# Course Description

An overview of the quantitative fundamentals needed to successfully begin the MBA program. Course topics include basic math, algebra, probability, analysis of variance, and basic statistical procedures.

**University Learning Outcomes (ULO)**

* **ULO1**:Knowledge of Human Cultures and the Physical and Natural World
* **ULO2**: Intellectual and Practical Skills
* **ULO3**: Personal and Social Responsibility
* **ULO4**: Integrative and Applied Learning
* **ULO5**: Immersed in the Critical Concerns of the Sisters of Mercy of the Americas

# Program Learning Outcomes (PLO)

* **PLO1**: Students will effectively research and communicate in writing (in APA format) ideas and arguments associated with business leadership and management issues. (ULO 1, 3, 4)
* **PLO2**: Students will apply knowledge and skills to develop a comprehensive business plan which demonstrates competency in the following areas: management, operations, finance, and marketing. (ULO 2, 4)
* **PLO3**: Apply critical thinking to real life work problems through the application of theoretical and experiential knowledge. (ULO 1, 2, 4)
* **PLO4**: Students will identify issues and strategies related to ethics and corporate social responsibility and its implications for business. (ULO 2, 3, 4)

# Course Outcomes (CO)

* **CLO1:** Apply problem-solving skills in business problems and mathematical scenarios.
* **CLO2:** Demonstrate computation and application of descriptive statistical techniques to summarize data to support business decisions.
* **CLO3:** Evaluate inferential statistical techniques to support business decisions.
* **CLO4:** Analyze probabilities for business decision making.

**Student Expectations**

Students are expected to:

* Ask probing and insightful questions related to course content.
* Make meaningful and relevant connections and application to their own learning process.
* Be productive and contributing members of class discussions.

# Optional Course Materials

Kemp, S., & Kemp, S. (2004). *Business statistics demystified*. New York, NY: The McGraw-Hill Companies.

# Suggested Point Values

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Assessment** | **Point Value** | **Due** |
| **Module 1** | |  |  |
|  | Module 1 Assignment | 20 | <insert due date> |
|  | Quiz 1 | 30 |  |
| **Module 2** | |  |  |
|  | Module 2 Assignment | 20 | <insert due date> |
|  | Quiz 2 | 30 |  |
| **Module 3** | |  |  |
|  | Module 3 Assignment | 20 | <insert due date> |
|  | Quiz 3 | 30 |  |
| **Total Points** | | **150** |  |

# Course Schedule

|  |  |  |
| --- | --- | --- |
| **Module** | **Start** | **End** |
| One | <insert start date> | <insert end date> |
| Two |  |  |
| Three |  |  |

# Weekly Learning Modules

|  |  |  |  |
| --- | --- | --- | --- |
| Module One: Basic Math and Algebra | |  | |
| ***Learning Objectives*** | | ***Alignment*** | |
| * 1. Review basic mathematical foundations. | | CLO1 | |
| * 1. Solve introductory college level math, including algebraic equations. | | CLO1 | |
| ***Required Learning Resources and Activities****: Students must complete any resources activities listed in this section as selected by the instructor.* | | ***Alignment*** | ***Pages/AIE/***  ***Generic*** |
| **Read** Math Review from the Educational Testing Service (ETS): <https://www.ets.org/s/gre/pdf/gre_math_review.pdf>  **Post** any questions or insight into the Module 1 Questions forum. | | 1.1, 1.2 | Lecture Activity = **1 hour** |
| **Introductions**  **Introduce** yourself to the class by completing all of the following statements:   1. My name is . 2. I am currently employed as a , and I work for . 3. My undergraduate major is . 4. I’m good at . 5. I’m not so good at . 6. The most amazing thing that ever happened to me was . 7. I live by the principle . 8. In 5 years, I want to . 9. If I were not taking this course right now, I would be . 10. My worst fear relative to taking this course is . 11. My greatest hope relative to taking this course is .   **Cut** and **paste** the statements into a new post, and **include** your responses.  **Post** your completed statements to the Introductions discussion thread.  **Review** posts by other students, and **respond** to them by relating how you are similar to each other. | | N/A | Lecture Activity = **1 hour** |
| **Videos**  **View** the collection of videos located at the following links:   * “Algebra Basics: Foundations”: <https://www.khanacademy.org/math/algebra-basics/core-algebra-foundations> * “Algebraic Expressions”: <https://www.khanacademy.org/math/algebra-basics/core-algebra-expressions> * “Linear Equations and Inequalities”: <https://www.khanacademy.org/math/algebra-basics/core-algebra-linear-equations-inequalities>      * “[Order of Operations with Parentheses, Brackets, and Braces Part 2 with Breakfast Cereal Analogy](https://www.youtube.com/watch?v=RefjBCxkeLQ)”.   **Post** any questions or insight into the Module 1 Questions forum. | | 1.1, 1.2 | Lecture Activity = **1 hour** |
| ***Assignment****: Students must complete the weekly assignment(s).* | | ***Alignment*** | ***Points/AIE/***  ***Generic*** |
| **Module 1 Assignment**  **Complete** the Module 1 Assignment document using a calculator or Excel.  **Submit** your answers to your instructor. | | 1.1, 1.2 | Problem Solving = **1 hour** |
| **Quiz 1**  **Complete** Quiz 1. | | 1.1, 1.2 | Quiz = **1 hour** |
| **Total** |  |  | **5 hours** |
| **Notes** |  | | |

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| Module Two: Statistics | |  |  |
| ***Learning Objectives*** | | ***Alignment*** | |
| * 1. Differentiate between a population and a sample. | | CLO2 | |
| * 1. Categorize variables by type and level of measurement. | | CLO2 | |
| * 1. Interpret the descriptive statistics, including the mean, weighted mean, median, and modefor populations and samples. | | CLO2 | |
| * 1. Use Microsoft Excel to create a frequency distributions and charts to support a business decision. | | CLO2, 3 | |
| ***Required Learning Resources and Activities****: Students must complete any resources activities listed in this section as selected by the instructor.* | | ***Alignment*** | ***Pages/AIE/***  ***Generic*** |
| **Read** the Basic Descriptive Statistics document. | | 2.1, 2.2, 2.3 |  |
| **Module 2 Lecture Videos**  **Watch** thefollowingModule 2 lecture videos:   * “Collecting, Identifying and Summarizing Data” [16:44mins]: <https://vimeo.com/123755507> * “Descriptive Statistics and Measures of Dispersion (Part 1 of 2)” [9:21mins]: <https://vimeo.com/149897314> * “Descriptive Statistics and Measures of Dispersion (Part 2 of 2)” [14:58mins]: <https://vimeo.com/150684501>   **Post** one thing to the Module 2 Questions forum about what you learned from the videos. Include anything you found challenging after watching the video. | | 2.1, 2.2, 2.3 | Lecture Activity = **1 hour** |
| **Using the Analysis Tools to Compute Descriptive Statistics**  **Watch** the tutorial on how to use the analysis tools in Excel to compute descriptive statistics at [1:32mins]: <http://screencast.com/t/SMearIjMe>  **Post** any questions or insights to the Module 2 Questions forum about what you learned from the videos. Include anything you found challenging after watching the video. | | 2.3 | Lecture Activity = **1 hour** |
| ***Assignment****: Students must complete the weekly assignment(s).* | | ***Alignment*** | ***Points/AIE/***  ***Generic*** |
| **Module 2 Assignment**  **Complete** the Module 2 Assignment document using word and Excel to show your work.  **Submit** your answers to your instructor. | | 2.1, 2.2, 2.3, 2.4 | Problem Solving = **1 hour** |
| **Quiz 2**  **Complete** the Quiz 2. | | 2.1, 2.2, 2.3 | Quiz = **1 hour** |
| **Total** |  |  | **4 hours** |
| **Notes** |  | | |

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| Module Three: Probabilities | |  |  |
| ***Learning Objectives*** | | ***Alignment*** | |
| * 1. Demonstrate competency in basic probability techniques. | | CLO4 | |
| * 1. Utilize classical and relative frequency methods to calculate the probability of single events. | | CLO4 | |
| * 1. Employ counting techniques to identify the number of outcomes to an experiment. | | CLO4 | |
| ***Required Learning Resources and Activities****: Students must complete any resources activities listed in this section as selected by the instructor.* | | ***Alignment*** | ***Pages/AIE/***  ***Generic*** |
| **Read** the following articles:   * Counting Principles * Basic Probability * Probability Example 1 * Probability Example 2 | | 3.1, 3.2, 3.3 |  |
| **Module 3 Videos**  **Watch** the following Module 3 lecture videos:   * “Probability (Part 1 of 3)” [7:24mins]: <https://vimeo.com/150684191> * “Probability (Part 2 of 3)” [12:52mins]: <https://vimeo.com/150685307> * “Probability (Part 3 of 3)” [7:44mins]: <https://vimeo.com/149902807>   **Post** one thing to the Module 3 Questions forum about what you learned from the videos. Include anything you found challenging after watching the video. | | 3.1, 3.2, 3.3 | Lecture Activity = **2 hours** |
| **Khan Video**  **Review** the collection of videos on probability at the Khan Academy website: <https://www.khanacademy.org/math/probability>  *Note:* You do not need to view items regarding regression and inferential statistics.  **Post** any questions or insight to the Module 3 Discussion forum. | | 3.1, 3.2, 3.3 | Lecture Activity = **1 hour** |
| ***Assignment****: Students must complete the weekly assignment(s).* | | ***Alignment*** | ***Points/AIE/***  ***Generic*** |
| **Module 3 Assignment**  **Review** the Module 3 Assignment document, and **solve** each problem.  **Submit** your answers. | | 3.1, 3.2, 3.3 | Problem Solving = **1 hour** |
| **Quiz 3**  **Complete** the Quiz 3. | | 3.1, 3.2, 3.3 | Quiz = **1 hour** |
| **Total** |  |  | **5 hours** |
| **Notes** |  | | |

# Breakdown of Academic Instructional Equivalencies

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| --- | --- | --- |
|  |  |  |
| **Module 1** |  |  |
| Required | 5 |  |
| Supplemental |  |  |
|  |  |  |
| **Module 2** |  |  |
| Required | 4 |  |
| Supplemental |  |  |
|  |  |  |
| **Module 3** |  |  |
| Required | 5 |  |
| Supplemental |  |  |
|  |  |  |
|  |  |  |
| **Total Required Hours** | 14 |  |
| **Total Supplemental Hours** |  |  |
| **Total Hours** | 14 |  |