

LSC Use Only No:	LSC Action-Date:	UWUCC USE Only No.	UWUCC Action-Date:	Senate Action Date:
		14-70	AP-10/21/14	APP 11/4/14

Curriculum Proposal Cover Sheet - University-Wide Undergraduate Curriculum Committee

Contact Person James A. Rodger	Email Address jrodger@iup.edu
Proposing Department/Unit Information Systems and Decision Sciences	Phone 357-5944

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

IFMG 456 556 Business Intelligence, Informatics, Big Data Analysis ✓

Current Course prefix, number and full title

Proposed course prefix, number and full title, if changing

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.

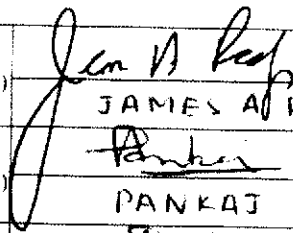
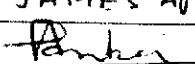
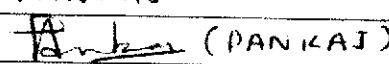

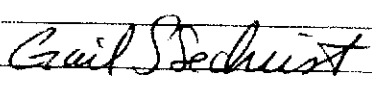
3. Program Proposals

- New Degree Program Program Title Change Other
 New Minor Program New Track Catalog Description Change Program Revision

Current program name

Proposed program name, if changing

4. Approvals

		Date
Department Curriculum Committee Chair(s)	 JAMES A. RODGER	5-12-2014
Department Chair(s)	 PANKAJ	9/12/2014
College Curriculum Committee Chair	 (PANKAJ)	9/12/2014
College Dean		9/16/2014
Director of Liberal Studies *		
Director of Honors College *		
Provost *		
Additional signatures as appropriate: (include title)		
UWUCC Co-Chairs		10/22/14

* where applicable

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LIBRARY SERVICES

B. Proposal Format and Content

1. Graduate Curriculum Authorization Form (Appendix D)

Cover page

2. Course Description and Particulars

a. Attachments

i. Course Syllabus: (pages 1-5)

ii. Bibliography: (page 4-5)

b. Rationale:

It is well accepted that Business Intelligence (BI) technologies provide historical, current and predictive views of business operations (Wikipedia). There are many common functions of business intelligence technologies, such as reporting, online analytical processing, analytics, data mining, process mining, complex event processing, business performance management, benchmarking, text-mining, predictive analytics, prescriptive analytics, visualizing data and making decisions. Because they both support decision making, the term business intelligence is sometimes a synonym for competitive intelligence. BI has a large number of components including but not limited to multidimensional aggregation, denormalization, standardization, real-time reporting, budgeting, unstructured data source interface, statistical inference, probabilities, simulation, optimization and process management. Informatics complements BI because it is the science of information. It involves the practice of information processing, and the engineering of information systems by studying structures, algorithms, behavior, and interactions of natural and artificial systems. Thomas Davenport argues that business intelligence should be divided into querying, reporting, OLAP, an "alerts" tool, and business analytics (BA). In this definition, business analytics is the subset of BI based on statistics, prediction, and optimization. "Big Data is the term for a collection of data sets so large and complex that it becomes difficult to process using on-hand database management tools or traditional data processing applications. The challenges include capture, curation, storage, search, sharing, transfer, analysis and visualization." (Wikipedia).

Informatics goes hand in hand with BI and BA and it has great breadth and encompasses many individual specializations including computer science. Since the advent of computers, individuals and organizations increasingly process information digitally and these advances have led to broadening the study of informatics to include computational, mathematical, biological, cognitive and social aspects. As a contrast to BI and BA, informatics is not totally dependent upon technological aspects of information, while computer science and information technology are. (Wikipedia) Informatics is an important skill that an MIS student needs to have. Through this dual listing the course would be available as an elective for both undergraduate and graduate students seeking a concentration in the MIS area. After taking the course graduate students will become more proficient in this business intelligence and analysis which is likely to increase their chances of employability in the industry dominated by informatics.

Business intelligence (BI) is a set of theories, methodologies, architectures, and technologies that transform raw data into meaningful and useful information for business purposes. BI can be used to handle large amounts of unstructured data to help identify and develop new opportunities in a competitive business environment. Organizations can make use of new opportunities that result from BI and consequently implement an effective strategy that can provide a competitive market advantage and long-term stability. The scientific methodology is a logical approach to developing theories or models that explain and predict real world behavior such as BI. The information

derived from BA is essential to assist and aid the manager in carrying out organizational objectives. This course is designed to introduce students to the basic techniques of solving various types of managerial decision-making problems. The emphasis of this course is however not on the techniques per se, but rather on showing how the techniques can be used to contribute to a better decision-making process using Business Intelligence, Informatics, Big Data Analysis (BIIBDA) techniques.

c. Other courses or programs:

- i. The course content will not overlap with any courses offered by other departments.
- ii. No other department is planning to use this course as a requirement or elective.

d. Variable credit:

This course will not be offered as variable credit

e. Teaching Plans:

Instruction will be delivered by one instructor in a computer lab that has the appropriate tools and software for applying the concepts through hands on work.

f. Special Topics:

This course has not been offered as Special Topics.

g. Comparisons:

Quite a number of universities and colleges offer this integrated course in various forms and modifications. For example, SAP, Steven's University, St. Joseph's University, the Huck Institutes of the Life Sciences at Pennsylvania State University, and the University of Pittsburgh's Dietrich School of Arts & Sciences, offer versions of this course.

SAP: SAP BusinessObjects Business Intelligence. "Within SAP BusinessObjects BI solutions, the SAP BusinessObjects administration curriculum demonstrates how you can increase the flexibility and scalability of your key business processes and lower TCO. Curriculum paths include the development and administration of the SAP BusinessObjects Edge Business Intelligence (BI) and SAP BusinessObjects Enterprise software. The SAP BusinessObjects business intelligence (BI) solutions curriculum can help you simplify the way your decision makers use information, allowing users to access, format, analyze, navigate, and share information across the organization. This curriculum comprises reporting, query and analysis, dashboards and visualization, and the BI platform – including search capabilities."

Saint Joseph's University: "Master's Program in Business Intelligence "Saint Joseph's University Program in Business Intelligence, allows you to choose one of two distinct program tracks. Track I includes a core business intelligence specialization. Track II includes a specialization in Six Sigma, which qualifies participants to sit for the Six Sigma Green Belt Certification exam. To complete the Certificate Program in Business Intelligence, you are required to complete four designated courses in sequence. Each course is 3 credits, for a total of 12 credit hours. The program is designed to be completed in only nine months, which consists of two consecutive academic semesters."

Stevens University: "Stevens University offers a Master of Science in Business Intelligence and Analytics. The Business Intelligence & Analytics (BI&A) degree is a 36-credit graduate program for students who have already completed an undergraduate degree in science, mathematics, computer science, engineering or a related field."

University of Pittsburgh: Bioinformatics Major www.cs.pitt.edu/undergrad/bioinformatics
BIOSC/CS 1640 Bioinformatics Software Design. “Bioinformatics is the theory, application and development of computing tools to solve problems and create hypotheses in all areas of biological sciences. Biology in the post-genome world has, and continues to be transformed from a largely laboratory-based science to one integrating experimental and information science. Bioinformatics provides biological tools that handle datasets too large and/or complex for manual analysis. Examples of some of these tools include assembly of DNA sequences of entire genomes, gene finding algorithms, microarray expression analysis, molecular system modeling, and biomarker discovery from mass spectra. Computational tools are central to the organization, analysis, and harvesting of biological data at the level of macromolecules, cells, and systems. Consequently, there is a growing need for trained professionals who understand the languages of both biology and computer science. The Bioinformatics major is operated jointly by the departments of biological sciences and computer science. This program offers training that builds a solid foundation in chemistry, biology, computer science, mathematics, and statistics. The training will enable students to communicate fluently with experts across these disciplines and to have the skills necessary to apply computing tools to address contemporary problems in biology and medicine. It will enhance the professional opportunities for undergraduates to pursue careers in pure or applied research in academia, government, pharmaceutical, medical, or biotechnology sectors.”

Penn State University: IBIOS 598A, Foundations in Data Driven Life Sciences (3) - “This course is designed as an intensive preparation routine for future postdocs. It has several focus areas including evolution of life sciences as well as in-depth overview of sequencing technologies and their applications. A key feature of this course is a set of lectures intended to draw students’ attention to critical importance of speaking and writing skills for successful careers in highly competitive biomedical field. BIOL 597A/CSE 598F/STAT 597A, Bioinformatics II (3) – “Students are introduced to statistical analysis and experimental design for high-throughput OMICS data. Topics include an introduction to the biology of gene and protein expression, experimental design for high throughput measurement platforms, data pre-processing, differential expression analysis, peak finding, clustering and classification, and data reduction techniques. Trainees will become familiar with statistical and bioinformatics software.”

h. Standards:

The Huck Institutes of the Life Sciences at Pennsylvania State University, and the University of Pittsburgh Dietrich School of Arts& Sciences both recommend this course.

3. Implementation

a. Resources:

- i. Faculty: We will be able to offer this course within our currently assigned compliment.
- ii. Space and Equipment: Classroom space is adequate. The ECB lab 111 is adequately equipped for this course. The Eberly laboratory is adequately equipped for this course; all software is available either free or through existing subscriptions.
- iii. Laboratory Supplies: The MIS-DS Department has licensed copies of “R”, Excel, Matlab, SPSS and other application software for projects. However, periodic updates will be required to keep up with the technology.
- iv. Library: There is an adequate source of reading material in Stapleton Library.
- v. Travel Funds: No travel funds will be requested.
- vi. Miscellaneous: There are no other resource requirements or limitations.

b. Frequency:

This course will be offered once during the academic year.

c. Enrollment:

Approximately 45 students will be accommodated in a section of the course.

4. Catalog Description: See the attached syllabus of record.

5. Logistics

a. START TERM: Summer/Fall 2015

b. A review of the Registrar's website confirms that this course number IFMG 498/598 is available.

c. A conversation with the Registrar's Office indicated the CIP code is no longer necessary. They said that I could use the code 999999 on the Graduate Curriculum Authorization Form.

d. CATALOG TERM: Spring 2015

6. Miscellaneous: None.

SYLLABUS OF RECORD

IFMG 456 Business Intelligence, Informatics, and Big Data Analysis (3c-01-3cr)
Prerequisites: QBUS 215. Permission of the instructor (determination of appropriate background done by the instructor)

IFMG 556 Business Intelligence, Informatics, and Big Data Analysis (3c-01-3cr)
Prerequisites: QBUS 601. Permission of the instructor (determination of appropriate background done by the instructor)

I. Catalog Description

Primarily concerned with business analysis dealing with quantitative approaches, including those involving big data, for decision making for Business Intelligence and Informatics (BII). Big Data (BD) is the term for a collection of data sets that are so large and complex that it becomes difficult to process this data by using on-hand database management tools or traditional data processing applications alone.

II. Course Objectives

1. Learn the basic quantitative methods in informatics for Business Intelligence Analysis.
2. Provide comprehensive training in computational and statistical approaches to collect, process, analyze, integrate and interpret complex, large-scale business data (Big Data).
3. Provide comprehensive training in the use and development of advanced informatics tools for Business Intelligence Analysis.
4. Understand and interpret both the problem solution and decision making involved with a business environment. Explain the functional business intelligence of a firm together with detailed procedures for analyzing its data and analyze the problems of a real business information system and to implement improved solutions.
5. Provide an in-depth understanding of the potential application of Business Intelligence Analysis approaches to basic and applied research, and the skills to communicate approaches to a broad business audience.
6. Enhance collaborative environment to facilitate productive interactions and creative efforts in BIIBDA.

Additional outcomes for the graduate students:

1. Analyze and evaluate a real world Business Intelligence System (BIS) and model it using the techniques taught in the class. Produce an analysis and implementation document as a deliverable of this endeavor.
2. Research and synthesize the current theoretical and applied research of BIIBDAs, to come up with a new research question and associated hypotheses.

III. Detailed Course Outline

1. Decision Making and Analytics (3 hours)
 - a. Overview of Business Intelligence, Analytics, Informatics and Decision Support
 - b. Foundations and Technologies for Decision Making
2. Descriptive Analytics (3 hours)
 - a. Data Warehousing
 - b. Business Reporting, Visual analytics and Business Performance Management
3. Midterm I and Evaluation Testing (2 hours)
4. Predictive Analytics (6 hours)
 - a. Techniques for Predictive Modeling
 - b. Text Analytics, Text Mining, Sentiment analysis
 - c. Web Analytics, Web Mining, Social Analytics
 - d. Data Mining
5. Prescriptive Analytics (6 hours)
 - a. Model Based Decision Making: Optimization and Multi-Criteria
 - b. Modeling and Analysis: Heuristic Search Methods and Simulation
 - c. Expert Systems and Automated Decision support
 - d. Knowledge Management and Collaborative Systems
6. Big Data and Future Directions for Business (10 hours)
 - a. Big Data and Analytics
 - b. Business Analytics: Emerging Trends and Future Impacts
7. Midterm II and Evaluation Testing (1 hours)
8. Applications (10 hours)
 - a. Student will use R, Excel, MatLab and SPSS to analyze a Business Intelligence, Informatics Big Data Analysis (BIIBDA) problem and report on the decision making approach that will be adopted. Microsoft Azure, Hindsight and SQL Server will also be employed for the Big Data component.
 - b. The student will analyze the problems of a business intelligence system (BIS) of their choice or one assigned by the instructor.
 - c. The student will prepare progress reports of their analysis of the existing informatics and submit to the professor for review.
 - d. The final report of the BIIBDA project will be prepared and submitted to students' professor and project leader.
 - e. The student will design improved informatics based on the recommendations and guidelines presented in the approved analysis project report.
 - f. The complete results of the new system informatics will be documented and a report will be prepared.
9. Final examination (1 hours)

IV. Evaluation Methods

Undergraduate Students

Writing intensive homework assignments. These will be based on material discussed in class and on aspects of the project. (Objectives 1 & 2)	20%
Examinations. Two in-class exams and a final exam all of which count equally. Examinations consist of short-answer, analysis, and what-if questions. (Objectives 1 & 2)	45%
Project. The project is to analyze and implement a solution for a business intelligence Informatics problem of their choice or one assigned by the instructor. The student will have to demonstrate that the completed project is properly analyzed and functionally sound. <ol style="list-style-type: none"> 1. It is essential that students formulate the BIIBDA teams to simulate a real world situation. Therefore, an organizational meeting has to be held prior to conducting any analysis activities. The role and responsibilities of the individual team member must be initially identified. Microsoft Azure will be utilized for the Big Data component. 2. Students will research the library and Internet for a parallel solution. 3. Students may visit other companies with the intent of analyzing Informatics with similar data considerations. 4. Students will analyze the Informatics using R, SPSS, Excel and MatLab. (Objective 3)	35%

Graduate Students

Research paper. Students will survey the state of the BIIBDA and identify important future trends and historical issues. Based on their survey they will come up with a research question, research model, and a set of hypotheses. They will outline the data collection plan to test the hypotheses (Objective 5)	25%
Examinations. Two in-class exams and a final exam all of which count equally. Examinations consist of short-answer, analysis, and what-if questions. (Objectives 1 & 2)	45%
Project. The project is to analyze and design a BIIBDA problem of their choice or one assigned by the instructor. The student will have to demonstrate that the completed project is functional. <ol style="list-style-type: none"> 1. It is essential that students formulate the BIIBDA teams to simulate a real world situation. Therefore, an organizational meeting has to be held prior to conducting any analysis activities. The role and responsibilities of the individual team member must be initially identified. Microsoft Azure will be utilized for the Big Data component. 2. Students will research the library and Internet for a parallel solution. 3. Students may visit other companies with the intent of analyzing informatics with similar data considerations. 4. Students will analyze all aspects of this informatics problem using R, SPSS, Excel and MatLab and other tools. (Objective 3 & 4)	30%

Undergraduate Grading Scale:

A: 90% and above; B: 80% and above but less than 90%; C: 70% and above but less than

80%; D: 60% and above but less than 70%; F: Below 60%

Graduate Grading Scale

A: 90% and above; B: 80% and above but less than 90%; C: 70% and above but less than 80%; F: Below 70%

V. Course Attendance Policy

In accordance with University policy, individual faculty will denote an attendance policy on specific course syllabi.

VI. Required Textbook(s), Supplemental Books and Readings

Business Intelligence and Analytics: Systems for Decision Support, Ramesh Sharda, Dursun Delen, and Efrain Turban, Pearson, 2015, Upper Saddle River NJ

VII. Special Resources

No special resource requirements. All the software needed is provided free or already subscribed by the MISDS department. This software is installed in the MISDS lab which is used for the course.

VIII. Bibliography

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COURSE ANALYSIS QUESTIONNAIRE

Section A: Details of the Course

- A1 How does this course fit into the programs of the department? For what students is the course designed? (majors, students in other majors, liberal studies). Explain why this content cannot be incorporated into an existing course.

BIIBDA principles are necessary for students to grasp fundamental and advanced concepts of data requirements as well as procedures for using the information collected to accomplish the survival of the organization. An introduction is provided to introduce the knowledge tools needed to develop solutions and documentation for analyzing data for problem solving. Microsoft Azure will be utilized for the Big Data component. Most of our students go to companies that will require them to function in these areas. Also, the department Corporate Advisory Board has suggested the need for extensive exposure of the students to these areas. This course will fit into the programs of the department by meeting this need. The course is designed with MIS majors in mind, but any student with the necessary background will be accepted.

- A2 Does this course require changes in the content of existing courses or requirements for a program? If catalog descriptions of other courses or department programs must be changed as a result of the adoption of this course, please submit as separate proposals all other changes in courses and/or program requirements.

No changes in other current courses or programs in the department are required.

- A3 Has this course ever been offered at IUP on a trial basis (e.g. as a special topic)? If so, explain the details of the offering (semester/year and number of students).

This course has not been offered at the 500 level previously.

- A4 Is this course to be a dual-level course? If so, please note that the graduate approval occurs after the undergraduate.

The course is intended to be listed as dual level.

- A5 If this course may be taken for variable credit, what criteria will be used to relate the credits to the learning experience of each student? Who will make this determination and by what procedures?

The course may not be taken for variable credit.

- A6 Do other higher education institutions currently offer this course? If so, please list examples (institution, course title).

Quite a number of universities and colleges offer this integrated course in various forms and modifications. For example, the Computer Science Departments of the University of Pittsburgh and Penn State University offer versions of this course.

SAP BusinessObjects Business Intelligence. “Within SAP BusinessObjects BI solutions, the SAP BusinessObjects administration curriculum demonstrates how you can increase the flexibility and scalability of your key business processes and lower TCO. Curriculum paths include the development and administration of the SAP BusinessObjects Edge Business Intelligence (BI) and SAP BusinessObjects Enterprise software. The SAP BusinessObjects business intelligence (BI) solutions curriculum can help you simplify the way your decision makers use information, allowing users to access, format, analyze, navigate, and share information across the organization. This curriculum comprises reporting, query and analysis, dashboards and visualization, and the BI platform – including search capabilities.”

“Master’s Program in Business Intelligence “Saint Joseph’s University Program in Business Intelligence, allows you to choose one of two distinct program tracks. Track I includes a core business intelligence specialization. Track II includes a specialization in Six Sigma, which qualifies participants to sit for the Six Sigma Green Belt Certification exam. To complete the Certificate Program in Business Intelligence, you are required to complete four designated courses in sequence. Each course is 3 credits, for a total of 12 credit hours. The program is designed to be completed in only nine months, which consists of two consecutive academic semesters.”

“Stevens University offers a Master of Science in Business Intelligence and Analytics. The Business Intelligence & Analytics (BI&A) degree is a 36-credit graduate program for students who have already completed an undergraduate degree in science, mathematics, computer science, engineering or a related field.”

“University of Pittsburgh: Bioinformatics Major www.cs.pitt.edu/undergrad/bioinformatics
BIOSC/CS 1640 Bioinformatics Software Design. Bioinformatics is the theory, application and development of computing tools to solve problems and create hypotheses in all areas of biological sciences. Biology in the post-genome world has and continues to be transformed from a largely laboratory-based science to one integrating experimental and information science. Bioinformatics provides biological tools that handle datasets too large and/or complex for manual analysis. Examples of some of these tools include assembly of DNA sequences of entire genomes, gene finding algorithms, microarray expression analysis, molecular system modeling, and biomarker discovery from mass spectra. Computational tools are central to the organization, analysis, and harvesting of biological data at the level of macromolecules, cells, and systems. Consequently, there is a growing need for trained professionals who understand the languages of both biology and computer science. The Bioinformatics major is operated jointly by the departments of biological sciences and computer science. This program offers training that builds a solid foundation in chemistry, biology, computer science, mathematics, and statistics. The training will enable students to communicate fluently with experts across these disciplines and to have the skills necessary to apply computing tools to address contemporary problems in biology and medicine. It will enhance the professional opportunities for undergraduates to pursue careers in pure or applied research in academia, government, pharmaceutical, medical, or biotechnology sectors.”

“Penn State: IBIOS 598A Foundations in Data Driven Life Sciences(3) This course is designed as an intensive preparation routine for future postdocs. It has several focus areas including evolution of life sciences as well as in-depth overview of sequencing technologies and their applications. A key feature of this course is a set of lectures intended to draw students’ attention to critical importance of speaking and writing skills for successful careers in highly competitive biomedical field. BIOL 597A/CSE 598F/STAT 597A. Bioinformatics II (3) Students are introduced to

statistical analysis and experimental design for high-throughput "omics" data. Topics include an introduction to the biology of gene and protein expression, experimental design for high throughput measurement platforms, data pre-processing, differential expression analysis, peak finding, clustering and classification, and data reduction techniques. Trainees will become familiar with statistical and bioinformatics software."

- A7 Is the content, or are the skills, of the proposed course recommended or required by a professional society, accrediting authority, law or other external agency? If so, please provide documentation.

Quite a number of universities and colleges offer this integrated course in various forms and modifications. For example, the Huck Institutes of the Life Sciences of Pennsylvania State University and the University of Pittsburgh Dietrich School of Arts & Sciences offer versions of this course.

Section B: Interdisciplinary Implications

- B1 Will this course be taught by instructors from more than one department? If so, explain the teaching plan, its rationale, and how the team will adhere to the syllabus of record.

The course is designed to be taught by one MIS instructor per semester.

- B2 What is the relationship between the content of this course and the content of courses offered by other departments? Summarize your discussions (with other departments) concerning the proposed changes and indicate how any conflicts have been resolved. Please attach relevant memoranda from these departments that clarify their attitudes toward the proposed change(s).

The course does not overlap with any other courses at this University. Although other departments may offer courses with similar topics, this course is specifically designed for the needs, interests, and context required for our MIS majors. This syllabus of record proposes the tools and methods used to implement the content of the course. The basic nature and purpose of this course has not been changed.

- B3 Will this course be cross-listed with other departments? If so, please summarize the department representatives' discussions concerning the course and indicate how consistency will be maintained across departments.

This course will not be cross listed.

- B4 Will seats in this course be made available to students in the School of Continuing Education?

Seats will be made available to Continuing Education students meeting the prerequisites.

Section C: Implementation

- C1 Are faculty resources adequate? If you are not requesting or have not been authorized to hire additional faculty, demonstrate how this course will fit into the schedule(s) of current faculty. What will be taught less frequently or in fewer sections to make this possible? Please specify how preparation and equated workload will be assigned for this course.

Faculty resources are currently adequate.

- C2 What other resources will be needed to teach this course and how adequate are the current resources? If not adequate, what plans exist for achieving adequacy? Reply in terms of the following:
Space: Classroom space is adequate. The ECB lab 111 is adequately equipped for this course.
Equipment: The Eberly laboratory is adequately equipped for this course; all software is available either free or through existing subscription.

Laboratory Supplies and other Consumable Goods: The MIS-DS Department has licensed copies of R, Protégé, Excel, Matlab and other application software for projects. However, periodic updates will be required to keep up with the technology.

Library Materials: There is an adequate source of reading material in Stapleton Library.

Travel Funds: No travel funds are needed.

- C3 Are any of the resources for this course funded by a grant? If so, what provisions have been made to continue support for this course once the grant has expired? (Attach letters of support from Dean, Provost, etc.)

No resource for this course is funded by a grant.

- C4 How frequently do you expect this course to be offered? Is this course particularly designed for or restricted to certain seasonal semesters?

Once in an academic year. The course will be typically offered in the Fall semester.

- C5 How many sections of this course do you anticipate offering in any single semester?

At least one section.

- C6 How many students do you plan to accommodate in a section of this course? What is the justification for this planned number of students?

Approximately 45 students will be accommodated in a section of the course.

- C7 Does any professional society recommend enrollment limits or parameters for a course of this nature? If they do, please quote from the appropriate documents.

No professional society recommends enrollment limits or parameters for this course.

- C8 If this course is a distance education course, see the Implementation of Distance Education Agreement and the Undergraduate Distance Education Review Form in Appendix D and respond to the questions listed.

Presently, this course is not a distance education course, but a D2L site has been developed.

Section D: Miscellaneous

This course, IFMG 498/IFMG 598, involves a combination of both informatics and business intelligence analysis and implementation BA tools and techniques. The analysis of a business intelligence system is a necessary prerequisite to problem solving and decision making implementations. Along with in class discussions of the principles and techniques for analyzing,

designing, and constructing the analytical system, the students will also formulate system teams in order to analyze the problems of an existing business intelligence system, to design an improved system, and to control the implementation of the new system through the informatics.

Microsoft Azure will be utilized for the Big Data component. BIIBDA provides an introduction to the knowledge of the principles and techniques involved in conceptualizing a business intelligence system. The system can be analyzed utilizing a variety of methodologies including Matlab, Excel, R and SPSS. Documentation will utilize these and other relevant methodologies. Our students go to companies that require them to be proficient in one or more of these methodologies. The department Corporate Advisory Board has suggested the need for extensive exposure of the students to these areas. This course will fit into the programs of the department by meeting this need.