

PROCESS A NON-GENERAL EDUCATION ~ CURRICULUM PROPOSAL
LIBRARY RESOURCE FORM REQUIRED

SCC #04-05- 125

Deadlines

October 8, 2004 to be implemented Fall 2005 ~ February 11, 2005 to be implemented Spring 2006

PROPOSAL TITLE: Managerial Data Analysis

Sponsor(s): Faye X. Zhu _____ E-Mail: zhu@rowan.edu _____ Ext: 5431

DEPARTMENT: Department of Management/MIS _____

COLLEGE: College of Business _____

If Liberal Arts & Sciences CHECK : History/Humanities Math/Sciences Social/Behavioral Sciences
 XX UNDERGRADUATE **GRADUATE**

THE ATTACHED **NON-GEN-ED** PROPOSAL IS BEST DESCRIBED BY THE ITEM(S) CHECKED

- XX** New non gen-ed course
- Short-term non gen-ed course
- Minor curricular changes (fewer than three) to:
- Existing non gen-ed course
- Non gen-ed degree requirements
- Major
- Minor, specialization, concentration, track, certificate program

THE FOLLOWING SIGNATURES REPRESENT APPROVAL

Department Chair: [Signature] Date: 10/5/04
 Department Curriculum Chair: [Signature] Date: 10/5/04
 Academic Dean: [Signature] Date: 10/5/04

COLLEGE CURRICULUM COMMITTEE

OPEN HEARING Date: 11/29/04 Approved Not Approved
 COLLEGE CURRICULUM CHAIR: [Signature]
 Senate Curriculum Chair Signature: [Signature] Date: Senate Announcement 12/20/04
 Comments: _____

EXECUTIVE VICE PRESIDENT/PROVOST Signature: [Signature] Date: 2/25/05

Approved Not Approved

REGISTRAR

Date: 3/3/05 Course Description Received & Approved ~ Hegis Taxonomy & Course #: 0506354
 Registrar Signature: [Signature]

NOTIFICATION FORWARD

- SCC Chair Academic Dean Department Chair Registrar IR CAP
- VP Student Affairs Others

TM 3/24/05 DB 3/24/05
 R

46

APPENDIX D
New Course Proposal
Managerial Data Analysis

Details

- a. Course title: Managerial Data Analysis
- b. Hegis number: 0506.3XX
- c. Sponsor(s): Faye X. Zhu
Department of Management/MIS
- d. Credit hours: 3 s.h.
- e. Course level: Undergraduate (Junior 300 level)
- f. Prerequisites: Statistics I HEGIS 1702.260
Calculus T & A HEGIS 1703.125 or Calculus I HEGIS 1701.130
57 credit hours
Accepted as Business Administration of Accounting Major
- g. Suggested time and scale of implementation:

Initial Offering: Fall, 2006

Course will be offered at least once every two years based on student demand

Curricular Effect:

Specialization Impact:

This course was developed as part of a Major Program Revision for the Management Specialization (Mgt) within the College of Business in order to meet the needs of the students enrolled in the Management Specialization as described in the Major Program Revision Proposal to which this course is attached.

The revisions include developing three new required Management courses, moving three currently required courses to the electives bank, creating one new Management elective, and revising the electives that Management students complete in order to graduate. Each of these revisions is based on improving the curriculum and is discussed in detail in the Major Program Revision Proposal.

Offerings:

The overall impact of these courses will have no effect on other departments and colleges within the University.

Adequacy:

The major impact will be within the Management Specialization. As a result of the totality of the revisions, some Management Specialization courses will be offered less often but the faculty teaching the currently required courses will be reassigned to the proposed new courses. In summary, the Management/MIS department has the depth and quality of faculty to implement these proposed revisions with no diminution of teaching effectiveness. No additional faculty will be required. The impact is completely explained on page 12 of the Process C: Major Program Revision to which this proposal is attached.

Recommended Library Resources:

The existing library holding and online database will meet the library requirements for the proposed Leadership and Supervision for Manager course.

Course Rationale

This course in Managerial Data Analysis is being developed to respond to one or more of the reasons stated in the rationale for the Mgt Spec Major Revisions -- specifically changes in the industry requirements for generalist managers; reports from employers of Management (Mgt) Internships that students have weaknesses in managerial problem solving areas; and the College of Business (COB) ETS exam indicates that Mgt students have weaknesses in the quantitative skills and analysis areas.

The Department of Management / MIS is committed to improving the educational experience of its generalist management students through the process of continuous improvement and outside verification of student progress. From this perspective, the Management Specialization is revitalizing its curricular structure by improving course offerings in the area of business problem-solving skills and quantitative skills. This proposed course will focus on helping students acquire the analytical, critical thinking, and quantitative skills considered to be one of the most important competencies for undergraduate business students. This course will also be designed to partially satisfy the learning goals for skills and themes required under revised AACSB accreditation curriculum standards.

Essence of the Course

- This course will focus on the important link between the study of applied statistics and the capability to analyze managerial problems in real business situations. It will introduce in a practical way selected statistical methods that are useful in business decision making to help students analyze data sets and uncover important information. The course will increase students' knowledge of common business statistical tools and provide students an opportunity to apply those tools in finance, marketing, operations management, and some other business disciplines. It will use Microsoft Excel/SPSS and commercial business spreadsheet add-ins as a main vehicle to help students develop spreadsheet skills in data analysis that will add immediate value in other business courses and in their future careers. The course will be taught based on a hands-on, example-

driven and practical approach and use only the data that are commonly available in business, e.g., financial data, quality control data, employee data, marketing data, etc. The emphasis will be placed upon data description, data analysis, spreadsheet / statistical software package applications, managerial interpretations, and business reports.

- Overall learning objectives:
 - Become aware of a wide range of applications of statistical tools in business.
 - Be able to apply a variety of common business statistical tools for data analysis.
 - Be able to perform data analysis using Microsoft Excel / SPSS and commercial spreadsheet add-ins.
 - Be able to interpret computer outputs and analysis results for managerial decision-making.
 - Be able to write a clear, concise business report to convey the findings to end-users (e.g., sales departments, human resource departments, purchasing departments, etc.).

- Topical content:
 - Problem description
Students will be exposed to real managerial problems in many business disciplines and learn how to convert these problems into statistical questions. Case studies will be used to help student acquire analytical and critical thinking skills by identifying the important business questions in the cases and then converting them into statistical questions for analysis. .

 - Data collection
Students will learn various methods used in obtaining data and learn how to get high quality data from various data sources, in the right form, into Excel / SPSS for analysis, e.g., using Excel's built-in filtering tools to perform queries on Excel data sets, writing queries to import data directly into Microsoft Excel from Web sites. They will also learn how to "clean" the data, e.g., identifying unusual data points / data errors in a company's data set and then fixing them.

 - Data description
Students will learn how to make sense out of business data by constructing appropriate summary measures, tables and graphs, e.g., describing characteristics of employees within an organization, summarizing household spending for various categories of items, or summarizing data from an opinion survey. The emphasis will be placed on being able to organize and present data in the most appropriate and effective format in order to enhance data analysis and being able to interpret the important features of the data for decision making. Students will also learn numerous ways to explore data for decision making, e.g., use Excel's pivot table tool for "slicing and dicing" data. All the analysis will be performed using spreadsheet /statistical software.

 - Data analysis

Students will learn how to use common statistical tools to perform formal data analysis for decision-making in various functional areas of business. The examples include: estimating gasoline prices, understanding the cost drivers in cost accounting, examining the effects of advertising strategy on sales of a product, testing the effectiveness of an employee empowerment program, tracing trends in financial measures over time, forecasting movements in stock prices and internet rates, etc. All the analysis will be performed based on Excel / SPSS and commercial spreadsheet add-ins for business. The emphasis will be placed on the understanding of business problems and interpretation of computer outputs for managerial implications and decision-making.

- Conclusions and recommendations
Students will acquire analytical and critical thinking skills by preparing their conclusions and writing the executive summary for business audience. They will learn and practice how to plan and develop an effective business report for managers and executives based on the result of data analysis.

In each topic area, the problems from operations, finance, marketing, human resources, and other business disciplines will be posed, structured, analyzed, and then answered using appropriate statistical tools and spreadsheet / statistical software.

- Student performance evaluation: The evaluation of student performance in this course will be based on a combination of examinations, group case studies, homework assignments, as well as classroom participation.
- Overall course evaluation: The course evaluation will be consistent with practices in the Department of Management / MIS and the College of Business:
 - Student evaluations (SIR) will be administered every time the course is offered.
 - The Management Specialization Program Review, which is conducted every academic year, looks at the value of each course in relation to student learning objectives and in conjunction with student results on the Management Specialization Assessment Test.

Results of Consultations

A consultation letter from the Mathematics Department is attached.

Catalog Description:

0506. ~~3XX~~ 11.00

3. s.h.

Managerial Data Analysis

(Prerequisites: ~~Statistics I~~ 1702.260, ~~Calculus F&A~~ 1703.125 or ~~Calculus I~~ 1701.130, 57 credit hours, admitted as a Business or Accounting Major)

This course will focus on the importation link between the study of applied statistics and the capability to analyze managerial problems in real business situations. It will increase students' knowledge of common business statistical tools and provide students an opportunity to apply these tools for data analysis in various functional areas of business. The emphasis will be placed upon managerial interpretation of the analysis results and business reports. Excel / SPSS and commercial spreadsheet add-ins for business will be used intensively.

DB
3/24/05

Rowan University
**CURRICULUM PROPOSAL
 LIBRARY RESOURCE FORM**

The purpose of this form is to provide a channel of communication between the library and faculty changing and designing new courses/programs. The information will be used to assess the resources available in the library, and to identify resources the library should acquire to support the course/program. The information will also provide rationale for institutional support for library acquisitions.

This form should be completed in a coordinated effort between the course sponsor(s) and the academic department liaison librarian. **THIS FORM MUST BE COMPLETED FOR ALL CURRICULUM PROPOSALS.**

- The sponsor(s) complete parts A & B.
 If assistance is required to complete parts A & B, please notify the liaison librarian.
- Forward this form to the librarian who will complete parts C, D & E.

This form must be completed and attached to the original curriculum proposal before being approved by the Senate Curriculum Committee

A. College College of Business Department Management/MIS
 Proposed by Faye & ZBW Date 10/04/04
 Course Title Managerial DATA Analysis
 Anticipated Date for Course/Program Offering: Spring 2006

B. List specific resources that should be acquired to support this course.

ABI + statistics collections

C. Describe the resources available in the library to support this course/program, including reference, monographic, electronic databases, audio-visual materials, etc. A summary statement is sufficient.

Our monographic collection and our online journal resources are more than adequate to support a student's need for a more complete understanding of statistics, as well as the use & function of analysis tools such as Excel.

D. List key periodicals available in the library to support this course/program

E. Librarian comments and recommendations

Name: LIBRARIAN LIAISON Connie Rosenberger Librarian Signature: Connie Rosenberger



Mathematics Department

TO: Faye X. Zhu , Department of Management/MIS

FROM: Ronald J. Czocho, Chairman *Ronald J. Czocho*
Mathematics Dept.

DATE: October 6, 2004

RE: Consultation for new courses entitled *Decision-Making Tools for Managers* and *Managerial Data Analysis*

I have reviewed your proposals for these two courses and have consulted with the members of the Mathematics department. We are happy to see the development of two new courses in the Management curriculum that build on the knowledge that students bring from their calculus and statistics classes. It is particularly relevant that these quantitative courses require statistics and calculus as prerequisites and use the quantitative skills developed in the mathematics courses to address management related problems.

While both courses that you propose are distinct from the mathematics courses listed as prerequisites, there is some overlap in both courses with ideas covered in Statistics I. This overlap is necessary to make the courses complete, but we recommend that any review of the basic ideas of descriptive and inferential statistics that is covered in your courses keep in mind that this material is review and not new to the students.

We are pleased to see that you will be using both Excel and dedicated statistics software in these courses. In our Statistics II course, which would be at roughly the same level as your Managerial Data Analysis course, we use dedicated statistics software exclusively. If your course is designed to accomplish some of the same goals as our Statistics II course, it is a necessity for your students to use a statistical package that is more highly regarded with respect to statistical analysis than Excel.

Since most of your majors do not now take Statistics II, these courses should not have much of an effect on enrollment in our course.