

LSC Use Only No:	LSC Action-Date:	UWUCC USE Only No.	UWUCC Action-Date:	Senate Action Date:
		09-73a.	App-4/1/10	App-4/20/10

**Curriculum Proposal Cover Sheet - University-Wide Undergraduate Curriculum Committee**

Contact Person DR. MICKI HYDE	Email Address hydem@iup.edu
Proposing Department/Unit MIS and Decision Science	Phone 724-357-7780

Check all appropriate lines and complete information as requested. Use a separate cover sheet for each course proposal and for each program proposal.

**1. Course Proposals (check all that apply)**

New Course                       Course Prefix Change                       Course Deletion  
 Course Revision                       Course Number and/or Title Change                       Catalog Description Change

QBUS 215 Business Statistics	
<i>Current Course prefix, number and full title</i>	<i>Proposed course prefix, number and full title, if changing</i>

**2. Additional Course Designations: check if appropriate**

This course is also proposed as a Liberal Studies Course.                       Other: (e.g., Women's Studies, Pan-African)  
 This course is also proposed as an Honors College Course.

**3. Program Proposals**

New Degree Program                       Program Title Change                       Program Revision  
 New Minor Program                       New Track                       Other

<i>Current program name</i>	<i>Proposed program name, if changing</i>
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**4. Approvals**

		Date
Department Curriculum Committee Chair(s)	<i>Micki Hyde</i>	3-1-10
Department Chair(s)	<i>NMBM</i>	3-1-10
College Curriculum Committee Chair	<i>[Signature]</i>	3-15-10
College Dean	<i>[Signature]</i>	3-16-10
Director of Liberal Studies *		
Director of Honors College *		
Provost *		
Additional signatures as appropriate: (include title)		
UWUCC Co-Chairs	<i>Gail Schust</i>	4-1-10

\* where applicable

Received  
MAR 18 2010  
Liberal Studies

## Part II. Description of the curriculum Change

1. New syllabus of record. (See Appendix A).
2. A summary of the proposed revisions.
  - a. Catalog Description:
    - i. A complete catalog description including the course name, class and lab hour designation, number of credits, the prerequisites, and the new course description follows:

### QBUS 215 Business Statistics

Prerequisites: MATH 214

3c-01-3cr

Expands upon the probabilistic concepts developed in MATH 214 to orient the student toward managerial decision making using quantitative methodologies. Topics include classical regression analysis, forecasting, Bayesian decision theory, linear programming, and simulation.

- ii. A listing of the proposed change including the complete old catalog description follows:

**CHANGE:** Drop the MATH 115 Prerequisite

**Catalog Description:**

(Current/Old Course Listing):

Prerequisites: MATH 115, MATH 214

Expands upon the probabilistic concepts developed in MATH 214 to orient the student toward managerial decision making using quantitative methodologies. Topics include classical regression analysis, forecasting, Bayesian decision theory, linear programming, and simulation.

- iii. Justification/rationale for the change:

The current prerequisite for Math 115-Applied Mathematics for Business (“Business majors are introduced to the central ideas of the [sic] calculus.”) is not necessary to the content of this course. The current Syllabus of Record makes no mention of Calculus practices or theory and therefore, this is simply a catalog change rather than a course change. This prerequisite places an unnecessary constraint on the students enrollment in this class, the knowledge learned in Math 115 is not applied directly to this class, and is not necessary for the student’s completion of the class assignments or overall objectives.

b.

i. Under the Course Objectives, added No. 7:

7. Comprehend appropriate quantitative methods and apply them to various problems using statistical packages and manual techniques.

ii. Justification/rationale for the revision.

The change in the course objectives is to recognize the current environment in business and the importance of presenting and discussing the significance of business statistics. The addition/changes will also enable us to map our course objectives with the program goals that have been established by inclusion in the course content as detailed in the course outline, along with in-class discussion and testing.

3. The old Syllabus of Record. (See Appendix B.)

4. Liberal Studies course approval form and checklist. (Not applicable).

**Part III. Letter of Support or Acknowledgement**

No other department/programs are affected by these revisions (MATH 115 is still a required course for all business majors).

**APPENDIX A**

**Eberly College of Business and Information Technology**  
**Department of Management Information Systems and Decision Science**  
**QBUS 215**  
**SYLLABUS OF RECORD**

**I. Catalog Description**

QBUS 215 Business Statistics

3c-01-3cr

Prerequisites: MATH 214

Expands upon the probabilistic concepts developed in MATH 214 to orient the student toward managerial decision making using quantitative methodologies. Topics include classical regression analysis, forecasting, Bayesian decision theory, linear programming, and simulation.

**II. Course Outcomes/Objectives:**

The primary objective is to show students how to apply statistical methods to solve various decision-making problems in the business environment. The students should be able to:

1. Describe the process involved in carrying out a statistical analysis.
2. Describe the major steps for fitting a mathematical model to a given data set.
3. Forecast future values using regression models and time series methods.
4. Recognize the importance of decision trees in making rational managerial decisions.
5. Formulate and solve linear programming models.
6. Distinguish between probabilistic and deterministic systems through modeling and simulation.
7. Comprehend appropriate quantitative methods and apply them to various problems using statistical packages and manual techniques. (Eberly UG Goal 3, Objective A)

**III. Course Outline**

	<u>(Hrs)</u>	<u>Objectives</u>
A. Introduction: Definitions and Review	(1.5)	
B. Review: Testing of Hypotheses (One and Two Samples)	(3.5)	1, 7
C. Testing of Hypotheses: One/Two-Way ANOVA	(4.5)	1, 7
D. Review: Simple Linear Regression Model	(5.0)	2, 7
EXAM ONE		

E. Multiple Linear Regression Model	(6.0)	2, 3, 7
F. Index Numbers and Time-Series Forecasting	(5.0)	3, 7
<b>EXAM TWO</b>		
G. Decision Analysis	(4.0)	4, 7
H. Linear Programming: Graphical Method	(5.0)	5, 7
I. Linear Programming: The Simplex Method	(3.0)	5, 7
J. Simulation and Modeling	(2.0)	6, 7
K. Nonparametric Methods	(2.5)	1, 7

**FINAL EXAM**

**During Final Exam Week**

**IV. Evaluation Methods**

The final grade will be determined as follows:

	<b>Weight</b>	<b>Objectives Measured</b>
Quizzes and/or Homework	25%	1-7
Exams (2)	50%	1-7
Final Exam (Eberly Goal 3, Objective A Measured)	25%	1-7
<b>TOTAL</b>	<b>100%</b>	

**QBUS 215 – Business Statistics  
Assurance of Learning**

<b>Learning Goal: 3</b>	<b>Exhibit data analysis, critical thinking, and decision making skills.</b>
<b>Learning Objective: A</b>	<b>Comprehend appropriate quantitative methods and apply them to various problems using statistical packages and manual techniques.</b>
<b>Assessment Tool</b>	<b>Final Exam</b>

**V. Grading Scale**

90% - 100% = A  
80% - 89% = B  
70% - 79% = C  
60% - 69% = D  
<60% = F

**VI. Attendance Policy**

The course attendance policy is consistent with the university policy.

**VII. Required Textbooks, Supplemental Books, and Readings**

Examples of an acceptable, required textbook for this course would include the following:

Anderson, Sweeney, and Williams. *Statistics for Business and Economics*. Thomson: South-Western.

McClave, Benson, and Sincich (2005). *Statistics for Business and Economics, Ninth Ed.* Prentice Hall.

**VIII. Special Resource Requirements**

None.

**IX. Bibliography**

McClave, Benson, and Sincich (2005). *Statistics for Business and Economics, Ninth Ed.* Prentice Hall.

Evans, J. R. (1991). *Creative Thinking in the Decision and Management Sciences*. South Western Publishing Co.

Savage, S. L. (1998). *Insight.xls, Business Analysis Software for Microsoft Excel*. Duxbury Press.

Web Site: A Course in Statistics Appreciation

Web Site: Statistics Homepage: (The Electronic Statistical Textbook)

**Web Site: Excel for Statistical Data Analysis:**  
<http://home.ubalt.edu/ntsbarsh/excel/excel.htm>

**APPENDIX B**

# Syllabus of Record Format

## I. Catalog Description

QBUS 215 Business Statistics

3 credits  
3 lecture hours  
0 lab hours  
3c-0l-3sh

Prerequisites: MATH 115, 214

Expands upon the probabilistic concepts developed in MATH 214 to orient the student toward managerial decision making using quantitative methodologies. Topics covered include classical regression analysis, forecasting, Bayesian decision theory, linear programming, and simulation.

## II. Course Objectives

The primary objective is to show students how to apply statistical methods to solve various decision-making problems in the business environment. The students should be able to:

1. Describe the process involved in carrying out a statistical analysis.
2. Describe the major steps for fitting a mathematical model to a given data set.
3. Forecast future values using regression models and time series methods.
4. Recognize the importance of decision trees in making rational managerial decisions.
5. Formulate and solve linear programming models.
6. Distinguish between probabilistic and deterministic systems through modeling and simulation.

## III. Detailed Course Outline

- |    |   |           |
|----|---|-----------|
| A. | Introduction: Definitions and review      | (2 hours) |
| B. | Review: Testing of Hypotheses/ANOVA       | (5 hours) |
| C. | Review: Simple Linear Regression Model    | (5 hours) |
| D. | Multiple Linear Regression Model          | (7 hours) |
| E. | Index Numbers and Time-Series Forecasting | (6 hours) |
| F. | Decision Analysis                         | (6 hours) |
| G. | Linear Programming                        | (7 hours) |
| H. | Computer Simulation                       | (1 hour)  |
| I. | Evaluation (Exams)                        | (3 hours) |

## IV. Evaluation Methods

25% Quizzes, class attendance & participation, homework

75% Three equally weighted examinations

Grading Scale: A = 90-100%; B = 80-89%; C = 70-79%; D = 60-69%; F < 60%

V. Required Textbook(s):

McClave, Benson, & Sincich. (2001). Statistics for business and economics, (8th ed.). Prentice Hall, Inc.

Supplemental Books and Readings:

VI. Special Resource Requirements

None

VII. Bibliography

Anderson, D. R., Sweeney, D. J., & Williams, T. A. (1996). Statistics for business and economics, (6<sup>th</sup> ed.). St. Paul, MN: West Publishing Company.

Keller, G. & Warrack, B. (2000). Statistics for management and economics, (5<sup>th</sup> ed.). Pacific Grove, CA: Duxbury, a division of Thomson Learning.

Levine, D. M., Berenson, M. L., & Stephan, D. (1999). Statistics for managers using Microsoft Excel, (2<sup>nd</sup> ed.). Upper Saddle River, NJ: Prentice Hall, Inc.

Levine, D. M., Ramsey, P. P., & Berenson, M. L. (1995). Business statistics for quality and productivity. Englewood Cliffs, NJ: Prentice Hall, Inc.

Minieka, E. & Kurzeja, Z. D. (2001). Statistics for business with computer applications. Cincinnati, OH: South-Western College Publishing, a division of Thomson Learning.

Pelosi, M. K. & Sandifer, T. M. (2002). Doing statistics for business with Excel, (2<sup>nd</sup> ed.). New York: John Wiley & Sons, Inc.

Weiers, R. M. (2002). Introduction to business statistics, (4<sup>th</sup> ed.). Belmont, CA: Wadsworth Group, Duxbury, a division of Thomson Learning.

## Scoring Rubric

### Assurance of Learning

#### IFMG 300 – Management Information Systems: Theory and Practice

<b>KARS</b>	<b>Assessment Tool/s Results</b>
Target	A, B
Acceptable	C, D
Unacceptable	F

Eberly – AOL – Learning Goals, Objectives, and Course Alignment—Final Feb. 22, 2010

Goal	Learning Goals: An ECOBIT Graduate will be able to:	Learning Objective A	Learning Objective B	Learning Objective C
1	Understand core knowledge of business functional disciplines and their interdisciplinary nature; have the ability to integrate them	Demonstrate knowledge and comprehension of the core business functional areas	Analyze and synthesize knowledge from different functional areas and generate alternative solutions to business issues	
	Measured in:	ETS - results by functional area	MGMT 495	
2	Communicate effectively	Produce professional quality written communication	Deliver professional quality oral presentation	Demonstrate effective communication skills in a team setting
	Measured in:	BTST 321	BTST 321 & MGMT 495	BTST 321
3	Exhibit data analysis, critical thinking, and decision making skills	Comprehend appropriate quantitative methods and apply them to various problems using statistical packages and manual techniques	Apply appropriate analytical techniques to a given business problem, generate and compare alternatives, and develop a solution	Analyze and evaluate legal issues confronting business by reviewing relevant court decisions
	Measured in:	QBUS 215	FIN 310 & MGMT 495	BLAW 235
4	Demonstrate leadership skills and ability to work effectively in teams	Comprehend the theories and frameworks pertaining to leadership and team work		
	Measured in:	MGMT 310		
5	Integrate and value a global perspective, and demographic & cross-cultural diversity in a business environment	Demonstrate knowledge of socially sensitive tenets for working with people of different cultures	Analyze business and organizational issues in a global setting	
	Measured in:	MGMT 310	MKTG 320 & MGMT 330	
6	Understand the implications of corporate social responsibility (CSR) and ethical behavior	Comprehend the concepts pertaining to CSR and ethics	Analyze and evaluate CSR and/or Ethics issues confronting businesses	
	Measured in:	ACCT 201, ACCT 202 & MGMT 310	MKTG 320 & BLAW 235	
7	Demonstrate proficiency in the use of technology	Comprehend, analyze, and evaluate different technologies employed in Computer Based Information Systems in organizations	Comprehend, analyze and evaluate the application of various business software including spreadsheets, databases, ERP, for solving organizational problems	
	Measured in:	IFMG 300	IFMG300, MGMT 330, & FIN310	
8	Possess a well-rounded liberal studies education that values the need for continuous learning and adaptation to change			
	Measured in:	Liberal Studies - GPA		

**From:** "Micki K Hyde" <micki.hyde@iup.edu>  
**Date:** Wed, 03 Mar 2010 14:49:24 -0500  
**To:** Francisco.Alarcon@iup.edu  
**Cc:** kwibowo@iup.edu

Headers

Decode

Dear Dr. Alarcon,

As you are aware, MATH 115 is a prerequisite for QBUS 215 Business Statistics that is taught by the MIS and Decision Sciences Department in the Eberly College of Business and Information Technology. Our department has re-evaluated this requirement in an effort to remove all possible constraints for the students when scheduling their classes. Our department has therefore voted to eliminate the MATH 115 prerequisite for our QBUS 215 course.

Currently, MATH 115 is a requirement for all business majors and this change will, in no way, impact that requirement. MATH 214 is also a prerequisite for QBUS 215 and this change will also not impact that requirement. This will simply allow the students more latitude when scheduling their math courses in Eberly.

This decision to remove this prerequisite should not affect the enrollment of MATH 115.

If you support our proposal, our department would like to ask for your formal Letter of Support or Acknowledgement that we can submit along with our Curriculum Proposal to the appropriate curriculum committees, etc.

Presently, none of our assignments or course objectives in QBUS 215 Business Statistics requires prior calculus knowledge, the Syllabus of Record for this course does not mention calculus and, therefore, there is no need for a change to the existing QBUS 215 course.

Our department would certainly appreciate your support in this matter. If you have any questions or concerns, please feel free to contact me.

Sincerely,  
Micki Hyde  
Department Chair, Undergraduate Curriculum Committee  
Department of MIS and Decision Sciences  
Ph: (724) 357-7780