

Contact: Rachel Boon

**REQUEST FOR NEW PROGRAM AT IOWA STATE UNIVERSITY:  
MASTER OF HEALTHCARE ANALYTICS AND OPERATIONS**

**Action Requested:** Consider approval of the request by Iowa State University for a Master of Healthcare Analytics and Operations in the Ivy College of Business.

The Council of Provosts and Board office support approval of this program.

**Description of proposed program.** The need for better understanding of healthcare operations and how to draw inferences from the massive amounts of data generated from healthcare devices, procedures and policies was strong, even before the COVID-19 pandemic. Health care analysts, executives, insurance companies, providers and policy makers are even more interested in creating more efficient and effective health care delivery systems in light of increased pressures on these systems. Current ISU masters programs do not sufficiently address these needs, which span from health care supply chain issues, to lean operations, to managing and analyzing the massive amounts of data kept in disparate, but increasingly digital repositories. The most closely related program, the Master of Business Analytics, is a general business program. While instructors use examples from healthcare, they also use examples from manufacturing, retail, agriculture, and many other industries. Furthermore, that program is meant to give students a deep-dive into various analytics methodologies and does not provide enough healthcare focused required courses as have been proposed from ISU market research.

The Ivy College of Business proposes a 30 credit masters-level program in Healthcare Analytics and Operations, to be delivered primarily online with a small required residential component, to working professional in healthcare domains.

**Academic objectives.** Students graduating from the proposed program will be able to analyze both healthcare operations, supply chains, and data in order to develop and present plans of action leading to better outcomes for various stakeholders in the healthcare industry. Healthcare operations, supply chains, and data possess many unique properties, which require specialized knowledge to optimize managerial outcomes.

Specific learning outcomes include:

1. Students will be able to identify and apply theories, models, frameworks, and practices to healthcare operations, in order to address healthcare management challenges.
2. Students will be able to identify, clean, manipulate, analyze, healthcare data, in order to address healthcare management challenges.
3. Students will be able to identify and apply the appropriate analytics tools to healthcare management data in order to draw and convey appropriate conclusions to healthcare management problems.
4. Students will be able to synthesize healthcare data and information from multiple sources into comprehensive solutions to healthcare management problems.

**Relationship to existing programs at the institution.** There are no other programs similar to this one at Iowa State University. The closest such program is the Master of Business Analytics, which is sufficiently different as described above.

The Ivy College of Business offers high-quality undergraduate, masters, and doctoral level programs, and has a number of nationally recognized research scholars and a strong research

reputation in selected fields, including analytics and supply chain management. The addition of this master’s level Healthcare Analytics and Operations program would make a significant contribution to the College’s strategic goals. In fact, one of the items under Goal 1 of the Ivy College of Business’ 2015-2020 strategic plan calls for “the establishment of new graduate degrees and certificate programs based on industry needs.”

Relationship to existing programs at other colleges and universities. The Tippie College of Business at the University of Iowa offers a Graduate Certificate in Healthcare Management. There are no overlapping required courses with this certificate. The University of Northern Iowa does not offer any related programs. Drake University has just launched a Master of Science in Health Informatics and Analytics. While this program has several overlapping courses with this proposed program in data management, analytics, and a required capstone, the proposed ISU program requires additional courses in operations and supply chain management, in order to provide a more holistic overview of the business side of healthcare.

Unique features. ISU’s strengths in statistics, data science and business analytics, plus its world-renowned Supply Chain Management department make ISU and the Ivy College of Business the ideal institution for such a unique program.

Student demand. After conducting initial interviews with healthcare executives and a comprehensive CyBiz Lab study, industry and student demand more than justifies its development. Students in existing programs have been attracted to cases and examples from the healthcare industry. For example, the Ivy College of Business generated student interest in a supply chain course in summer 2020 by positioning the course to address healthcare and food supply chain concerns surrounding the COVID-19 health crisis.

Workforce need/demand. The industry demand for this program has been stressed from key executives at Mercy in Des Moines, Spectrum Health, and a CEO at a major hospital system. They have expressed support for program as being “timely for meeting the needs of today and tomorrow.” Leaders in the healthcare industry can use the new program to provide additional education to strengthen their current workforce or hire student from the program with skills and expertise for a changing operating environment. According to the State of Iowa, seven of the top 10 fastest growing fields in Iowa in 2021-2024 are in healthcare, operations, or information systems, which are all key components of the proposed graduate program.

Resources to establish a high-quality program. The Ivy College has over five years of experience in running the master of business analytics program. Two recent hires in the Information Systems and Business Analytics department bring healthcare analytics and healthcare information systems expertise to the program.

Additionally, the \$28 Million dollar expansion to the Gerdin Business Building provides more than adequate facilities for on-campus residency courses.

<b>SOURCES</b>	<b>TOTAL AMOUNT</b>
Yr 1 Tuition revenue, private gifts	\$194,670
Yr 2 Tuition revenue, private gifts	\$454,230
Yr 3 Tuition revenue	\$519,120
Yr 4 Tuition revenue	\$584,010
Yr 5 Tuition revenue	\$648,900
Yr 6 Tuition revenue	\$713,790

Cost. ISU utilizes a decentralized financial management model for the development of its annual operating budgets. The Resource Management Model (RMM), is a responsibility centered and incentive-driven approach to financial planning and management. The model supports departments and colleges in making budgetary decisions that enhance student success (e.g., retention), innovate by meeting market demands from students and employers for degree programs of the future, and discontinue legacy curricula which are either not aligned with industry/employer needs or for which student demand is low. Through the RMM, for graduate and professional students, net tuition revenue is allocated to academic colleges based on a student’s enrollment. Tuition revenue will include both base tuition and applicable differential rates. The proposed degree program will be funded through this existing, proven financial model, and is expected to be fully self-sustaining over time. In addition to the budget model as described, financial resources may also come from internal reallocations made within the college during the program’s startup phase. The level of reallocation will depend, in part, on the numbers of new students attracted to the proposed program, and the number of existing students who choose the proposed program over another program, based on standard and differential tuition rates. The proposed program will not be dependent on grants, contracts, gifts, central university resources, or reallocations between academic colleges.

Estimated new costs for this program include the cost of hiring one new term faculty member (a professor of practice) that will be shared across a future bachelor’s degree program in healthcare management. Otherwise, the departments of Information Systems and Business Analytics (ISBA) and Supply Chain Management (SCM) have the necessary faculty in-place to begin offering the program. Through the budget model described above, tuition revenue associated with student credit hour production will support the cost of teaching classes for this program and any marginal costs for equipment or marketing. This program will not require investments in fixed expenses such as facility renovations, information technology software, or licenses.

	<b>Total Costs</b>
Year 1	\$305,100
Year 2	\$475,100
Year 3	\$492,600
Year 4	\$510,100
Year 5	\$527,600
Year 6	\$545,100
Year 7	\$562,600

Projected student enrollment.

	Y1	Y 2	Y3	Y4	Y5	Y6	Y7
Graduate	15	35	40	45	50	55	60

The college anticipates that most students will be professionals working in various aspects of healthcare delivery and management.

Accreditation. The proposed program will be covered by the existing AACSB accreditation of the Ivy College of Business.

Evaluation plan. This program will be incorporated into the university's normal academic review process. That review process assesses whether the program is achieving its mission, providing high quality academic experiences, and fulfilling the enrollment and success metrics identified for the program. In addition to the academic program review, as a part of the college budgeting process the program will be monitored annually for achievement of enrollment goals.

Date of implementation. August 2021.

Letters of Support



December 14, 2020

Dean David Spalding  
2300 Gerdin Business Building  
Iowa State University  
Ames, IA 50011

Dear David,

I am pleased to provide a letter of support for your proposed Master of Healthcare Analytics & Operations program. I agree with you that this proposed program does appear to complement your existing Master of Business Analytics program and it offers a unique set of courses to prepare learners to support the growing and extremely important healthcare field.

Sincerely,

A handwritten signature in blue ink that reads "Leslie K. Wilson".

Leslie K. Wilson



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**Tippie College of Business**

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February 1, 2021

Dean David Spalding  
Ivy College of Business  
Iowa State University  
2200 Gerdin Business Building  
2167 Union Drive  
Ames, IA 50011

Dear Dean Spalding,

I am writing to offer our support for the Ivy College's proposed Master of Healthcare Analytics & Operations program. In the growing area of big data in healthcare, there are clear needs for additional training and credentialing in this area. At the University of Iowa we have explored several options in this space, given our strengths in multiple health care areas and analytics/informatics. The university's approach has been multi-pronged. In the Tippie College we have added healthcare focused courses in our Business Analytics part-time program. This program has more than 350 students, but not surprisingly, only a portion of them are interested in healthcare. The College of Liberal Arts and Sciences has both a master's and a Ph.D. in Informatics. The master's degree has a focus area in healthcare informatics, but it is not an official subtrack. In the College of Nursing they are finalizing the components of a certificate in Health Analytics for MSN students, and the College of Public Health and Tippie College are involved in these discussions.

I raise these programs, not to dissuade ISU from pursuing the master's degree that they have proposed, but to give to an overview of the various forms that this is taking at the University of Iowa with regard to specific partner colleges. There is no doubt that the demand for training in these areas is increasing across the board. I am confident that each of these programs will be highly beneficial to working professionals in healthcare domains. The Tippie College of Business wish you all the best in this important endeavor.

Sincerely,

A handwritten signature in black ink, appearing to read "Amy Kristof-Brown".

Amy Kristof-Brown, Ph.D.  
Henry B. Tippie Dean