

CURRICULUM PROPOSAL

APPROVAL PAGE

Proposal Title: IS program name and course changes

College: Business Administration

Department: Accounting and Information Systems

DEPARTMENT CHAIR- Zuobao Wei

I have read the enclosed proposal and approve this proposal on behalf of the department.



Signature

11/10/2021

Date

COLLEGE CURRICULUM COMMITTEE CHAIR – Feixue Xie

I have read the enclosed documents and approve the proposal on behalf of the college curriculum committee.



Signature

11/11/2021

Date

COLLEGE DEAN – James Payne

I have read the enclosed documents and approve the proposal on behalf of the college. I certify that the necessary funds will be allocated by the college in support of this proposal.



Signature

11/11/21

Date

**Notification Form for Administrative Changes
Texas Higher Education Coordinating Board**

Directions: An institution shall use this form to notify the Board of an administrative change.

Information: Contact the Division of Academic Quality and Workforce at 512/427-6200 for more information.

Administrative Information

1. **Institution:**

The University of Texas at El Paso

2. **Description of Administrative Change:** *(e.g., create a new Department of Sociology; merge existing College of Science and College of Liberal Arts into a new College of Arts and Science, etc.)*

Change in program name from BBA in Information Systems (IS) to BBA in Information Systems and Business Analytics (ISBA)

3. **Program Inventory:** *Show how the change would appear on the Coordinating Board's Program Inventory. Include all degree programs and corresponding Texas CIP codes affected by the change but do not include proposed administrative unit codes for the new academic unit(s). Board staff will assign the new administrative unit codes.*

College of Business Administration
Department of Accounting and Information Systems
BBA in Information Systems and Business Analytics
CIP 11.0103.00

4. **Implementation Date:**

Fall 2022

5. **Phase Out Date (if applicable):** *(MM/DD/YY)*

6. **Contact Person:** *Provide contact information for the person who can answer specific questions about the program.*

Name: Dr. Faith Xie

Title: Associate Dean

E-mail: fxie@utep.edu

Phone: (915) 747-7788

UNDERGRADUATE CURRICULUM CHANGE MEMO

Date: 11/9/2021
From: Information Systems Faculty
Through: Zuobao Wei, Accounting and Information Systems
Through: James Payne, College of Business
To: Chair, Undergraduate Curriculum Committee

Proposal Title: Curriculum Update in IS Program

Explain the nature of the change and the rationale.

The BBA in Information Systems (IS) went through an external program review in AY2020-2021. Based on the feedback from the reviewers, the IS faculty have restructured the program to incorporate best practices, modern technologies and techniques in its curriculum, and provide students with relevant business analytics skills.

The restructured program includes the changes of the followings:

- Change of program title from BBA in IS to BBA in Information Systems and Business Analytics (ISBA), with catalog changes
- Addition of CIS 3315, CIS 3330, CIS 3340, CIS 4301.
- Course changes (title and/or course description update) for CIS 4399, CIS 4396, CIS 4385, CIS 4370, CIS 4365, and CIS 3350.

BBA Information Systems and Business Analytics

Degree Plan

Required Credits: 120

| Code | Title | Hours |
|---|--------------------------------|-------|
| Business Designated Core (All courses require a C or better.) | | |
| Complete the Business Designated Core requirements. | | |
| University Core Curriculum | | |
| Complete the University Core Curriculum requirements. | | 42 |
| Business Foundation (All courses require a C or better.) | | |
| Required Courses: | | |
| ACCT 2301 | Principles of Accounting I | 3 |
| ACCT 2302 | Principles of Accounting II | 3 |
| ECON 2304 | Principles of Economics | 3 |
| QMB 2301 | Fundamentals of Bus Statistics | 3 |
| Math Elective: | | |
| Select one of the following: | | 3-4 |
| MATH 1411 | Calculus I | |
| MATH 2301 | Math for Social Sciences II | |
| Business Core | | |
| Required Courses: | | |
| BLAW 3301 | Legal Environment of Business | 3 |

| Code | Title | Hours |
|------------------------------|--------------------------------|-------|
| BUSN 3304 | Global Business Environment | 3 |
| or BUSN 3305 | Global Busn Environ-Study Away | |
| CIS 3345 | Management Information Systems | 3 |
| FIN 3310 | Business Finance | 3 |
| MGMT 3303 | Intro-Mgmt/Organizational Beha | 3 |
| MGMT 4300 | Strategic Management | 3 |
| MKT 3300 | Principles of Marketing | 3 |
| OSCM 3321 | Production/Operations Mgmt | 3 |
| QMB 3301 | Quantitative Methods in Bus | 3 |
| ACCT 3321 | Intermediate Accounting I | 3 |
| ECON 3310 | Managerial Economics | 3 |
| or ECON 3320 | Money and Banking | |

Computer Info Systems Major

Information Systems Core Requirements

| | | |
|--------------------------|---|-------------------|
| CIS 3301 | Intro to Data Process & Prog | 3 |
| CIS 3315 | Business Analytics Applications | 3 |
| CIS 3330 | Analytics Programming Tools | 3 |
| CIS 3350 | Systems Analysis and Design | 3 |
| CIS 4320 | Advanced Programming | 3 |
| CIS 4301 | Busn Intelligence and Decision Modeling | 3 |
| CIS 4365 | Database Management | 3 |
| CIS 4370 | Business Data Communications | 3 |
| CIS 4385 | Info Security Systems | 3 |

| Code | Title | Hours |
|---|--|------------|
| | | |
| | <u>Select three hours of CIS electives</u> | <u>3</u> |
| <u>CIS 3340</u> | <u>Busn Data Analysis & Visual</u> | <u>3</u> |
| <u>CIS 4370</u> | <u>Data Comm & Network Mgmt</u> | <u>3</u> |
| <u>CIS 4385</u> | <u>Info Sec & Cybersec Analytics</u> | <u>3</u> |
| <u>CIS 4399</u> | <u>Current Topics in Busn Analy & Info Sys</u> | <u>3</u> |
| <u>QMB 3350</u> | <u>Business Analytics</u> | <u>3</u> |
| <u>CIS 4396</u> | <u>Internship in Infor Sys & Busn Analy</u> | <u>3</u> |
| Select twelve hours business minor or certificate | | 12 |
| Total Hours | | 120 |

COURSE ADD

All fields below are required

College : Business Administration

Department : Accounting & Information Systems

Rationale for adding the course:

This course is added to reflect the changes in the restructured BBA in Information Systems and Business Analytics program.

All fields below are required

Subject Prefix and # CIS 3315

Title (29 characters or fewer): Busi Analytics Applications

Dept. Administrative Code : 0050

CIP Code 11.0103.00

Departmental Approval Required ☐ Yes ☒ No

Course Level ☒ UG ☐ GR ☐ DR ☐ SP

Course will be taught: ☒ Face-to-Face ☐ Online ☐ Hybrid

How many times may the course be taken for credit? (Please indicate 1-9 times): 1

Should the course be exempt from the "Three Repeat Rule?" ☐ Yes ☒ No

Grading Mode: ☒ Standard ☐ Pass/Fail ☐ Audit

Description (600 characters maximum):

This is a hands-on course that familiarizes students with the process of data analytics. Students will learn to process, manipulate, analyze and visualize data, and make data-driven decisions as they solve real-world problems. Different analytics tools will be used to master skills including data import, retrieval, cleaning, transformation, visualization, data analysis, optimization analysis and building of dashboards.

Contact Hours (per week): 3 Lecture Hours Lab Hours Other

Types of Instruction (Schedule Type): Select all that apply

- | | |
|---|--|
| <input checked="" type="checkbox"/> A Lecture | <input type="checkbox"/> H Thesis |
| <input type="checkbox"/> B Laboratory | <input type="checkbox"/> I Dissertation |
| <input type="checkbox"/> C Practicum | <input type="checkbox"/> K Lecture/Lab Combined |
| <input type="checkbox"/> D Seminar | <input type="checkbox"/> O Discussion or Review (Study Skills) |
| <input type="checkbox"/> E Independent Study | <input type="checkbox"/> P Specialized Instruction |
| <input type="checkbox"/> F Private Lesson | <input type="checkbox"/> Q Student Teaching |

Fields below if applicable

If course is taught during a part of term in addition to a full 16-week term please indicate the length of the course (ex., 8 weeks):

TCCN (Use for lower division courses) :

| Prerequisite(s): | | |
|----------------------------------|--|---|
| Course Number/ Placement Test | Minimum Grade Required/ Test Scores | Concurrent Enrollment Permitted? (Y/N) |
| /A | N/A | N/A |
| QMB 2301 | C | |
| ACCT 2301 | C | |
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| Corequisite Course(s): | Equivalent Course(s): |
|------------------------|-----------------------|
| N/A | N/A |
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| Restrictions: | |
|----------------|---|
| Classification | |
| Major | ACCT, BAMA, BSAD, CIS, ECON, FIN, GENB, INBU, INFS, IS, MGMT, MKT, OSCM |

THE UNIVERSITY OF TEXAS AT EL PASO
Department of Accounting & Information Systems

NAME: XXXX
Office Room: XXXX
Phone: XXXX; Email: XXXX

CSI 3315 Business Analytics Applications
Course Syllabus, TERM XXXX

Class Hours: XXXX
Office Hours: after class and by appointment
Required Text: **Data Analysis with Microsoft Excel by John Anderson, et al, 2nd edition, 2021.**

Course Description: This is a hands-on course that familiarizes students with the process of data analytics. Students will learn to process, manipulate, analyze and visualize data, and make data-driven decisions as they solve real-world problems. Different analytics tools will be used to master skills including data import, retrieval, cleaning, transformation, visualization, data analysis, optimization analysis and building of dashboards.

Grade Components: Grades will be based on a series of quizzes, exams, projects, and presentations.

Attendance: Students are strongly encouraged to attend each class session and participate in class discussions. Students who attend class regularly perform substantially better in the exams than those who do not.

Tentative Course Outline:

- 1: Introduction to Data Analysis with Excel
- 2: Conditional Aggregate Functions: A Vital Part of Business Intelligence
- 3: Multidimensional Analysis
- 4: Advanced Visualization
- 5: Referencing Functions and Date Functions
- 6: Conditional Formatting Variations
- 7: Building Dashboards in Excel
- 8: Power Query and Power Pivot—Microsoft Windows Only
- 9: Analyzing Data with PivotTables
- 10: Optimization Analysis
- 11: Designing and Building a Database
- 12: Introduction to SQL
- 13: Writing Queries with Restrictions
- 14: Joining Multiple Tables in the Same Query

Important Notes:

1. In addition to the announced office hours, students may stop by my office at anytime (or email me) to ask questions.
2. If you have any trouble with the class, please get help ASAP. Do not let the problems buildup.
3. If you have a disability and need classroom accommodations, please contact The Center for Accommodations and Support Services (CASS) at 747-5148, or by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at www.sa.utep.edu/cass.
4. **Academic integrity**. Academic integrity is an extremely serious matter. All students are expected to comply with University rules and regulations on academic integrity and honesty. Disciplinary sanctions may be imposed for violations of these rules and regulations. Because this class is a combination of quizzes and written case reports, extra care will be taken to assure the integrity of the teaching/learning process.
5. This syllabus is tentative.

COURSE ADD

All fields below are required

College : Business Administration

Department : Accounting & Information Systems

Rationale for adding the course:

The application of open source languages for transforming data in order to execute advanced analytics is cornstone to analytic initiatives. Python is the dominate open-source language for data manipulation and analytics.

All fields below are required

Subject Prefix and # CIS 3330

Title (29 characters or fewer): Analytic Programming Tools

Dept. Administrative Code : 0050

CIP Code 11.0103.00

Departmental Approval Required ☐ Yes ☒ No

Course Level ☒ UG ☐ GR ☐ DR ☐ SP

Course will be taught: ☒ Face-to-Face ☐ Online ☐ Hybrid

How many times may the course be taken for credit? (Please indicate 1-9 times): 1

Should the course be exempt from the "Three Repeat Rule?" ☐ Yes ☒ No

Grading Mode: ☒ Standard ☐ Pass/Fail ☐ Audit

Description (600 characters maximum):

Introduction to algorithmic problem-solving logic with Python; use of data structures and programming constructs to manipulate data and solve business problems. In this course, students will start with basic Python skills and data structures, learn how to load data from different sources, rearrange , aggregate, analyze, and visualize data to create high-value information for business applications.

Contact Hours (per week): 3 Lecture Hours Lab Hours Other

Types of Instruction (Schedule Type): Select all that apply

- | | |
|---|--|
| <input checked="" type="checkbox"/> A Lecture | <input type="checkbox"/> H Thesis |
| <input type="checkbox"/> B Laboratory | <input type="checkbox"/> I Dissertation |
| <input type="checkbox"/> C Practicum | <input type="checkbox"/> K Lecture/Lab Combined |
| <input type="checkbox"/> D Seminar | <input type="checkbox"/> O Discussion or Review (Study Skills) |
| <input type="checkbox"/> E Independent Study | <input type="checkbox"/> P Specialized Instruction |
| <input type="checkbox"/> F Private Lesson | <input type="checkbox"/> Q Student Teaching |

Fields below if applicable

If course is taught during a part of term in addition to a full 16-week term please indicate the length of the course (ex., 8 weeks):

TCCN (Use for lower division courses) :

| Prerequisite(s): | | |
|----------------------------------|--|---|
| Course Number/ Placement Test | Minimum Grade Required/ Test Scores | Concurrent Enrollment Permitted? (Y/N) |
| /A | N/A | N/A |
| QMB 2301 | C | |
| ACCT 2301 | C | |
| CIS 3301 | C | |
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| Corequisite Course(s): | Equivalent Course(s): |
|------------------------|-----------------------|
| N/A | N/A |
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| Restrictions: | |
|----------------|---|
| Classification | |
| Major | ACCT, BAMA, BSAD, CIS, ECON, FIN, GENB, INBU, INFS, IS, MGMT, MKT, OSCM |

THE UNIVERSITY OF TEXAS AT EL PASO
Department of Accounting and Information Systems

NAME: XXXX
Office Room: XXXX
Phone: XXXX; Email: XXXX

CIS 3330 Analytic Programming Tools
Course Syllabus, TERM XXXX

Class Hours: XXXX
Office Hours: after class and by appointment
Required Text: TBD

Course Description: Introduction to algorithmic problem-solving logic with Python; use of data structures and programming constructs to manipulate data and solve business problems. In this course, students will start with basic Python skills and data structures, learn how to load data from different sources, rearrange, aggregate, analyze, and visualize data to create high-value information for business applications.

Course Objectives:

Upon successful completion of this course, the students will be able to:

- understand and apply the concepts and methods of business analytics;
- understand the application of advanced algorithms for exposing insights, including:
 - statistical aggregation functions
 - descriptive statistics
 - predictive and forecasting algorithms
 - exploratory algorithms;
- create Python programs to source data from csv files
- leverage various Python data structures, e.g. lists, dictionaries, and data frames for data manipulation and analysis
- apply data to algorithms for business insight;

Teaching Methods:

1. Lectures: Important material from the text and outside sources will be covered in class. Students should plan to take careful notes as not all material can be found in the texts or readings. Discussion is encouraged as is student-procured outside material relevant to topics being covered.
2. Technology @ Work: Students are expected to participate in hands-on lab exercises. Lab materials will be provided.
3. Exams: Three learning assessments (Exams) will be given.

Evaluation:

Grades are not given; they are **EARNED**. You must work for it. Your grade will be based on results rather than on effort—your performance is an indicator of your ability to master the topic.

Decide to work **NOW** for the grade you want. Students who keep up with the materials, do all of the assignments, and participate in the learning experiences typically do well.

Your grade will be based on the total number of points that you earn for each assignment group. The weight associated with each of the graded areas, and the total points required to earn the various grades, are shown below.

| Assignment Group | Weight |
|-------------------------------|-------------|
| Exams | 70% |
| Technology @ Work Labs | 30% |
| Total | 100% |

Exams: Each exam will consist of a combination of multiple choice and True/False questions which may involve the concepts discussed in your textbook, materials covered in your assigned projects and labs, and operation procedures and rules of the System being studied. Each exam will contain questions from the material covered since the last exam. Make up exams are only allowed in the case that the student provides an evidence of valid reasons such as health issues or unexpected events in the life of the student. A make-up exam may be held within one week from the original exam date.

Technology @ Work Lab Exercises:

There will be 4 lab exercises using Python and relevant libraries.

Tentative Course Outline:

| DATES | TOPICS |
|------------|---|
| Week #1: | Business Analytics and the application of advanced algorithms |
| Week #2: | Business Analytics and the application of advanced algorithms |
| Week #3: | Python Review |
| Week #4: | Technology @ Work: Developing basic Python programs |
| Week #5: | - EXAM 1 - Sourcing CSV files into List data structures using Python |
| Week #6: | - The application of statistical aggregation functions and descriptive statistics |
| Week #7: | Technology @ Work: Create Python programs for sourcing a large CSV data set into lists and applying statistical aggregation functions for business insight |
| Week #8: | - Leveraging Python dictionaries and data frames for analysis |
| Week #9: | - Leveraging Python dictionaries and data frames for analysis |
| Week #10: | Technology @ Work: Create Python programs that leverage dictionaries and data frames for statistical aggregation and descriptive statistics |
| Week #11: | - EXAM 2 - The application of predictive & forecast algorithms |
| Week #12: | - The application of predictive & forecast algorithms |
| Week #13: | - The application of exploratory algorithms |
| Week #14: | Technology @ Work: Developing advanced Python programs that leverage advanced algorithms for high-value business information. |
| Week #15: | Semester Review |
| Final Exam | - EXAM 3 |

Important Notes:

1. In addition to the announced office hours, students may stop by my office at anytime (or email me) to ask questions.
2. If you have any trouble with the class, please get help ASAP. Do not let the problems buildup.
3. If you have a disability and need classroom accommodations, please contact The Center for Accommodations and Support Services (CASS) at 747-5148, or by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at www.sa.utep.edu/cass.
4. **Academic integrity**. Academic integrity is an extremely serious matter. All students are expected to comply with University rules and regulations on academic integrity and honesty. Disciplinary sanctions may be imposed for violations of these rules and regulations. Because this class is a combination of quizzes and written case reports, extra care will be taken to assure the integrity of the teaching/learning process.
5. This syllabus is tentative.

COURSE ADD

All fields below are required

College : Business Administration

Department : Accounting & Information Systems

Rationale for adding the course:

Skills are required for analyzing and visualizing business data. Analysts are required to apply statistical techniques for evaluating data quality, exposing insights, interpreting the results, and presenting the findings to decision makers.

All fields below are required

Subject Prefix and # CIS 3340

Title (29 characters or fewer): Busi Data Analysis & Visuali

Dept. Administrative Code : 0050

CIP Code 11.0103.00

Departmental Approval Required ☐ Yes ☒ No

Course Level ☒ UG ☐ GR ☐ DR ☐ SP

Course will be taught: ☒ Face-to-Face ☐ Online ☐ Hybrid

How many times may the course be taken for credit? (Please indicate 1-9 times): 1

Should the course be exempt from the "Three Repeat Rule?" ☐ Yes ☒ No

Grading Mode: ☒ Standard ☐ Pass/Fail ☐ Audit

Description (600 characters maximum):

This course teaches students how to work with different types of data and utilize analytical tools to solve business problems. Students will identify data requirements, utilize statistical techniques to evaluate data quality and completeness, prepare data for analysis, and transform data into useful information. Students use tools like SAS, Tableau and SQL Server for data prep and analysis. Students learn how to analyze and interpret insights through hands-on activities and technology lab exercises.

Contact Hours (per week): 3 Lecture Hours Lab Hours Other

Types of Instruction (Schedule Type): Select all that apply

- | | |
|---|--|
| <input checked="" type="checkbox"/> A Lecture | <input type="checkbox"/> H Thesis |
| <input type="checkbox"/> B Laboratory | <input type="checkbox"/> I Dissertation |
| <input type="checkbox"/> C Practicum | <input type="checkbox"/> K Lecture/Lab Combined |
| <input type="checkbox"/> D Seminar | <input type="checkbox"/> O Discussion or Review (Study Skills) |
| <input type="checkbox"/> E Independent Study | <input type="checkbox"/> P Specialized Instruction |
| <input type="checkbox"/> F Private Lesson | <input type="checkbox"/> Q Student Teaching |

Fields below if applicable

If course is taught during a part of term in addition to a full 16-week term please indicate the length of the course (ex., 8 weeks):

TCCN (Use for lower division courses) :

| Prerequisite(s): | | |
|----------------------------------|--|---|
| Course Number/ Placement Test | Minimum Grade Required/ Test Scores | Concurrent Enrollment Permitted? (Y/N) |
| /A | N/A | N/A |
| QMB 2301 | C | |
| ACCT 2301 | C | |
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| Corequisite Course(s): |
|------------------------|
| N/A |
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| Equivalent Course(s): |
|-----------------------|
| N/A |
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| Restrictions: | |
|----------------|--|
| Classification | |

| | |
|-------|---|
| Major | ACCT, BAMA, BSAD, CIS, ECON, FIN, GENB, INBU, INFS, IS, MGMT, MKT, OSCM |
|-------|---|

THE UNIVERSITY OF TEXAS AT EL PASO
Department of Accounting and Information Systems

NAME: XXXX
Office Room: XXXX
Phone: XXXX; Email: XXXX

CIS 3340 Business Data Analysis & Visualization
Course Syllabus, TERM XXXX

Class Hours: XXXX
Office Hours: after class and by appointment
Required Text: TBD

Course Description: This course teaches students how to work with different types of data and utilize analytical tools to solve business problems. Students will identify data requirements, utilize statistical techniques to evaluate data quality and completeness, prepare data for analysis, and transform data into useful information. Students use tools like SAS, Tableau and SQL Server for data prep and analysis. Students learn how to analyze and interpret insights through hands-on activities and technology lab exercises.

Course Objectives:

Upon successful completion of this course, the students will be able to:

- understand broad range of data types and data analysis tools and techniques;
- understand the data preparation required for analysis, including:
 - identify data requirements from business use cases
 - leverage statistical techniques and technology to profile data and evaluate data quality
 - manipulate and transform data into structures for analysis
- understand the role of visualization in data analysis
- utilize basic Structure Query Language (SQL)
- leverage leading technologies for data analysis and visualization

Teaching Methods:

1. Lectures: Important material from the text and outside sources will be covered in class. Students should plan to take careful notes as not all material can be found in the texts or readings. Discussion is encouraged as is student-procured outside material relevant to topics being covered.
2. Technology @ Work: Students are expected to participate in hands-on lab exercises. Lab materials will be provided.
3. Exams: Three learning assessments (Exams) will be given.

Evaluation:

Grades are not given; they are **EARNED**. You must work for it. Your grade will be based on results rather than on effort—your performance is an indicator of your ability to master the topic.

Decide to work **NOW** for the grade you want. Students who keep up with the materials, do all of the assignments, and participate in the learning experiences typically do well.

Your grade will be based on the total number of points that you earn for each assignment group. The weight associated with each of the graded areas, and the total points required to earn the various grades, are shown below.

| Assignment Group | Weight |
|-------------------------------|-------------|
| Exams | 70% |
| Technology @ Work Labs | 30% |
| Total | 100% |

Exams: Each exam will consist of a combination of multiple choice and True/False questions which may involve the concepts discussed in your textbook, materials covered in your assigned projects and labs, and operation procedures and rules of the System being studied. Each exam will contain questions from the material covered since the last exam. Make up exams are only allowed in the case that the student provides an evidence of valid reasons such as health issues or unexpected events in the life of the student. A make-up exam may be held within one week from the original exam date.

Technology @ Work Lab Exercises:

There will be 4 lab exercises using MSSQL, Base SAS, and Tableau.

Tentative Course Outline:

| DATES | TOPICS |
|------------|--|
| Week #1: | The role of data analysis and visualization in modern organizations |
| Week #2: | Data types and data analysis tools and techniques |
| Week #3: | - Data types and data analysis tools and techniques - Understanding basic SQL |
| Week #4: | Technology @ Work: Conduct basic data profiling and data quality analysis using SQL |
| Week #5: | - EXAM 1 - Data preparation and transformation using SQL |
| Week #6: | - Data preparation and transformation using SQL |
| Week #7: | Technology @ Work: Develop SQL statements for data preparation and transformation. |
| Week #8: | - Applying SAS Procedures for data analysis and preparation |
| Week #9: | - Applying SAS Procedures for visualization |
| Week #10: | Technology @ Work: Creating SAS programs for data analysis, preparation, and visualization. |
| Week #11: | - EXAM 2 - The role of visualization in data analysis |
| Week #12: | - The role of visualization in data analysis |
| Week #13: | - Visualizations and Tableau |
| Week #14: | Technology @ Work: Develop advanced visualizations using Tableau |
| Week #15: | Semester Review |
| Final Exam | - EXAM 3 |

Important Notes:

1. In addition to the announced office hours, students may stop by my office at anytime (or email me) to ask questions.
2. If you have any trouble with the class, please get help ASAP. Do not let the problems buildup.
3. If you have a disability and need classroom accommodations, please contact The Center for Accommodations and Support Services (CASS) at 747-5148, or by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at www.sa.utep.edu/cass.
4. **Academic integrity**. Academic integrity is an extremely serious matter. All students are expected to comply with University rules and regulations on academic integrity and honesty. Disciplinary sanctions may be imposed for violations of these rules and regulations. Because this class is a combination of quizzes and written case reports, extra care will be taken to assure the integrity of the teaching/learning process.
5. This syllabus is tentative.

COURSE ADD

All fields below are required

College : Business Administration

Department : Accounting & Information Systems

Rationale for adding the course:

This course is added to reflect the changes in the restructured BBA in Information Systems and Business Analytics program.

All fields below are required

Subject Prefix and # CIS 4301

Title (29 characters or fewer): Busi Intel and Decis Modeling

Dept. Administrative Code : 0050

CIP Code 11.0103.00

Departmental Approval Required ☐ Yes ☒ No

Course Level ☒ UG ☐ GR ☐ DR ☐ SP

Course will be taught: ☒ Face-to-Face ☐ Online ☐ Hybrid

How many times may the course be taken for credit? (Please indicate 1-9 times): 1

Should the course be exempt from the "Three Repeat Rule?" ☐ Yes ☒ No

Grading Mode: ☒ Standard ☐ Pass/Fail ☐ Audit

Description (600 characters maximum):

The focus of this course is on popular analytics models (predictive, optimization, prescriptive) used in different industries and functional areas. Students will learn how to formulate, solve, and interpret different optimization and simulation models. Decision modeling processes will be covered, which will enable students to translate practical decision problems into quantitative models; analyze the properties of decision models; apply appropriate decision models; execute models with software tools; and interpret the model outputs for intelligent decisions.

Contact Hours (per week): 3 Lecture Hours Lab Hours Other

Types of Instruction (Schedule Type): Select all that apply

- | | |
|---|--|
| <input checked="" type="checkbox"/> A Lecture | <input type="checkbox"/> H Thesis |
| <input type="checkbox"/> B Laboratory | <input type="checkbox"/> I Dissertation |
| <input type="checkbox"/> C Practicum | <input type="checkbox"/> K Lecture/Lab Combined |
| <input type="checkbox"/> D Seminar | <input type="checkbox"/> O Discussion or Review (Study Skills) |
| <input type="checkbox"/> E Independent Study | <input type="checkbox"/> P Specialized Instruction |
| <input type="checkbox"/> F Private Lesson | <input type="checkbox"/> Q Student Teaching |

Fields below if applicable

If course is taught during a part of term in addition to a full 16-week term please indicate the length of the course (ex., 8 weeks):

TCCN (Use for lower division courses) :

| Prerequisite(s): | | |
|----------------------------------|--|---|
| Course Number/ Placement Test | Minimum Grade Required/ Test Scores | Concurrent Enrollment Permitted? (Y/N) |
| /A | N/A | N/A |
| QMB 2301 | C | |
| ACCT 2301 | C | |
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| Corequisite Course(s): |
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| N/A |
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| Equivalent Course(s): |
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| N/A |
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| Restrictions: | |
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| Classification | |

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|-------|---|
| Major | ACCT, BAMA, BSAD, CIS, ECON, FIN, GENB, INBU, INFS, IS, MGMT, MKT, OSCM |
|-------|---|

THE UNIVERSITY OF TEXAS AT EL PASO
Department of Accounting & Information Systems

NAME: XXXX
Office Room: XXXX
Phone: XXXX; Email: XXXX

CSI 4301 - Business Intelligence and Decision Modeling
Course Syllabus, TERM XXXX

Class Hours: XXXX
Office Hours: after class and by appointment
Required Text: **Data Analytics and Machine Learning by Mark Keith**
Business Intelligence, Analytics, and Data Science: A Managerial Perspective,
4th Edition by Ramesh Sharda, Dursun Delen, Efraim Turban, 2018

Course Description: The focus of this course is on popular analytics models (predictive, optimization, prescriptive) used in different industries and functional areas. Students will learn how to formulate, solve, and interpret different optimization and simulation models. Decision modeling processes will be covered, which will enable students to translate practical decision problems into quantitative models; analyze the properties of decision models; apply appropriate decision models; execute models with software tools; and interpret the model outputs for intelligent decisions.

Course Objectives

After taking this course, students will be able to:

- Understand the role and value of data in business decisions,
- Identify and assess opportunities for creating value using data-driven decision making,
- Identify and utilize the right data-centric tools and techniques
- Interpret the output of tools and techniques and run sensitivity analyses to improve business decisions.
- Perform descriptive Analytics, predictive Analytics and prescriptive Analytics

Grade Components: Grades will be based on a series of quizzes, exams, projects, and presentations.

Attendance: Students are strongly encouraged to attend each class session and participate in class discussions. Students who attend class regularly perform substantially better in the exams than those who do not.

Tentative Course Outline:

- 1: Introduction to Data Mining
- 2: Data Mining Project Methodology
- 3: Visualization: Theory and Design
- 4: Data-driven Inductive Reasoning
- 5: Analyticalization of Business/The Business Intelligence and Analytics Life Cycle
- 6: Decision Making, Economic Utility, and Decision Optimization
- 7: Artificial Intelligence in Business
- 8: Multivariate Prediction
- 8: Machine Learning (ML) Studio: Introduction to Pipelines
- 9: ML Studio: Data Cleaning and Preparation
- 10: ML Studio: Selecting the Features
- 11: ML Studio: Optimizing Model Fit and Performance
- 12: ML Studio: Text Analytics
- 13: Modeling: Recommendation Engines
- 14: Project: Putting It All Together

Important Notes:

1. In addition to the announced office hours, students may stop by my office at anytime (or email me) to ask questions.
2. If you have any trouble with the class, please get help ASAP. Do not let the problems buildup.
3. If you have a disability and need classroom accommodations, please contact The Center for Accommodations and Support Services (CASS) at 747-5148, or by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at www.sa.utep.edu/cass.
4. **Academic integrity**. Academic integrity is an extremely serious matter. All students are expected to comply with University rules and regulations on academic integrity and honesty. Disciplinary sanctions may be imposed for violations of these rules and regulations. Because this class is a combination of quizzes and written case reports, extra care will be taken to assure the integrity of the teaching/learning process.
5. This syllabus is tentative.

COURSE CHANGE FORM

COPY OF CATALOG PAGE NOT REQUIRED

All fields below are required

College : College of Business Administration
Information Systems

Department : Accounting and

Rationale for changing the course:
To better reflect course content.

All fields below are required

Subject Prefix and number CIS 3350

Course Title Systems Analysis and Design.

| Change | From | To |
|--------------------|---|--|
| Ex. Prerequisite | Ex. POLS 2310 | Ex. POLS 2312 |
| Title | Systems Analysis and Design. | Systems Analysis & Design for Business Analytics |
| course description | This course provides a methodical approach to Systems Analysis and Design. Topics include business cases, requirements modeling, data and process modeling, and development strategies, with focus on object modeling and project management. Students also learn about output and user interface design, data design, systems architecture, implementations, and systems operations, support, and security. Students are required to use CASE/OOM tools to collectively analyze business situations and design computer -based Computer Information Systems solutions. | This course uses the concepts of System Theory to teach the would-be analysts how to analyze, design and implement information systems to solve business problems. Topics include analyzing the business systems, requirements modeling, data and process modeling, security, and development strategies, with an increased focus on object modeling and project management. |
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These changes will be reflected in Banner, Goldmine, and the catalog

COURSE CHANGE FORM

COPY OF CATALOG PAGE NOT REQUIRED

All fields below are required

College : College of Business Administration
Information Systems

Department : Accounting and

Rationale for changing the course:
To better reflect modern technologies and course content

All fields below are required

Subject Prefix and number CIS 4365

Course Title Database Management

| Change | From | To |
|--------------------|--|---|
| Ex. Prerequisite | Ex. POLS 2310 | Ex. POLS 2312 |
| course description | The course introduces students to issues related to database and database management systems (DBMS). Students gain technical backgrounds in planning, analysis, logical design, physical design, implementation, and maintenance of a database. Students are provided hands-on training in data base design, development, and implementation using a relational DBMS software. Emphasis is placed on the problems and issues of managing in a data base environment. | A practical course covering the concepts of relational database management systems (RDBMS) and Structured Query Language (SQL). Topics include conceptual design, relational systems design, normalization and denormalization processes, SQL, and its components such as data manipulation commands. |
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College : College of Business Administration
Information Systems

Department : Accounting and

Rationale for changing the course:
To better reflect modern architecture and course content

All fields below are required

Subject Prefix and number CIS 4370

Course Title Business Data Communications.

| Change | From | To |
|--------------------|---|---|
| Ex. Prerequisite | Ex. POLS 2310 | Ex. POLS 2312 |
| Title | Business Data Communications. | Data Communication & Network Management |
| Course description | An introduction to network components, transmission links, link control, protocols, network topologies, error detection and correction methods, network management and security, local area networks, wireless networks, TCP/IP internetworking, virtual private networks, networked applications, cloud computing, BYOD, use of the internet business. | This course introduces theory, concepts and applications of data communications technologies in a today's business environment. It includes and introduction to personal, local and wide area network architectures as well as wired, wireless, and mobile technology standards employed in those architectures. The course also introduces the business issues related to network and data security and covers methodologies and technologies commonly employed to protect corporate data assets. Finally, the course explores emerging standards and other related management considerations such as cloud computing. |
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COURSE CHANGE FORM

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All fields below are required

College : College of Business Administration
Information Systems

Department : Accounting and

Rationale for changing the course:
To better reflect modern technology and course content

All fields below are required

Subject Prefix and number CIS 4385

Course Title Info Security Systems.

| Change | From | To |
|--------------------|---|--|
| Ex. Prerequisite | Ex. POLS 2310 | Ex. POLS 2312 |
| Title | Info Security Systems. | Information Security & Cybersecurity Annalytics |
| Course description | The course introduces students to the theory and practice of security, aspects of information systems security such as access control, hacks and attacks, systems and program intrusion detection, cryptography, networks and distributed systems security, worms and viruses, and internal secure applications. Students explore key security threats, solutions and legal issues, and implement network security tools in hands-on lab exercises. Upon completion, students will have an understanding of computer and network security issues. | This course presents different methods on how organizations are using artificial intelligence (AI) to prevent various cyber incidents. The course explores the cybersecurity challenges and uses AI tools to mitigate them. Coverage also includes an in-depth coverage of organizational information security concepts such as governance, policy, risk management frameworks, business continuity planning, security compliance, ethics, etc. Concepts are covered using both case studies and cybersecurity tools. Finally, the course will explore emerging standards and managerial issues in security. |
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COURSE CHANGE FORM

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All fields below are required

College : College of Business Administration
Information Systems

Department : Accounting and

Rationale for changing the course:
to better reflect course content

All fields below are required

Subject Prefix and number CIS 4396

Course Title Internship in CIS.

| Change | From | To |
|------------------|--------------------|---|
| Ex. Prerequisite | Ex. POLS 2310 | Ex. POLS 2312 |
| Name | Internship in CIS. | Internship in Information Sytems & Business Analytics |
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COURSE CHANGE FORM

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All fields below are required

College : College of Business Administration
Information Systems

Department : Accounting and

Rationale for changing the course:
To better reflect course content

All fields below are required

Subject Prefix and number CIS 4399

Course Title Current Topics.

| Change | From | To |
|------------------|-----------------|---|
| Ex. Prerequisite | Ex. POLS 2310 | Ex. POLS 2312 |
| Name | Current Topics. | Current Topics in Business Analytcis & Information Systems |
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These changes will be reflected in Banner, Goldmine, and the catalog

From: [Gibson, John D](#)
To: [Xie, Feixue](#)
Subject: Re: QMB 3350 as an elective for BBA in ISBA
Date: Wednesday, November 10, 2021 12:26:51 PM

Faith,

A majority of the faculty have responded "Yes" to the proposal.

Best,
John

From: "Gibson, John D" <jdgibson@utep.edu>
Date: Wednesday, November 10, 2021 at 10:40 AM
To: "Xie, Feixue" <fxie@utep.edu>
Subject: Re: QMB 3350 as an elective for BBA in ISBA

Faith,

I think it is fine. I just emailed E&F as you asked if the Department approves. I asked them to respond by 2pm today.

Best,
John

From: "Xie, Feixue" <fxie@utep.edu>
Date: Wednesday, November 10, 2021 at 10:39 AM
To: "Gibson, John D" <jdgibson@utep.edu>
Subject: RE: QMB 3350 as an elective for BBA in ISBA

John,

The deadline is tomorrow but the sooner the better.
The QMB group along with the Dean's office has been involved in the development of the BBA in ISBA program.

Best,
Faith

From: Gibson, John D
Sent: Wednesday, November 10, 2021 10:32 AM
To: Xie, Feixue <fxie@utep.edu>
Subject: Re: QMB 3350 as an elective for BBA in ISBA

Hi Faith,

Could you please forward the proposal? Also, I would like to reach out to faculty regarding this. What is the deadline?

Best,
John

From: "Xie, Feixue" <fxie@utep.edu>
Date: Wednesday, November 10, 2021 at 10:31 AM
To: "Gibson, John D" <jdgibson@utep.edu>
Subject: QMB 3350 as an elective for BBA in ISBA

Hi John,

The Accounting and Information Systems is making changes in the curriculum of Information Systems. One of the changes is to include QMB 3350 as one of the electives in its BBA in Information Systems and Business Analytics degree plan.

Could you please reply to this email whether your department approves the inclusion of QMB 3350 in this degree plan? Thanks.

Best,
Feixue (Faith) Xie, Ph.D.
Associate Dean for Assessment and Undergraduate Programs
JP Morgan Chase Bank Professorship in Business Administration
Professor of Finance
College of Business Administration
University of Texas at El Paso
Phone: (915)747-7788
Email: fxie@utep.edu