

TWU CORE COURSE PROPOSAL FORM –TEXAS CORE CURRICULUM

Submission Procedure

Submit an electronic copy of the following three documents to *Ms. Elizabeth Brown, Senior Administrative Assistant, Undergraduate Studies & Academic Partnerships* at MBrown36@twu.edu **by no later than January 31.**

1. TWU Core Course Proposal Form - 2014 Texas Core Curriculum
2. Current Course Syllabus
3. Signed Letter of Approval from Department Chair and Dean

I. Designated Contact & Course Information

Name: Dr. Donald Edwards Department: Mathematic Email: dedwards@twu.edu
 Course Prefix/Number: MATH 2203 Course Title: Business Analysis I
 Semester Credit Hours: 3 Proposed TCCNS # MATH 1324
 Existing Course New Core Course

II. Proposed Foundational Component Area (FCA): (highlight and underline selections)

Communication Mathematics Life & Physical Sciences
 Language, Philosophy, & Culture Creative Arts American History
 Government/Political Science Social & Behavioral Sciences Component Area Option

Table 1: Alignment of Course Description with Foundational Component Area (FCA)

Foundational Component Area (FCA) Provide name of selected FCA (from those provided below the table).	Course Description Provide approved catalog course description.	Alignment of Course with Foundational Component Area Identify elements of the FCA that align with the course description and explain how the course fulfills them.
Mathematics	Algebraic functions, logarithmic functions, exponential functions, matrices and linear systems, and linear programming. Prerequisite: Satisfactory score on Mathematics Placement Test. Three lecture hours a week. Credit: Three hours.	Students will use algebraic, logarithmic, and exponential functions in order to solve business applications. Tools such as matrices and linear systems along with linear programming are also used to analyze real-world situations.

Foundational Component Areas (FCAs)

- ◆ **Communication** – Courses in this category focus on developing ideas and expressing them clearly, considering the effect of the message, fostering understanding, and building the skills needed to communicate persuasively. Course involve the command of oral, aural, written, and visual literacy skills that enable people to exchange messages appropriate to the subject, occasion, and audience. [Required Core Objectives: CTS, CS, TW, and PR]
- ◆ **Mathematics** – Courses in this category focus on quantitative literacy in logic, patterns, and relationships. Courses involve the understanding of key mathematical concepts and the application of appropriate quantitative tools to everyday experience. [Required Core Objectives: CTS, CS, and EQS]
- ◆ **Life & Physical Sciences** – Courses in this category focus on describing, explaining, and predicting natural phenomena using the scientific method. Courses involve the understanding of interactions among natural phenomena and the implications of scientific principles on the physical world and on human experiences. [Required Core Objectives: CTS, CS, EQS, and TW]
- ◆ **Language, Philosophy, & Culture** – Courses in this category focus on how ideas, values, beliefs, and other aspects of culture express and affect human experience. Courses involve the exploration of ideas that foster aesthetic and intellectual creation in order to understand the human condition across cultures. [Required Core Objectives: CTS, CS, SR, and PR]
- ◆ **Creative Arts** – Courses in this category focus on the appreciation and analysis of creative artifacts and works of the human imagination. Courses involve the synthesis and interpretation of artistic expression and enable critical, creative, and innovative communication about works of art. [Required Core Objectives: CTS, CS, TW, and PR]
- ◆ **American History** - Courses in this category focus on the consideration of past events and ideas relative to the United States with the option of including Texas History for a portion of this component area. Courses involve the interaction among individual communities, states, the nation, and the world, considering how these interactions have contributed to the development of the United States and its global role. [Required Core Objectives: CTS, CS, SR, and PR]
- ◆ **Government/Political Science** – Courses in this category focus on consideration of the Constitution of the United States and the constitutions of the states, with special emphasis on that of Texas. Courses involve the analysis of governmental institutions, political behavior, civic engagement, and their political and philosophical foundations. [Required Core Objectives: CTS, CS, SR, and PR]
- ◆ **Social & Behavioral Sciences** – Courses in this category focus on the application of empirical and scientific methods that contribute to the understanding of what makes us human. Courses involve the exploration of behavior and interactions among individuals, groups, institutions, and events, examining their impact on the individual, society, and culture. [Required Core Objectives: CTS, CS, EQS, and SR]

Table2: Alignment of Course-Level Student Learning Outcomes (SLOs) with Required Core Objectives

Core Objectives	Course-Level SLOs [List all course-level SLOs that directly align with the FCA required Core Objectives. SLOs listed should be <i>specific, observable, & measurable</i> . SLO's should also be consistent with those listed on the syllabus. <u>A minimum of 1 course-level SLO must be identified for each of the required Core Objectives of the FCA.</u>]	Description of how SLO's meet each core objective Describe how the proposed course meets each of the designated core objectives. The description may refer to specific assigned texts, specific course assignments, and/or course-specific student learning outcomes.
Critical Thinking Skills [CTS] <i>– to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information</i>	SLO 1 Logically find relationships among variables to formulate mathematical models for everyday applications, including business applications, such as cost, revenue, profit, supply and demand. SLO 3 Construct linear programming problems for various applications and solve using graphical techniques, including finding the	<ol style="list-style-type: none"> 1. Students will read and interpret mathematical statements to determine the mathematical notation and/or equations described in the statements. 2. Students will translate real world situations into a system of equations in order to find a solution/s.

	<p>optimal point(s) where a company minimizes its cost or maximizes its profit.</p> <p>SLO 5 Apply the concepts of finance to real-world situations, such as financing a car or house.</p>	<ol style="list-style-type: none"> 3. Students will analyze given information to set up a linear programming problem, including a system of linear inequalities. 4. Students will determine the solution, if one exists, to linear programming problems. 5. Students will examine given information about sets to find the number of elements in particular subsets. 6. Students will classify random variables as finite discrete, infinite discrete, or continuous and find all possible values they may assume. 7. Students will understand the difference between simple and compound interest and when to use each.
<p>Communication Skills [CS] – to include effective development, interpretation and expression of ideas through written, oral, and visual communication</p>	<p>SLO 1 Logically find relationships among variables to formulate mathematical models for everyday applications, including business applications, such as cost, revenue, profit, supply and demand.</p> <p>SLO 2 Understand matrices and their applications, including solving systems of linear equations.</p> <p>SLO 3 Construct linear programming problems for various applications and solve using graphical techniques, including finding the optimal point(s) where a company minimizes its cost or maximizes its profit.</p> <p>SLO 4 Understand set terminology and its relationship to symbolic notation.</p> <p>SLO 5 Apply the concepts of finance to real-world situations, such as financing a car or house.</p>	<ol style="list-style-type: none"> 1. Students will express mathematical concepts both abstractly with equations and in writing. 2. Students will exhibit functions, as well as solutions to linear inequalities, graphically. 3. Students will explain if a matrix operation is possible and why and then interpret the meaning of the entries of the resulting matrix. 4. Students will solve linear programming problems graphically. 5. Students will effectively communicate information about sets and experiments using written symbolic notation. 6. Students will answer

		questions during lecture concerning topics discussed in class.
<p>Empirical & Quantitative Skills [EQS] – <i>to include the manipulation and analysis of numerical data or observable facts resulting in formed conclusions</i></p>	<p>SLO 1 Logically find relationships among variables to formulate mathematical models for everyday applications, including business applications, such as cost, revenue, profit, supply and demand.</p> <p>SLO 5 Apply the concepts of finance to real-world situations, such as financing a car or house.</p>	<ol style="list-style-type: none"> 1. Students will develop business-related mathematical models from given data, such as cost, revenue, profit, supply, demand, or depreciation. 2. Students will use effective interest rates to select the best loan or savings option. 3. Students will analyze financial information to make decisions regarding everyday applications, such as loan payments, annuities, amortizations, or sinking funds.
<p>Teamwork [TW] – <i>to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal</i></p>	<ol style="list-style-type: none"> 1. 2. 3. 	
<p>Personal Responsibility [PR]– <i>to include the ability to connect choices, actions and consequences to ethical decision-making</i></p>	<ol style="list-style-type: none"> 1. 2. 3. 	
<p>Social Responsibility [SR] – <i>to include intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities</i></p>	<ol style="list-style-type: none"> 1. 2. 3. 	

III. Core Objectives Assessment

<p>Core Objective/SLO(s)</p> <p>1. Identify Core Objective [use bracketed abbreviation found in Section II, Table 2]</p> <p>2. Provide associated SLO(s) consistent with those listed in Section II.</p>	<p>Course Embedded Assignment(s)</p> <p>1. Identify the course embedded assignment(s) by name</p> <p>2. List major categories/elements that will be assessed</p>
<p>[CTS]</p> <p>SLO 1 Logically find relationships among variables to formulate mathematical models for everyday applications, including business applications, such as cost, revenue, profit, supply and demand.</p> <p>SLO 3 Construct linear programming problems for various applications and solve using graphical techniques, including finding the optimal point(s) where a company minimizes its cost or maximizes its profit.</p> <p>SLO 5 Apply the concepts of finance to real-world situations, such as financing a car or house.</p>	<p>1. Exams</p> <p>2. Problem solving, reasoning, application of qualitative and quantitative (both analytically and creatively) evaluation of arguments, construction of alternative strategies</p>
<p>Core Objective/SLO(s)</p> <p>1. Identify Core Objective [use bracketed abbreviation found in Section II, Table 2]</p> <p>2. Provide associated SLO(s) consistent with those listed in Section II.</p>	<p>Course Embedded Assignment(s)</p> <p>1. Identify the course embedded assignment(s) by name</p> <p>2. List major categories/elements that will be assessed</p>
<p>[CS]</p> <p>SLO 1 Logically find relationships among variables to formulate mathematical models for everyday applications, including business applications, such as cost, revenue, profit, supply and demand.</p> <p>SLO 2 Understand matrices and their applications, including solving systems of linear equations.</p> <p>SLO 3 Construct linear programming problems for various applications and solve using graphical techniques, including finding the optimal point(s) where a company minimizes its cost or maximizes its profit.</p> <p>SLO 4 Understand set terminology and its relationship to symbolic notation.</p> <p>SLO 5 Apply the concepts of finance to real-world situations, such as financing a car or house.</p>	<p>1. Exams</p> <p>2. Define problems, analyze information, translate information, interpret results, represent graphically, in writing, verbally, and mathematically</p>

Core Objective/SLO(s) 1. Identify Core Objective [use bracketed abbreviation found in Section II, Table 2] 2. Provide associated SLO(s) consistent with those listed in Section II.	Course Embedded Assignment(s) 1. Identify the course embedded assignment(s) by name 2. List major categories/elements that will be assessed
<p>[EQS]</p> <p>SLO 1 Logically find relationships among variables to formulate mathematical models for everyday applications, including business applications, such as cost, revenue, profit, supply and demand.</p> <p>SLO 5 Apply the concepts of finance to real-world situations, such as financing a car or house.</p>	<p>1. Exams</p> <p>2. Manipulation and analysis of numerical data or observable facts, informed decisions, interpretation of results</p>
Core Objective/SLO(s) 1. Identify Core Objective [use bracketed abbreviation found in Section II, Table 2] 2. Provide associated SLO(s) consistent with those listed in Section II.	Course Embedded Assignment(s) 1. Identify the course embedded assignment(s) by name 2. List major categories/elements that will be assessed
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IV. Expectations

Assessments are to be conducted/administered based on the established Core Objectives Assessment rotation cycle. Course instructors will be responsible for uploading course embedded assignments and student artifacts based on Core Objectives Assessment rotation cycle and sampling design selection.

Criteria Used to Assess the Core Course Proposal:

- ✓Course description aligns with selected Foundational Component Area (FCA)
- ✓Course-level student learning outcomes (SLOs) align with state-mandated Core Objectives for the designated FCA
- ✓SLOs are specific, observable, and measurable
- ✓SLOs clearly describe what students will be able to do (performance-based)
- ✓Course embedded assignments chosen clearly align with the intent of the SLO
- ✓Course syllabus is aligned with Foundational Component Area (FCA) and required Core Objectives based on SLOs, learning activities, and assessments

V. Addendum

Attach current course syllabus (REQUIRED).

For Undergraduate Studies Staff Only:

- Forward to Department Dean, Chair, Program Director, and Course Proposed Author
- Forwarded to OSAP for Colleague CRSE updating
- Forwarded to OAP for updating
- Forwarded to RO for Degree Audit updating
- Forwarded to Admissions for updating
- Forwarded to Academic Advising for updating
- Forwarded to Coordinator, Transfer & Compliance
- UGSAP web site updated