytics**
INTENDED DATE OF IMPLEMENTATION:	**2017-2018**
PROPOSED CIP CODE:	**51.0000**
UNIVERSITY DEPARTMENT:	**Health Sciences Department**
UNIVERSITY DIVISION:	**Health Affairs/School of Health 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.

Elizabeth M. Freeburg   8/28/2017

Institutional Approval Signature   Date
President or Chief Academic Officer of the University

1. **Is this a graduate-level certificate or undergraduate-level certificate (*place an "X" in the appropriate box*)?**

   Undergraduate Certificate ☒   Graduate Certificate ☐

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

   The proposed certificate consists of approved courses already available to all students on-campus and online. The primary enrollees are health sciences majors who take these courses to enhance their knowledge base and employability in health care settings. The certificate will be identified on their academic transcript and make the expertise in health analytics more evident. Skills unique to this certificate include the ability to use analytical methods to help healthcare organizations/systems systematically use and analyze massive amounts of data to identify and trend patient health improvements/regressions, predict future patient service needs, predict and prevent institutional crises, etc. The health systems goals of using analytics includes reducing costs, identifying and solving problems, and making better decisions. The overall goal of analytics is to improve the quality of healthcare delivery.

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 United States Department of Labor Bureau of Labor Statistics identifies that research analysts job outlook for 2014-2024 is much faster than average (30%), with a 2016 median pay of $79,200 per year.[2] Data, often gathered from Electronic Medical Records identify gaps in care. Readmission rates can be reduced and length of stay for most frequent diagnoses can be reduced with the appropriate analysis of data and planned action. A radiology department can determine the percentage of X-ray exams that were repeated

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[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://www.bls.gov/ooh/math/operations-research-analysts.htm

because of wrong patient positioning on the first exam. The percentage of patients who had an adverse reaction to X-ray dyes can be analyzed. Surgical units might analyze the number and type of complications reported, including specific procedure associated with each complication. Infection occurrences post-surgery may be analyzed to determine if there is greater incidence of infection in patients treated by a specific group of surgeons. The number of deaths related to medical error is a critical indicator all hospitals need to measure, analyze, and plan for improvements.

The use of analytics improves patient care. Healthcare organizations are pressured to improve the clinical quality of care, patient safety, reduce medical error, and control or lower costs. Analytics is the systematic use of data to improve the quality of healthcare delivery and reduce costs. Clinically, it supports comparative effectiveness research to identify the most clinically relevant and cost-effective ways to diagnose and treat patients. In public heath settings, professionals analyze disease patterns and track disease outbreaks and transmission. Medical delivery systems are required to analyze massive amounts of data to identify and trend patient health improvements/regressions, predict future patient service needs, predict and prevent institutional crises, etc. The conceptual foundation and accountability of healthcare improvement for quality, safety, and evidence –based outcomes is a critical aspect of the patient experience. Healthcare teams need diverse skills to select and apply appropriate analytic tools for improvement. Analytics is a necessary skill for healthcare professionals and highly integrated into the courses that make up the certificate. Also, the certificate addresses the needs of current healthcare professionals whose previous healthcare education did not include analytics and data management and now desire to take coursework to gain this critical knowledge.

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

The primary intended audience for this certificate includes on-campus, off-campus (UCSF), and online health science majors who desire to enhance their knowledge, skills, and abilities while increasing their chances of being hired ahead of less qualified candidates. The certificate is open to any student in any major, but likely will be most attractive to a student choosing a health discipline. A certificate in healthcare analytics will also be attractive to clinical and nonclinical healthcare professionals who need the knowledge and skills in their work setting. The courses are already offered either as required or elective courses as a component of the health sciences major.

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):[3]**

Prefix	Number	Course Title	Credit Hours	New (yes, no)
HSC	360	Technology in Care Delivery (currently included in UCSF rotation)	3	No
HSC	370	Computerized Medical Records & Regulatory Compliance	3	No
HSC	400	Clinical Analytics	3	No
HSC	475	Processes and Outcomes Evaluation	3	No
		Subtotal	12	

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[3] 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.

6. Student Outcome and Demonstration of Individual Achievement.[4]

A. What specific knowledge and competencies, including technology competencies, will all students demonstrate before graduation? *The knowledge and competencies should be specific to the program and not routinely expected of all university graduates.*

1. Define the significant components of an Electronic Health Care Record (EHR) and why it is important.
2. Identify what societal forces, laws, regulations, and procedures govern how the EHR is utilized.
3. Describe how the EHR can be used to improve patient health by documenting patient history, preventative care, vaccinations, etc.
4. Define privacy and security laws and regulations as they apply to the EHR.
5. Evaluate processes to access evidence-based information at the point of care, for decision support and care pathways.
6. Demonstrate the role of healthcare analytics in improving processes.
7. Demonstrate how to create effective analytic indicators
8. Analyze healthcare data.
9. Apply Lean thinking, principles, and tools to a pertinent healthcare problem.
10. Describe how to leverage analytics in quality improvement projects.
11. Explore potential career opportunities benefitting from core informatics knowledge.

B. Complete Appendix A – Outcomes using the system form.

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[4] Board Policy 2:23 requires certificate programs to "have specifically defined student learning outcomes."

Healthcare Analytics Certificate

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			
	Prefix & Number	Prefix & Number	Prefix & Number	Prefix & Number
Define the significant components of an Electronic Health Care Record (EHR) and why it is important.	HSC 360*	HSC 370*		
Identify what societal forces, laws, regulations and procedures govern how the EHR is utilized.	HSC 360*	HSC 370*		
Describe how the EHR can be used to improve patient health by documenting patient history, preventative care, vaccinations, etc.	HSC 360*	HSC 370*		
Define privacy and security laws and regulations as they apply to the EHR.	HSC 360*	HSC 370*		
Evaluate processes to access evidence-based information at the point of care, for decision support and care pathways.	HSC 360*	HSC 370*		HSC 475*
Demonstrate the role of healthcare analytics in improving processes.			HSC 400*	HSC 475*
Demonstrate how to create effective analytic indicators			HSC 400*	
Analyze healthcare data.			HSC 400*	
Apply Lean thinking, principles, and tools to a pertinent healthcare problem.				HSC 475*
Describe how to leverage analytics in quality improvement projects.			HSC 400*	HSC 475*
Explore potential career opportunities benefitting from core informatics knowledge.	HSC 360*	HSC 370*	HSC 400*	HSC 475*

7. On-line and Off-campus Delivery. [5]

   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	Yes	University Center Sioux Falls 4801 N Career Ave, Sioux Falls, SD 57107	8/20/2018

	Yes/No	*If Yes, identify delivery methods*	*Intended Start Date*
Distance Delivery	Yes	015 Internet Asynchronous – Term Based Instruction	1/8/2018

   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)?

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

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