UH Core Curriculum Supplement

Academic Unit / Office Bauer/DISC   **Catalog Year of Implementation** 2020-2021

Course (Prefix / Number) BUSI / 2305   **Course Title Business Statistics**

PROPOSAL ACTION TYPE:

☐ Add existing UH course to Core

☒ Add new UH Course to Core, see Course Proposal

☐ Revision current Core, switch Component Area

☐ Revision current Core, substantive change (e.g. prerequisites, course requirements, course level, restricted enrollment)

☒ SYLLABUS ATTACHED

Core Proposal Rationale and Justification for adding/revising the course?

Please provide a rationale for including, or continuing to include, this course in the UH Core Curriculum: BUSI 2305 meets the three criteria of Critical Thinking, Communication, and Empirical and Quantitative Skills required for Math/Math Reasoning Core; it has MATH 1313 Finite MATH (TCCN MATH 1324), a Math/Math Reasoning Core Course [20] and [90] as a prerequisite; it is a course open to all students who meet the prerequisites of MATH 1313 and BCIS 1305, courses open to all students, and has practical math and math reasoning value across multiple disciplines and future careers; it is offered at community colleges as part of the Business Administration and Management Field of Study (FOS), so is readily available to both FTIC and transfer students; and the Texas Higher Education Coordinating Board recommends adding FOS courses to core curriculum in their publication "Implementing Field of Study Guide" April 2019, in order to provide students with more program flexibility (http://www.thecb.state.tx.us/reports/PDF/12361.PDF):

"Courses in an FOS can "double dip" with the core curriculum. For example, Calculus I (MATH 2413) is a part of the Mathematics FOS, but it can also fulfill the 3 SCH requirement for the Mathematics component area of the core." (p. 2)

"Add FOS courses to the institution's core curriculum component area options. If a course can count toward both the core curriculum and the FOS, it may enable more program flexibility for applying courses to the overall 120-SCH degree program." (p. 8)

COURSE LEVEL?

Is the course lower-division (1000/2000 level)? ☐ NO ☒ YES

If upper division (3000/4000 level) please provide a rationale for including the course in the UH Core Curriculum.

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STEP 1: IDENTIFY THE FOUNDATION CORE COMPONENT AREA for this course

If the course is intended to be listed under Math/Reasoning or Writing in the Disciplines it must first qualify for Core under one of the Foundation Component Areas and under Step 2.

SELECT ONE	FOUNDATION COMPONENT AREA	REQUIRED CORE OBJECTIVES *(see THECB Core objectives)*					
		CT	COM	EQS	TW	SR	PR
☐	COMMUNICATION	☑	☑		☑		☑
☒	MATHEMATICS	☑	☑	☑			
☐	LIFE & PHYSICAL SCIENCES	☑	☑	☑	☑		
☐	LANGUAGE, PHILOSOPHY, & CULTURE	☑	☑			☑	☑
☐	CREATIVE ARTS	☑	☑		☑	☑	
☐	AMERICAN HISTORY	☑	☑			☑	☑
☐	GOVERNMENT/POLITICAL SCIENCE	☑	☑			☑	☑
☐	SOCIAL & BEHAVIORAL SCIENCES	☑	☑	☑		☑	

KEY : **CT**= Critical Thinking , **COM** = Communication, **EQS** = Empirical and Quantitative Skills

PR= Personal Responsibility, **SR** = Social Responsibility, **TW** = Team Work

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STEP 2 : *If not selecting a course for Core Math/Reasoning or Writing in the Disciplines proceed to Step 3.*

IDENTIFY THE COMPONENT AREA OPTION for this course – Requires Step 1 & Step 2
If the course is intended to be listed under Math/Reasoning or Writing in the Disciplines it must first qualify for Core under one of the Foundation Component Areas identified in Step 1. Identify the Foundational Component Area and required Core Objectives.

SELECT ONE	**UH Component Area Options:**	**Meets definition of Foundational Component Area (FCA) identified in Step 1**	**Double-List?** *	**CT**	**COM**	**EQS**	**TW**	**SR**	**PR**
☒	MATH/REASONING	MATHEMATICS *in Step 1 must select Mathematics*	☒	☑	☑	☑			
☐	WRITING in the DISCIPLINES	*Identify Foundational Component Area:* Select One: *& select additional objective(s) that align with the associated foundation component area selected in Step 1 (e.g. Language, Philosophy, Culture select SR, PR)*	☐	☑	☑	☐	☐	☐	☐

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*DOUBLE –LIST?
UH Core course typically serve under only one component area.
Indicate request for the course be evaluated to also be listed in the Catalog under the Foundational Component Area
(for example, *Language, Philosophy, Culture* & *Writing in the Disciplines*).

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STEP 3: CORE OBJECTIVE ASSESSMENT

Select the applicable required Core Objectives for the associated Foundation Component Area.

For each required Core objective identify:

a. How students will demonstrate achievement of the objective in the course (e.g. critical thinking, communication)

b. What course assignment that may be used to assess student performance related to the objective. *An assignment may serve as a tool to assess more than one Core Objective.*

Select related required Objectives from Step 1 & 2)	Core Objectives	How will students demonstrate achievement of the objective in the course?	Assignment to be Assessed *(e.g. Essay #2, Project, Test #3)*
☑	**CT** *required for all courses*	Students will develop critical thinking necessary to identify the problem, understand the data available, formulate the type of statistical analysis needed, and correctly interprete results.	Daily Problems 1-25 Homework 1-7 Exams 1-3
☑	**COM** * required for all courses*	Numbers are meaningless without a correct interpretation. Therefore, students will learn to effectively communicate the meaning of numerical results achieved by appropriate statistical analysis.	Daily Problems 2,14-16,18-20 Homework 1-2,5-7 Exams 1-3
☒	**EQS** *required for Math/Reasoning*	Students will analyze the data in the problem, be able to present that information in an easy-to-communicate form (e.g., pivot tables, graphs), perform statistical calculations for decision-making.	Daily Problems 1-25 Homework 1-7 Exams 1-3
☐	**TW**		
☐	**SR**		
☐	**PR**		

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COURSE SYLLABUS

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The information contained in this class syllabus is subject to change without notice. Students are expected to be aware of any additional course policies presented by the instructor during the course.
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Learning Objectives

To give students the basic quantitative skills necessary to take business data, use statistical procedures/methods to analyze it (with the aid of Microsoft Excel), and be able to interpret the results.

Major Assignments/Exams

Homework 1-7	10%
Exam 1	30%
Exam 2	30%
Exam 3	30%

* Daily Problems = opportunities for extra credit

Required Textbook

UH customized version of <u>Statistics for Business and Economics, 13th edition, by Anderson, Sweeney, Williams, Camm, and Cochran + WebAssign</u>. This textbook + WebAssign can also be accessed by purchasing a $120 semester license for Cengage Unlimited.

Calculator

A TI-30XA calculator (or other approved non-programmable, non-graphing, no probability distribution calculator).

COURSE SYLLABUS

List of discussion/lecture topics (page 1)

Class	Topics to be Discussed
8/18-8/20	Descriptive Statistics (Chap 3:Sect 1-3, 5)

    -Measures of Location
    -Measures of Variability
    -Distribution Shape
    -Measures of Association

    HOMEWORK 1 (Chapter 3). Due date TBA.

8/25-9/3   Probability (Chap 4:Sect 1[reading only], 2-4, 5[exercises only])
    -Properties of Probabilities
    -General Law of Addition
    -Mutually Exclusive Events
    -Conditional Prob.
    -General Law of Multiplication
    -Independent Events

    HOMEWORK 2 (Chapter 4). Due date TBA.

9/8-9/10   Discrete Random Variables (Chap 5:Sect 1[reading only], 2-3, 5)
    -E.V. and Var. of a R.V.
    -Binomial Dist.

    HOMEWORK 3 (Chapter 5). Due date TBA.

9/17   In-Class Review for EXAM 1
9/19-9/20   Take EXAM 1 At CASA.

9/15, 9/22   Continuous Random Variables (Chap 6:Sect 2)
    -Normal Dist.
9/24   Sampling Distributions (Chap 7:Sect 3-4[reading only], 5-6)
    -Samp. Dist. of $\bar{x}$
    -Samp. Dist. of $\bar{p}$

    HOMEWORK 4 (Chapters 6-7). Due date TBA.

COURSE SYLLABUS

List of discussion/lecture topics (page 2)

Class	Topics to be Discussed
9/29-10/13	Single Sample Inference (Chap 8:Sect 1-2, 4; Chap 9:Sect 1[reading only], 3-5)

-C.I. for μ, σ known

-C.I. for μ, σ unknown

-C.I. for p

-Hyp. testing for μ, σ known

-Hyp. testing for μ, σ unknown

-Hyp. testing for p

HOMEWORK 5 (Chapters 8-9). Due date TBA.

| 10/15 | In-Class Review for EXAM 2 |
| 10/17-10/18 | Take EXAM 2 At CASA. |

NOTE: The last day to drop this course is 10/29.

| 10/20-11/3 | Two Sample Inference (Chap 10:Sect 2-4) |

-C.I. for μ_1 - μ_2, σ_1 & σ_2 unknown, indep. samples

-C.I. for μ_1 - μ_2, σ_1 & σ_2 unknown, dep. samples

-C.I. for p_1 - p_2

-Hyp. testing for μ_1 - μ_2, σ_1 & σ_2 unknown, indep. samples

-Hyp. testing for μ_1 - μ_2, σ_1 & σ_2 unknown, dep. samples

-Hyp. testing for p_1 - p_2

HOMEWORK 6 (Chapters 10). Due date TBA.

| 11/5-11/17 | Simple Linear Regression (Chap 14:Sect 1[reading only], 2-3, 4[reading only], 5-7) |

-Regression equation

-ANOVA table

-s_e^2, r^2 , r

-C.I. and Hyp. testing for β_1

-C.I. for mean value of y

-P.I. for indiv. value of y

| 11/19 | Additional Topics |

HOMEWORK 7 (Chapter 14). Due date TBA.

11/24	In-Class Review for EXAM 3
11/26	Thanksgiving
12/5-12/6	Take EXAM 3 At CASA.