Proposal Of A New Undergraduate Or Graduate Program

This document should not exceed 3-5 pages in length.

1. Proposing College / School: College of Business
   Department: Aviation & Supply Chain Mngt

2. Proposed Program Title: Minor in Business Analytics

3. CIP Code of Proposed Program: 52.1301

4. Proposed Implementation Date: Fall 2012

5. Relationship of Proposed Program to the Auburn University Mission Statement and Strategic Plan:

(Auburn University’s mission statement may be accessed at the following site: http://www.auburn.edu/administration/trustees/policymanual/vision_and_mission.html; Auburn University’s strategic plan may be accessed at the following site: http://ocm.auburn.edu/strategic_plan/)

According to AU mission statement, “Auburn University is committed to offering high-quality undergraduate, graduate, and professional education to its students. Further, "... the University will emphasize broad and superior undergraduate education that imparts the knowledge, skills, and values so essential ...". Also, "... the University will provide ... programs in areas of need and importance to the state and beyond".

The proposal is to offer a minor in Business Analytics (BUAL).

Surveys of findings from faculty, students, and industry practitioners in the Business Intelligence Congress II (December, 2010: http://www2.commerce.virginia.edu/bicongress/) and related reference (Wixom, B.H., & Ariyachandra, T. (2011). State of Business Intelligence in Academia, 2010, BI Congress II.) showed a critical shortage of graduates with Business Intelligence or Business Analytics skill-sets entering the workforce. Hardly any large university in the U.S. offers a major in the proposed area. Two smaller universities reported undergraduate degrees (Augusta State University and St. Joseph’s University). AU can fill a critical void in producing students with the desired skill sets to meet the needs of business and industry.

6. Expected Program Outcomes and Assessment Methods:

(Expected outcomes must be stated clearly and must include student learning outcomes and an assessment plan for ascertaining the extent to which the expected outcomes are achieved and for designing improvements based on analysis of assessment results.)

The sentiments of faculty and students in institutions that offer business intelligence related courses were supported by industry practitioners. They called for the following changes: an increase in the number of business analytics courses; more hands-on training; case-based classes; internships to put learning skills to use in real-world business setting; and a more holistic curriculum that teaches technical skills, analytical skills, along with business knowledge and communication skills.

The proposed minor meets these needs by offering courses in data management (BUAL 5650: Data Management I; BUAL 5660: Data Management II), advance analysis and predictive modeling (BUAL 5600: Predictive Modeling I; BUAL 5610: Predictive Modelling II), and oral and written communication skills (BUAL 5860: Communicating Quantitative Results in Business).

Detailed student learning outcomes for the new courses are shown in the detailed course outline. Program outcomes include the following:

• developing technical knowledge of database systems
• understanding tactical and strategic challenges associated with data management
• designing and implementing solutions for data management
• developing competencies in data management to improve organization data support
• developing skills to interface and present solutions to business professionals
• understanding predictive modeling techniques and to link results to business decision-making
• understanding data mining techniques
• developing effective oral and written communication skills to convey results of complex analysis to management

An assessment plan will include the following, based on the appropriate course/courses in the discipline:

• Develop a Likert scale (5-point scale) for faculty to rate each student in each of the above-mentioned learning outcomes. Develop summary analysis at the end of each year.
• First year data will be used as a benchmark. Summary data in future years will be compared to benchmark to determine trends in the measures.
• In the event of undesirable trends, faculty will devise remedial actions for the related learning outcome.

7. Degree Requirements (Including All Formal Options):
(For programs at the undergraduate level, please provide a curriculum model for the program as well as for each formal option.)

Business Analytics Minor

Required of all minors (15 hours)
BUAL 5650 Data Management I (Extracting, merging, and preparing data for analysis taught using actual data)
BUAL 5660 Data Management II (Continuation of Data Management I, with emphasis on loading data into specific software packages for analysis and cleansing the data for analysis)
BUAL 5600 Predictive Modeling I (Introduction to linear modeling including multiple regression, model building)
BUAL 5610 Predictive Modeling II (Data mining and model building using real data sets and case study methods)
BUAL 5860 Communicating Quantitative Results in Business (Oral and written communication course using completed projects in business analytics)

8. Specific Admission and/or Continuation Requirements:

Admission to the College of Business

9. Existing Courses and New Courses Required:

New Courses: BUAL 5600; BUAL 5610; BUAL 5650; BUAL 5660; BUAL 5860.

10. Relationship of Proposed Program to Other Auburn University Programs:
(If "yes" for either item, please provide explanation in the space provided below.)

Will the program support or be supported by other program(s) at Auburn University? ○ Yes ○ No
Will this program replace any existing program(s), or specializations / options / concentrations within existing program(s) at Auburn University? ○ Yes ○ No

11. New or Additional Resources / Resource Shifting Required:
(If "yes" for any item, please provide explanation in the space provided below.)

Will additional faculty lines be required? ○ Yes ○ No
Will new or additional space (e.g.: laboratory or classroom) be required? ○ Yes ○ No
Will additional library resources be required? ○ Yes ○ No
Will additional GTA support be required? ○ Yes ○ No

Explanation of or provision for new or additional resources / explanation of program's support or replacement of other programs:

Resource shifting within the College, as necessary, will be used to meet the instructional needs of the minor.
### 12. Potential Duplication of Other Programs in the State:

*(If the program would overlap with or duplicate a similar offering at another institution in the state, articulate the program's necessity and/or any differences from similar programs.)*

| Based on our survey, there is no undergraduate minor in Business Analytics at any institution in Alabama. Hence, if implemented, this would enable AU to become a leader in the field. |

### 13. Collaboration With Other Institutions:

*(Indicate whether or not the proposed program will – either immediately or in the future – involve collaboration with other post-secondary institutions. If so, provide all relevant details.)*

| The proposed program will not involve collaboration with other post-secondary institutions. |

### 14. Distance Education:

*(If Distance Education will be incorporated in the delivery of the proposed program, provide details of implementation, scope, etc.)*

| After the program has been implemented for a few years, if the College makes a decision to offer its undergraduate degree program via distance education, this minor will certainly be considered. |
15. Documented Need for Proposed Program:
(Elaborate upon the methodology used to appropriately assess regional, state, or national need and/or student demand for program.)

The results of a survey administered to faculty, students, and industry practitioners at the Business Intelligence Congress II, December 2010 (http://www2.commerce.virginia.edu/bicongress; Wixom and Ariyachandra, 2011) are utilized for demonstrating a critical shortage of graduates with the requisite business intelligence or business analytics skill-sets entering the workforce.

Summary of Supportive Business Intelligence/Business Analytics Reference Data
In an attempt to determine the state of the Business Intelligence discipline in the academic community, a survey was administered to faculty, students, and industry practitioners at the December, 2010 Business Intelligence Congress II (Wixom & Ariyachandra, 2011). The BI Congress II received 173 responses from faculty members and 339 student responses from both universities in and outside of the United States. Also received were 219 responses from business practitioners in the United States, 176 of which are active in the process of hiring new employees who have business intelligence (BI) training. The study’s authors define BI as “…a broad category of technologies, applications, and processes for gathering, storing, accessing, and analyzing data to help its users make better decisions. We use the terms BI and Analytics interchangeably.” The authors suggest that while BI is growing rapidly in popularity, academia is still falling short of producing the number and quantity of students needed to meet the growing demand for employees with BI or Business Analytics (BA) skill-sets entering the workforce.

Of the universities represented in the survey, three reported undergraduate degrees in BI/BA: Augusta State University, St. Joseph’s University, and Stuttgart Media University (Germany). Twelve schools report having a graduate degree in BI: Augusta State University, University of Denver, St. Joseph’s University, Stuttgart Media University (Germany), Sofia University (Bulgaria), North Carolina State University, Singapore Management University (Singapore), Texas Tech University, Loyola University Chicago, Xavier University, University of Muenster (Germany), and Universidade Portucalense (Portugal).

When asked the question, “Are you considering a career in BI?” The response was an overwhelming yes: 251 (Yes); 83 (No). Students who answered no to this question gave the following reasons for their answer:
- Other areas have more advancement potential
- My skills do not align well (e.g., I’m not good with numbers)
- No experience in the area
- Lack of interest
- Don’t know of any jobs in this area
- I’m already committed to a different area
- I have not heard of BI before
- Other career alternatives seem less limiting

The information summarized above supports our proposed structure for the minor in Business Analytics for the Auburn University College of Business. Echoing sentiments of faculty and students in curriculums that offer BI-related or focused courses, the industry practitioners surveyed appear to call for several changes: an increase in the number of BI courses; more hands-on training, case-based classes, and internships to put learning academic skills to use in a real-world business setting; and, a more holistic BI curriculum that teaches the technical skills, analytical skills, along with the integration of business knowledge and communication skills. The proposed minor structure meets these industry needs by offering courses in technical database, data management, advanced analysis, predictive modeling, and oral as well as written communication skills. Auburn’s proposed curriculum answers the needs of the industry for students who are skilled in the full range of BI/BA area topics.

References

16. Employment Opportunities:
(Provide specific examples of employment opportunities anticipated for graduates of the proposed program.)

Leading companies in various manufacturing and service industries, that have a need to forecast market share based on company/industry characteristics will look forward to such graduates. Examples of some specific companies, representatives of whom have expressed strong support for the proposed program are: IBM Global Services, KPMG, HealthSouth Corporation; Russell Corporation, Protective Life Insurance Company, Alfa Insurance, Compass Bank, etc.