FITCHBURG STATE UNIVERSITY

New Graduate Course Proposal

Form Procedure
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Course Title

Course Title: Applied Data Analytics for Business Decision Making

Proposed Banner Abbreviation: Applied Data Analytics

Banner limit of 30 characters, including punctuation, spaces, and special characters.

Department/Committee Information

The main contact person for the Graduate Curriculum Committee should fill out this form.

Requestor Name: Brian Webb

Members of the Graduate Curriculum Committee:
Beverley Hollingsworth
Brian Webb
Denise Simion
Michael Greenwood
Marie Hunte
Marian Simion
Patrick Malone
Glenn King, Jr.
Renee Scapparone

Department / Unit Developing: Business Administration

Chair of Department for Program: Renee Scapparone   Chair Email: Renee Scapparone rscappar@

Academic Dean of Department or Program: Nancy Murray   Academic Dean E-mail: <Dr. Murray> nmurray5@fitch

Program Chair   The Program Chair for this request is among the people listed above.
* ⦿ Yes
  ◯ No

Course Information

Course Description

To develop practical skills using Tableau, one of the most widely used data visualization software tools on the market. This course is designed to provide students with an introduction to data literacy and quantitative skills using Tableau. It covers data fundamentals, statistical thinking, and communicating with data by creating and interpreting data visualizations to make business decisions. This course provides a mixture of lectures, tutorial reviews, group discussions, individual assignments using business cases, and an end-of-course exam. It is not expected that students will have previous knowledge of Tableau, data science, or analytics techniques.

Rationale and expected outcomes of offering the Course

Course Objectives
1. Install Tableau Desktop, connect to data, and explore the basic menus and features of the software.
2. Study basic data cleaning techniques and apply them to prepare data prior to using data for visualizations.
3. Develop and interpret data visualizations such as bar and line charts, pie charts, and maps using numerous features of Tableau Desktop.
4. Create an interactive dashboard that allows other business decision makers to explore data from one location.
5. Develop a Tableau Story that communicates analytical findings and informs the business audience.

6. Understand best practices of data visualization analysis, color, dashboard design, and mapping data.

Number of Credits: 03

Discipline Prefix or Prefixes: MGMT

Brief rationale if more than one prefix:
This a management course.

Level of Course:
- ○ 7000
- ○ 8000
- ◉ 9000

Brief rationale for level choice::
This is a graduate level course.

The course will be:
- ☑ Requirement
- ☐ Elective

Elective or Requirement Note/Special:

Is there a similar undergraduate course?
- ○ Yes
- ◉ No

Does this course affect offerings in any other department or program?
- ○ Yes
- ◉ No

Course Enollment

Expected Average Enrollment: 45

This course is a replacement for: Course # / Name

Has the course been offered previously as a "Topics" course?
- ○ Yes
- ◉ No

Is this an Extended Campus Course?
- ○ Yes
- ◉ No

Which semester will this course be offered for the first time?:   Fall 2022

How often thereafter to be offered?:
Every other term.

Course Requirements

Prerequisite course(s) if any: N/A

Additional Requirements

| Laboratory Hours: | N/A | Fieldwork Hours: | N/A |
| Pre-Practicum Hours: | N/A | Practicum Hours: | N/A |

Other Requirements (specify):   N/A

Syllabus Upload

New Course Syllabus Upload: Proposal-MBA-Data_Analytics-Course_2.pdf

Signatures

Click on the Submit Form button at the bottom of the page after you have signed the form. You should receive an email confirmation that your signature has been completed.

...3735353633
Brian Webb   12/06/2021
Requester Signature   Date

...3735323133
Renee Scapparone   12/09/2021
Department Chair Approval   Date

...3737313237
Nancy Murray   12/31/2021
Academic Dean Signature   Date

...3736303737
Becky Copper Glenz   01/03/2022
SGOCE Dean Signature   Date

Approval of the Graduate Council   Date

Approval of the President   Date

Notification

Reviewed by the Registrar: _____

Reviewed by the Library: _____

SGOCE Admin. Assistant
Signature   Electronically signed by Denise Bertrand on 12/21/2021 8:42:53 AM

COURSE NAME   Applied Data Analytics for Business Decision Making

INSTRUCTOR   Brian Webb, CFA, FRM

COURSE DESCRIPTION   To develop practical skills using Tableau, one of the most widely used data visualization software tools on the market. This course is designed to provide students with an introduction to data literacy and quantitative skills using Tableau. It covers data fundamentals, statistical thinking, and communicating with data by creating and interpreting data visualizations to make business decisions. This course provides a mixture of lectures, tutorial reviews, group discussions, individual assignments using business cases, and an end-of-course exam. It is not expected that students will have previous knowledge of Tableau, data science, or analytics techniques.

COURSE OBJECTIVES

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3. Develop and interpret data visualizations such as bar and line charts, pie charts, and maps using numerous features of Tableau Desktop.
4. Produce an interactive dashboard that allows other business decision makers to explore data from one location.
5. Develop a Tableau Story that communicates analytical findings and informs the business audience.
6. Understand best practices of data visualization analysis, color, dashboard design, and mapping data.

REQUIRED TEXT   *Learning Tableau 2020: Create effective data visualizations, build interactive visual analytics, and transform your organization, 4th Edition* by Joshua N. Milligan

	TOPICAL OUTLINE	ESTIMATED CONTACT HOURS
I	**Business Data Analytics Basics** • **Key Terminology** • **Scientific Method Concepts and Process** • **Business Analysis Concepts, Tools, and Process** • **4 Basic Types of Data Analytics** • **Data Analytics Spectrum** • **Data Scientists and Technology** • **Obtain Tableau Desktop and Tableau Prep Builder Licenses and Install Software** • **Tableau online help tutorials and software familiarization**	**4**
II	**Data Cleaning Techniques and Connecting to Data** • **Getting Started with Tableau Prep Builder** • **Steps to data preparation: Input, Cleaning, Group/Replace, Pivot, Aggregate, Joins & Unions, and Output.** • **Connect to data: Managing Metadata, Create Extracts, Saving and Publishing Data Sources**	**6**
III	**Exploring Data to Ask and Answer Questions Quickly** • **Get Started with Visual Analytics** • **Create Hierarchies, Sorting, and Grouping** • **Create Sets and Filtering Data for a Visualization**	**6**
IV	**Communicating with Data through Visualizations** • **Develop Bar Charts, Area Charts, Scatterplots, Histograms and Pie Charts** • **Create Point and Area Maps** • **Understand Which to Use Depending on the Question Asked of the Data**	**6**
V	**Dive Deeper into Data Analysis** • **Work with Parameters** • **Develop Calculated Fields** • **Use Data Blending in Tableau**	**6**

TOPICAL OUTLINE		ESTIMATED CONTACT HOURS
VI	**Creating Dashboards to Allow Others to Explore** • **Create a Business Dashboard** • **Dashboard Objects and Formatting** • **Dashboard Interactivity with Actions**	**6**
VII	**Develop a Tableau Story that Communicates Findings Effectively** • **Explore the Story Workspace** • **Best Practices for Creating Tableau Stories** • **Creating a Tableau Story Using Previously Built Visualizations**	**6**
	Total Sessions Expressed as Contact Hours	**40**

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RECAP

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IDENTIFICATION OF CPC TOPICS COVERED IN THIS COURSE	ESTIMATED CONTACT HOURS
Accounting	1
Marketing	1
Finance	1
Management Management Principals Organizational Behavior Human Resource Management Operations Management	 1 1 1 1
Economic/Social/Legal Environment Legal Environment of Business Economics Business Ethics	 1 1 1
Decision-Support Tools Information Systems Quantitative Methods/Statistics	 35 10
International/Global Dimensions of Business	1
Integrative Experience	4
Total (estimate of contact hours)	**60**