

# **graduate COMMITTEE curriculum PROPOSAL FORM**

## A. Cover page (rover over text for more instructions- please delete red instructions)

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| A.1[. Course or program](#_acknowledge) | **HCA 580 Health Care Data Analytics** |  |
| Academic Unit | School of Business |  |
| A.2. [Proposal type](#type) | Course: creation   |  |
| A.3. [Originator](#Originator) | Marianne RaimondoSankeerth Rampa | [Home department](#home_dept) | Health Care Administration |
| A.4. [Rationale](#Rationale)Additional Information for [new programs](#type) | This new course will serve as a required component of the MS in Health Care Administration - Data Analytics Concentration. This course is intended to teach students how to apply core concepts of data analytics to healthcare examples and understand the implications for policy evaluation, design, development, and implementation in healthcare. The course is designed to provide an understanding of the management, analysis, and interpretation of diverse healthcare data. Students will be exposed to a broad range of topics, including in-depth exposure to fundamental analytic and biostatistical concepts, different methodologies used to collect data, various techniques to appropriately analyze data, and information on how to assess the results of such analysis. |
| A.5. [Student impact](#student_impact) | * New course in MS in Health Care Administration - Data analytics concentration.
* Prepares students and health care/IT professionals for in demand jobs with updated skill sets in health care information systems and data analysis.
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| A.6. [Impact on other programs](#impact) | Could serve as a pipeline to MS HCA |
| A.7. [Resource impact](#Resource) | [Faculty PT & FT](#faculty" \o "Need to hire new full-time or part-time faculty? This is where you indicate if this proposal will be affecting FLH in your department/program.):  | Full time or adjuncts from CIS |
|  | [Library:](#library) | None |
|  | [Technology](#technology) | None |
|  | [Facilities](#facilities): | None, will use existing classrooms and computer labs  |
| A.8. [Semester effective](#Semester_effective) | Spring 2024 or Fall 2024 | A.9. [Rationale if sooner than next Fall](#Semester_effective) |  |
| A.10 [Changes to the website](#Signature_2) |  |

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| A.10. INSTRUCTIONS FOR CATALOG COPY: This single file copy must include all relevant pages from the college catalog, and show how the catalog will be revised. (1) Go to the “Forms and Information” on the graduate committee’s website <https://www.ric.edu/department-directory/graduate-curriculum-committee/forms-and-information>Scroll down until you see the Word files for the current catalog. (2) Download ALL catalog sections relevant for this proposal, including course descriptions and/or other affected programs. (3) Place ALL relevant catalog copy into a single file. Put page breaks between sections and delete any catalog pages not relevant for this proposal. (4) Using the track changes function, revise the catalog pages to demonstrate what the information should look like in next year’s catalog. (5) Check the revised catalog pages against the proposal, making sure that program totals are correct when adding or deleting course credits. |

## B. NEW OR REVISED COURSES

|  | Old ([for revisions only](#Revisions))ONLY include information that is being revised, otherwise leave blank | NewExamples are provided within some of the boxes for guidance, delete just the examples that do not apply. |
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| B.1. [Course prefix and number](#cours_title)  |  | HCA 580 |
| B.2. Cross listing number if any |  |  |
| B.3. [Course title](#title)  |  | Heath Care Data Analytics |
| B.4. [Course description](#description)  |  | This course introduces healthcare data analytics fundamentals, emphasizing their importance in the industry. Students learn data collection, analysis, and interpretation techniques for clinical, operational, and financial data. |
| B.5. [Prerequisite(s)](#prereqs) |  | Acceptance into the HCA graduate certificate program or permission of program director. |
| B.6. [Offered](#Offered) |  | Fall  |
| B.7. [Contact hours](#contacthours)  |  | 3 |
| B.8. [Credit hours](#credits) |  | 3 |
| B.9. [Justify differences if any](#differences) |  |
| B.10. [Grading system](#grading)  |  | Letter grade  |
| B.11. [Instructional methods](#instr_methods) |  | Lecture Computer Lab Small group  |
| B.11.a [Delivery Method](#instr_methods) |  | Hybrid |
| B.12.[Categories](#required) |  | Required for program  |
| B.13. [How will student performance be evaluated?](#performance) |  | Attendance Class participation Exams Presentations Projects Papers and/or Case Studies |
| B.14. [Redundancy with, existing courses](#competing) |  | None |
| B. 15. Other changes, if any |  |

| B.16. [Course learning outcomes](#outcomes): List each outcome in a separate row | [Professional organization standard(s)](#standards), if relevant  | [How will each outcome be measured?](#measured) |
| --- | --- | --- |
| Students will have a solid understanding of health care data analytics. | ICABE | Written exams, quizzes, and class discussions assessing the theoretical understanding of key concepts and methodologies in health care data analytics.  |
| Students will understand how to formulate a business problem so that it can be answered in a data-driven way. | ICABE | Assignments and case studies where students formulate business problems and identify how data analytics can be applied to address them.  |
| Students will gain expertise in collecting, inspecting, and cleaning data to make it ready for analysis by using popular programming languages and tools.  | ICABE | Practical assignments and projects involving the use of programming languages (e.g., Python, R) and tools (e.g., SQL) to collect, inspect, and clean health care data.  |
| Students will analyze data to find answers to the business question at hand. | ICABE | Assignments and projects requiring students to analyze health care data to extract meaningful insights and answers to specific business questions.  |
| Students will effectively communicate the results of the analysis to stakeholders. | ICABE | Written reports, presentations, and communication exercises where students articulate and present their findings to simulate real-world stakeholder interactions. |

| B.17. [Topical outline](#outline): Please do not include a full syllabus |
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| 1. Intro to Health care data analytics
	1. Overview, concepts and opportunities
	2. how analytics can help transform health care

 1. Health Care Data as an Organizational Asset
	1. Data information, knowledge and wisdom hierarchy
	2. How data can be an organizational asset
	3. List sources of health care data
	4. Challenges HCO’s face when using data for quality and performance improvement
	5. Organizational approach for effective use of data analytics, Role of data governance
2. Data preparation
	1. Accessing, investigating, preparing
	2. Common data types, Basic statistical terms
	3. Distributions using numerical measures such as mean, median and standard deviation
	4. Graphical representations of data including histograms, bar charts and scatterplots
3. Data analysis tools and techniques
	1. Process steps of data analytics and the tools used in each step
	2. Role of the data analyst
	3. Identify tools and techniques used to analyze and interpret healthcare data effectively
	4. Types of databases and how they are structured
	5. Key data warehouse concepts
4. Using Data to Solve Problems
	1. Measures, metrics, and indicators
	2. Purpose and use of Key Performance Indicators (KPI’s)
	3. How health care organizations use the IHI Triple Aim to prioritize performance goals
5. Communicating the results
	1. Ways to effectively display data for improved comprehension
	2. Appropriate options for displaying information
	3. Identify background information that should be included in reports
	4. What information stakeholders want and need to know
	5. Determine the best ways to communicate information with specific audiences
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## D. Signatures

##### D.1. Approvals:

##### Required from department chairs, program directors, and deans from the academic unit originating the proposal.

| Name | Position/affiliation | [Signature](#_Signature) | Date |
| --- | --- | --- | --- |
| Marianne Raimondo | Program Director of HCA (Health Care Administration) | *Marianne Raimondo MS, MSW, Ph. D* | 11/14/23 |
| Justin Feeney | Chair of Department of Management and Marketing | A signature of a person  Description automatically generated | 11/08/23 |
| Marianne Raimondo | Dean of School of Business | *Marianne Raimondo MS, MSW, Ph. D* | 11/14/23 |

##### D.2. [Acknowledgements](#acknowledge):

##### Required from all departments (and corresponding dean) impacted by the proposal. Signature does not indicate approval. Concerns should be brought to the attention of the graduate committee chair for discussion.

| Name | Position/affiliation | [Signature](#Signature_2) | Date |
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| Suzanne Mello-Stark | Chair of Department of Computer Science and Information Systems |  | 11/15/23 |