MEMORANDUM

TO: G. Anand Anandalingam
    Dean, Robert H. Smith School of Business

FROM: Elizabeth Beise
       Associate Provost for Academic Planning and Programs

SUBJECT: Proposal to Modify the Bachelor of Science in Information Systems (PCC log no. 12047)

Your proposal to modify the Bachelor of Science in Information Systems has been administratively approved. A copy of the approved proposal is attached.

The change is effective Fall 2013. Please ensure that the change is fully described in the Undergraduate Catalog and in all relevant descriptive materials, including the program’s four-year plan (contact Lisa Kiely at lkiely@umd.edu for more information), and that all advisors are informed.

MDC/
Enclosure

cc: William Idsardi, Chair, Senate PCC Committee
    Sarah Bauder, Office of Student Financial Aid
    Reka Montfort, University Senate
    Erin Howard, Division of Information Technology
    Donna Williams, Institutional Research, Planning & Assessment
    Anne Turkos, University Archives
    Linda Yokoi, Office of the Registrar
    Robert Gaines, Office of Undergraduate Studies
    Brian Horick, Robert H. Smith School of Business
THE UNIVERSITY OF MARYLAND, COLLEGE PARK
PROGRAM/CURRICULUM/UNIT PROPOSAL

- Please email the rest of the proposal as an MSWord attachment to pcc-submissions@umd.edu.
- Please submit the signed form to the Office of the Associate Provost for Academic Planning and Programs, 1119 Main Administration Building, Campus.

College/School: Robert H. Smith School of Business
Please also add College/School Unit Code-First 8 digits: 012029001
Unit Codes can be found at: https://hypprod.umd.edu/Html_Reports/units.htm

Department/Program: Information Systems-Business
Please also add Department/Program Unit Code-Last 7 digits: Major code: Information Systems-Business (0702B)

Type of Action (choose one):
- X Curriculum change (including informal specializations)
- Rename program or formal Area of Concentration
- Addition/deletion of formal Area of Concentration
- Suspend/delete program

- Italic indicates that the proposed program action must be presented to the full University Senate for consideration.

Summary of Proposed Action:
Update the Information Systems-Business major by introducing a new course and by also adjusting course options within the major. Also, the major is clarifying which CMSC courses can substitute for major requirements. In addition, the major is updating the titles and descriptions of some of their courses.

APPROVAL SIGNATURES - Please print name, sign, and date. Use additional lines for multi-unit programs.

1. Department Committee Chair
2. Department Chair  Zhi-long Chen  2/20/13
3. College/School PCC Chair  Rebecca Palmer  2/28/13
5. Dean of the Graduate School (if required)
6. Chair, Senate PCC
7. University Senate Chair (if required)
8. Senior Vice President for Academic Affairs & Provost
REASONS FOR PROPOSED ACTION

The Decision, Operations & Information Technologies (DOIT) department at the Robert H. Smith School of Business has reviewed the requirements of its undergraduate major in Information Systems-Business (IS) and is proposing changes to its curriculum to update its curriculum. First, by adding BMGT 404 Developing Applications for Decision Analytics as a major option, the IS major will address an emerging field into the curriculum. In addition, the IS major is adjusting course titles, descriptions and course options to update the curriculum with current terminology and emerging/relevant topics in the field of information systems. Finally, the IS major has many students who have a 2nd major or a minor in Computer Science or who have completed a significant number of courses in this area. Therefore, it is important to identify CMSC courses that satisfy the content of some IS major requirements. In particular, the IS major would like to articulate that CMSC132 Object-Oriented Programming II is an approved substitute for BMGT302 and CMSC424 Database Design is an approved substitute for BMGT402.

DESCRIPTION OF CURRICULUM CHANGE

1. Update title of BMGT302 Developing Business Applications to Designing Business Applications. Also, we are formally articulating that CMSC132 Object-Oriented Programming II is an approved substitute for BMGT302.

2. Change prerequisite of BMGT402 Database Systems and update the course description. Also we are formally articulating that CMSC424 Database Design is an approved substitute for BMGT402.

3. Update title of BMGT405 Business Telecommunications to Data Communications and Networking.

4. Update title of BMGT 406 Electronic Commerce Application Development to Developing Applications for the Web and Social Media and also update the course description.

5. Update title of BMGT 408 Special Topics in Decision and Information Technologies to Emerging Topics in Information Systems and also update the course description.

6. Create new course, BMGT 404 Developing Applications for Decision Analytics, and add it to the list IS major options.

7. Remove BMGT434 Introduction to Optimization and BMGT486 Total Quality Management as options in List B of the major requirements.

8. Move BMGT326 Accounting Systems and BMGT484 Electronic Marketing as options in List A to the options in List B of the major requirements.

9. Move BMGT485 Project Management as options in List B to the options in List A of the major requirements.

10. Add BMGT461 Entrepreneurship to the list of options in List B of the major requirements.

11. Add note under the economics requirement that students who have completed either ECON 325 or ECON326 can substitute these courses for ECON305 or ECON306 respectively.

Students who entered the University of Maryland prior to the introduction of the new IS major requirement have the option of completing the requirements that were in place when they entered the University or adopting these new major requirements.
Old Requirements

BMGT302 Bus. Computer Application Programming 3 cr
BMGT402 Database Systems 3 cr
BMGT403 Systems Analysis and Design 3 cr
BMGT407 Information Systems Projects 3 cr

Two courses from List A or 1 course from List A and 1 course from List B: 6 cr

List A:
BMGT405 Business Telecommunications
BMGT406 Electronic Commerce Application Development
BMGT408 Special Topics in Decision & Information Technologies
(repeatable if content differs)
BMGT326 Accounting Systems
BMGT476 Applied Computer Models in Supply Chain Management
BMGT484 Electronic Marketing

List B:
BMGT332 Operations Research For Management Decisions
BMGT385 Operations Management
BMGT430 Linear Statistical Models in Business
BMGT434 Introduction to Optimization
BMGT485 Project Management
BMGT486 Total Quality Management

Total Credits Required: 18 cr

Upper Level Economics Requirements
One of the following courses: 3 cr
ECON305 Intermediate Macroeconomic Theory & Policy
ECON306 Intermediate Microeconomic Theory
ECON330 Money and Banking
ECON340 International Economics

Total Economics Requirement 6 cr
New Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMGT302 Designing Business Applications (new title)</td>
<td>3 cr</td>
</tr>
<tr>
<td>Note: CMSC132 Object-Oriented Programming II is approved substitute</td>
<td></td>
</tr>
<tr>
<td>BMGT402 Database Systems</td>
<td>3 cr</td>
</tr>
<tr>
<td>Note: CMSC424 Database Design is approved substitute</td>
<td></td>
</tr>
<tr>
<td>BMGT403 Systems Analysis and Design</td>
<td>3 cr</td>
</tr>
<tr>
<td>BMGT407 Information Systems Projects</td>
<td>3 cr</td>
</tr>
</tbody>
</table>

Two courses from List A or 1 course from List A and 1 course from List B: 6 cr

List A:
- BMGT405 Data Communications and Networking (new title)
- BMGT406 Developing Applications for the Web and Social Media (new title)
- BMGT408 Emerging Topics in Information Systems (new title) (repeatable if content differs)
- BMGT476 Applied Computer Models in Supply Chain Management
- BMGT485 Project Management (moved from List B to List A)
- BMGT404: Developing Applications for Decision Analytics (new course)

List B:
- BMGT326 Accounting Systems (moved from List A to List B)
- BMGT332 Operations Research For Management Decisions
- BMGT385 Operations Management
- BMGT430 Linear Statistical Models in Business
- BMGT461 Entrepreneurship (new option added to List B)
- BMGT484 Electronic Marketing (moved from List A to List B)

Total Credits Required: 18 cr

Upper Level Economics Requirements
- One of the following courses: 3 cr
  - ECON305 Intermediate Macroeconomic Theory & Policy
  - ECON306 Intermediate Microeconomic Theory
  - ECON330 Money and Banking
  - ECON340 International Economics

Total Economics Requirement: 6 cr

Note: Students who have completed either ECON 325 or ECON326 can substitute these courses for ECON305 or ECON306 respectively.

Additional Degree Requirements of the Finance Major

At the Smith School of Business, a minimum of 120 credit hours is required to complete a Bachelor of Science degree. Besides the major requirements listed above and the freshmen/sophomore requirements and junior/senior level Smith School of Business core requirements listed below, a student must complete the University's General Education Requirements and sufficient lower and upper level elective credit to accumulate a total of 120 credit hours. A minimum of 57 credit hours of the required 120 hours must be in 300-400 (upper) level courses. A detailed explanation including additional Smith School of Business degree requirements are listed on the next page.
Freshmen/Sophomore Smith School Requirements
MATH 220, 130 or 140 - Elem. Calculus I or Calculus I 3-4 cr
BMGT110 Introduction to the Business Value Chain 3 cr
BMGT 220 & 221 - Principles of Accounting I & II 6 cr
BMGT 230 or 231 - Business Statistics 3 cr
ECON 200 & 201 - Principles of Micro & Macro Economics 8 cr
COMM 100, 107 or 200 - Foundations of Speech Communications, Speech Communication, or Critical Thinking and Speaking 3 cr
Or any course that satisfies the University's General Education Oral Communications requirement.
Total 26-27 cr

Junior/Senior Smith School Requirements
BMGT 301 - Introduction to Information Systems 3 cr
BMGT 340 - Business Finance 3 cr
BMGT 350 - Marketing Principles 3 cr
BMGT 364 - Management and Organization 3 cr
BMGT 367 - Career Search Strategies and Business 1 cr
BMGT 380 - Business Law 3 cr
BMGT 391 - Leadership In Action 1 cr
BMGT 495 - Business Policies 3 cr
BMGT 499 - Advanced Topics in Business 1 cr
Total 21 cr

IS Major Requirements (details listed previously) 21 cr

University General Education Requirements - not fulfilled by Smith School requirements listed above. - Total Credits 28 cr

Lower Level Electives 11-12 cr

Upper Level Electives 12 cr

Grand Total Required 120 cr

Current Catalog Description
The Business Area of Concentration in the Information Systems (IS) program prepares students to be effective planners, users and managers of information technologies and systems in the current environment of the technology-enabled business firm. The IS major focuses on the system design and implementation skills including database and web design, analytical skills for both strategic planning of IT and performance evaluation, and the managerial plus organizational knowledge required to manage information systems and applications based on business and customer requirements. The major's core emphasizes the concepts of systems analysis and design, and the strategic use of information systems. In addition to a broad grounding in the key functional areas of marketing, operations, accounting, and finance, this major develops in-depth knowledge of information systems design and implementation, evaluation and planning of information technology investments, and managing dynamic technology projects.
## Typical Four Year Plan

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Fall</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ENGL101 (AW)</td>
<td>ECON201 (HS)</td>
</tr>
<tr>
<td></td>
<td>MATH220, 140, or 130 (AR)</td>
<td>BMGT230 (AR)</td>
</tr>
<tr>
<td></td>
<td>ECON200 (HS)</td>
<td>COMM100, 107, or 200 (OC)</td>
</tr>
<tr>
<td></td>
<td>BMGT110</td>
<td>Natural Science Non-Lab (NS)*</td>
</tr>
<tr>
<td></td>
<td>Lower Level Elective</td>
<td>Lower Level Elective</td>
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</table>

<table>
<thead>
<tr>
<th>Year 2</th>
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<tbody>
<tr>
<td></td>
<td>BMGT220</td>
<td>BMGT221</td>
</tr>
<tr>
<td></td>
<td>Natural Science Lab (NL)*</td>
<td>Humanities (HU)*</td>
</tr>
<tr>
<td></td>
<td>Humanities (HU)*</td>
<td>Scholarship in Practice (SP) non-major</td>
</tr>
<tr>
<td></td>
<td>Lower Level Elective</td>
<td>BMGT367 (College Core)</td>
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<tr>
<td></td>
<td>Lower Level Elective</td>
<td>Lower Level Elective</td>
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<td></td>
<td>Lower Level Elective</td>
<td>Lower Level Elective</td>
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### Gateway Requirement
MATH220/140/130, ECON200, BMGT220, and BMGT230 must be completed with a C or higher by 45 credits (AP/IB credits excluded).

<table>
<thead>
<tr>
<th>Year 3</th>
<th>Fall</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BMGT301 (College Core)</td>
<td>BMGT302 (Major Requirement 1 of 6)</td>
</tr>
<tr>
<td></td>
<td>BMGT340 (College Core)</td>
<td>Major Requirement (2 of 6) from options</td>
</tr>
<tr>
<td></td>
<td>BMGT350 (College Core)</td>
<td>BMGT364 (College Core)</td>
</tr>
<tr>
<td></td>
<td>Upper Level ECON (from options)</td>
<td>BMGT391 (College Core)</td>
</tr>
<tr>
<td></td>
<td>Upper Level Elective</td>
<td>Professional Writing (PR)</td>
</tr>
<tr>
<td></td>
<td>Upper Level Elective</td>
<td>Upper Level Elective</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year 4</th>
<th>Fall</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BMGT402 (Major Requirement 3 of 6)</td>
<td>BMGT407 (Major Requirement 5 of 6)</td>
</tr>
<tr>
<td></td>
<td>BMGT403 (Major Requirement 4 of 6)</td>
<td>Major Requirement (6 of 6) from options</td>
</tr>
<tr>
<td></td>
<td>BMGT380 (College Core)</td>
<td>BMGT495 (SP/College Core)</td>
</tr>
<tr>
<td></td>
<td>BMGT499 (College Core)</td>
<td>Upper Level Elective</td>
</tr>
<tr>
<td></td>
<td>Upper Level Elective</td>
<td>Upper Level Elective</td>
</tr>
</tbody>
</table>
Prerequisite/Course Sequencing Structure

BMGT 301 (prerequisite Knowledge of Excel or a similar spreadsheet tool)
BMGT 326 (prerequisite: BMGT221; and (BMGT201 or BMGT301))
BMGT 332 (prerequisite: BMGT231 or BMGT230)
BMGT 385 (no prerequisite)
BMGT 402 (recommended: BMGT302)
BMGT 403 (prerequisite: BMGT301; recommended: BMGT302)
BMGT 404 (recommended: BMGT302)
BMGT 405 (prerequisite: BMGT301)
BMGT 406 (prerequisite: BMGT402 and BMGT302)
BMGT 407 (prerequisite: BMGT402 and BMGT403)
BMGT 430 (prerequisite BMGT230 or BMGT231)
BMGT 434 (prerequisite MATH220 or MATH140; or equivalent. Recommended: MATH221 or MATH141)
BMGT 461 (no prerequisite)
BMGT 476 (prerequisite: BMGT372)
BMGT 484 (prerequisite: BMGT350)
BMGT 485 (prerequisite: BMGT231 or BMGT230)
BMGT 486 (prerequisite: BMGT230)
ECON 305 (prerequisite ECON200, ECON201, and (MATH220 or MATH140))
ECON 306 (prerequisite ECON200, ECON201, and (MATH220 or MATH140))
ECON 325 (prerequisite ECON300)
ECON 326 (prerequisite ECON300)
ECON 330 (prerequisite ECON200 and ECON201)
ECON 340 (prerequisite ECON200 and ECON201)

COURSE DESCRIPTIONS

BMGT 301 Introduction to Information Systems (3) Three hours of lecture and one hour of discussion/recitation per week.
Restriction: Must be in a major in BMGT-Robert H. Smith School of Business. Additional information: CMSC majors will not receive credit for this course towards their upper level concentration in their CMSC major. All BMGT majors, including students who are a double major in CMCS, must complete BMGT301 for their BMGT degree. Comprehensive overview of information systems (IS), which explores the strategic and tactical nature of IS. The basic concepts in analyzing and designing information systems for business applications will be presented. Aspects of data management such as databases, data warehousing, data analysis, and data mining will be analyzed, and the basics of web page and web site design will be outlined. Students will also be introduced to modern information systems infrastructure such as telecommunications, networks, and information systems security. Knowledge of Excel or a similar spreadsheet tool.

BMGT 302 Developing Business Applications (3) Prerequisite: BMGT301; or permission of BMGT-Robert H. Smith School of Business. Restriction: Must be in a major in BMGT-Robert H. Smith School of Business; and must not be in Computer Science program. The course provides a structured approach to business application development and programming. Problem solving techniques, program design, and logic, are emphasized. Hands-on exercises in which students participate in designing and developing cross-disciplinary business applications are included.

BMGT 326 Accounting Systems (3) Prerequisite: BMGT221; and (BMGT201 or BMGT301). A study of accounting systems and computer and communications technology.

BMGT 332 Operations Research For Management Decisions (3) Prerequisite: BMGT231 or BMGT230; or students who have taken courses with similar or comparable course content may contact the department. Surveys the philosophy, techniques and applications of operations research to managerial decision-making. Techniques covered include: linear programming, transportation and assignment models, Markov processes and inventory and queuing models. Emphasis is placed on formulating and solving decision problems in the functional areas of management.

BMGT 385 Operations Management (3) Credit only granted for: BMGT385 or ENME426. Studies the design, management and improvement of a firm's processes and systems for creation and delivery of products and services. Includes strategic and operational
views of supply chain, product development, and capacity analysis, highlighting the competitive advantages that operations management can provide the firm.

BMGT 402 Database Systems (3) Recommended: BMGT302. This course covers the fundamentals of database management systems (DBMS), data models and query processing, and their application in the development of business information systems. An important goal of this course is to understand the value of information resources and information management challenges within an organization.

BMGT 403 Systems Analysis and Design (3) Prerequisite: BMGT301; or students who have taken courses with similar or comparable course content may contact the department. Recommended: BMGT302. Techniques and tools applicable to the analysis and design of computer-based information systems. System life cycle, requirements analysis, logical design of databases and performance evaluation. Emphasis on case studies. Project required that involves the design, analysis and implementation of an information system.

BMGT 404 Developing Applications for Decision Analytics (3) Recommended: BMGT302. The course focuses on developing skills relevant to the design and development of interactive business analytics applications. Students will learn to use Excel and Visual Basic for Applications (VBA) to develop applications for business production planning, resource allocation, budgeting, finance, and marketing, among others.

BMGT 405 Data Communications and Networking (3) Prerequisite: BMGT301; or students who have taken courses with similar or comparable course content may contact the department. Concepts of business data communications and data processing. Application of these ideas in computer networks, including basic principles of telecommunications technology, computer network technology, data management in distributed database systems and management of the technical and functional components of telecommunications technology.

BMGT 406 Developing Applications for the Web and Social Media (3) Prerequisite: BMGT402 and BMGT302. Restriction: Must be in a major in BMGT-Robert H. Smith School of Business. This course covers the design and development of Web applications and the underlying platforms and standards for Web application development. It will examine the phenomenon of social media, social networking and crowdsourcing and understand their use within organizations.

BMGT 407 Information Systems Projects (3) Prerequisite: BMGT402 and BMGT403. Restriction: Senior standing. Senior capstone course for the decision and information sciences major. Collected knowledge from the DIS courses and application to significant problems of size and complexity. State-of-the-art research ideas and current business and industrial practices in information systems.

BMGT 408 Emerging Topics in Information Systems (3) Restriction: Permission of BMGT-Robert H. Smith School of Business. Repeatable to 9 credits if content differs. This course will include selected advanced topics covering emerging developments in the field of decision and information technologies.

BMGT 430 Linear Statistical Models in Business (3) Prerequisite: BMGT231 or BMGT230; or permission of BMGT-Robert H. Smith School of Business. Model building involving an intensive study of the general linear stochastic model and the applications of this model to business problems. The model is derived in matrix form and this form is used to analyze both the regression and ANOVA formulations of the general linear model.

BMGT 434 Introduction to Optimization (3) Prerequisite: MATH220 or MATH140; or students who have taken courses with similar or comparable course content may contact the department. Recommended: MATH221; or MATH141. Restriction: Must be in a major in BMGT-Robert H. Smith School of Business. Introduces concepts and techniques of operations research to model and solve business decision problems, focusing on optimization and commercially available software tools. Models include linear programming, the transportation and assignment problems, network flow models, and non-linear programming. Emphasis is placed on analyzing business scenarios and formulating associated decision models.

BMGT 461 Entrepreneurship (3) Restriction: Must not have completed BMGT361. Credit only granted for: BMGT261, BMGT361, or BMGT461. Process of creating new ventures, including evaluating the entrepreneurial team, the opportunity and the financing requirements. Skills, concepts, mental attitudes and knowledge relevant for starting a new business.

BMGT 476 Technology Applications in Supply Chain Management (3) Prerequisite: BMGT372. An understanding of the role of technology in managing the supply chain. Provides students with hands-on experience in advanced software systems that build on top of enterprise resource planning systems. Major emphasis is placed on demonstrating that these systems result in supply chain cost reductions and service improvements.

BMGT 484 Electronic Marketing (3) Prerequisite: BMGT350. Restriction: Must be in a major in BMGT-Robert H. Smith School of Business. Examines the process of developing, implementing and analyzing strategies for successfully marketing a variety of existing and potential products and services on the Internet. Special attention devoted to the tools and techniques unique to the electronic media.
BMGT 485 Project Management (3) Prerequisite: BMGT231 or BMGT230; or students who have taken courses with similar or comparable course content may contact the department. Restriction: Must be in a major in BMGT-Robert H. Smith School of Business. Modern project management techniques that are used by modern practicing professionals will be covered. Particular attention is given to the management of technology based systems and projects in a business enterprise. The topics covered include: defining project scope, alignment of projects with enterprise strategy, managing project cost, time and risks using tools such as CPM/PERT, and measuring project performance.

BMGT 486 Total Quality Management (3) Prerequisite: BMGT230; or students who have taken courses with similar or comparable course content may contact the department. Total Quality Management and the synergy required between functions to obtain the customer’s quality demands. Statistical tools which are mandatory in any successful quality effort.

Undergraduate Program Learning Outcomes Assessment Summary

Department, Program & Degree: B.S. in Information Systems

Chair: Zhi-Long Chen 301-405-0024 zchen@rhsmith.umd.edu
Time Period of Assessment: Fall 2011- Spring 2012
Program Contact: Hassan Ibrahim 301-405-8646 hibrahim@rhsmith.umd.edu
Date: October 17, 2012

Actions Taken as a Result of Past Assessments

1) What have you done in the past year to follow up on past assessments, and/or on feedback from reviews of your assessments? What decisions were reached and/or what actions were taken?

During Fall 2010 the Smith School collected data to assess the general content knowledge, oral presentation skills, written communication, critical reasoning, and leadership & teamwork skills.

After reviewing the LOA test results, it seems that the Information Systems students have met the threshold goals in the areas of:

- Critical Reasoning,
- Written Communications Skills,
- Oral Communications Skills,
- Teamwork Skills.

However, the results show that the Information Systems students have fallen short of the target in the area of General Content Knowledge and border line in leadership.

- Upon reviewing the test questions, we noticed that test questions do not necessary measure the core content knowledge and we would like to recommend that future Learning Outcome Assessment tests include questions from Smith faculties.
- In terms of improving leadership, we will bring this issue to the Information System curriculum committee to ensure that Information courses do address that area and remedy any deficiencies.

Four-Year Assessment Plan

2) Please briefly summarize your four-year assessment plan for AY11-AY14.
The Business School Learning Outcomes Assessment Plan for Ay11-Ay14 is as follows:

During Fall 2010 we collected data to assess the general content knowledge, oral presentation skills, written communication, critical reasoning, and leadership & teamwork skills. We analyzed the collected data during Spring 2011. We will repeat the same assessment in Fall 2012 and we will analyze the collected data in Spring 2013.

In Fall 2011 we collected data to assess specific content knowledge. We analyzed this data in Spring 2012. We will repeat this assessment in Fall 2013 and analyze the collected data in Spring 2014.

Results, Conclusions, and Implementations from Last Academic Year

3) Please list the outcomes you discuss in this report.

Learning Outcome 1b: Are students able to demonstrate a clear understanding of important concepts in the specific field of Information Systems?

4) How did you measure student learning for each of these outcomes?

**Assessment Measures and Criteria:** As part of the first objective of LOA at Smith School, all Information Systems students were assessed in important concepts in the specific field of Information Systems.

All Information Systems students registered in BMGT 495 Business Policies (the capstone course for business students) in Fall 2011, which was when the assessments were done, were evaluated for specific content knowledge of Information Systems. This assessment was done by analyzing the collected data from the M/C exam, which was prepared by a team of Information Systems faculties for this purpose.

5) What were the results of each of your assessments? What did you find?

**Assessment Results for Outcome 1b:** 80.63% of students achieved the goal, thereby meeting the expectations set in the learning outcome.

Learning Outcomes Assessment for Information Systems Major (Learning Outcomes-1b)

<table>
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<tr>
<th>Statistics</th>
<th></th>
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<tbody>
<tr>
<td>Count</td>
<td>19</td>
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<tr>
<td>Minimum Value</td>
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</tr>
<tr>
<td>Maximum Value</td>
<td>96.00</td>
</tr>
<tr>
<td>Range</td>
<td>32.00</td>
</tr>
<tr>
<td>Average</td>
<td>80.63 (3.23)</td>
</tr>
<tr>
<td>Median</td>
<td>84.00</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>9.99</td>
</tr>
<tr>
<td>Variance</td>
<td>99.81</td>
</tr>
</tbody>
</table>

Grade Distribution
6) How do you interpret these results? What conclusions did you draw?

It is evident from the results in the performance for Outcome 1b (Specific Content Knowledge) that the Information Systems students’ performance met the goal and the performance was much higher than the 70% threshold.

Even with the high performance, we will continue to improve the Specific Content Knowledge of Information Systems majors.

7) What was the consensus of your program’s discussion of these results? What action(s) are you going to take as a result of your discussion and analysis?

As I mentioned in question 6, the Information Systems major met the set assessment goal, but we will continue to improve the major.

I met with Dean Anand Anandalingam and Vice Dean Hugh Courtney on spring 2012 to review the results of the assessment. We discussed the steps necessary to take to improve the assessment’s results. Over the next year, we will do the following:

- Meet with the department chair and major LOA coordinator to determine how to improve programmatic delivery and student retention of Specific Content Knowledge.
- Analyze the results of the Specific Content questions on the Assessment Exam to determine where students are doing least well.
- Since some of the important material that students recognize less may be covered in different courses, we should group these topics and verify the course(s) that are covering these materials.
- Meet with Information Systems instructors to review results and determine how to improve and discuss with them to find a better way to coordinate the delivery of the course content that is commonly covered in different courses.
Plans for This Academic Year

8) For which outcomes will you be collecting information over this academic year?

This Academic year we will assess 5 outcomes.
Learning Outcome 1a: Students will be able to demonstrate a clear understanding of important content in the core business disciplines.
Learning Outcome 2: Students will demonstrate critical reasoning and written communication skills through the individual analysis and write-up of a business case.
Learning Outcome 3: Students will demonstrate their oral communication skills by presenting an analysis of a business case to their class.
Learning Outcome 4: Students will demonstrate their leadership skills by leading a class discussion.
Learning Outcome 5: Students will demonstrate their abilities to work effectively with other members of a team in the preparation of a group project.

9) How will you measure student learning for these outcomes?

During the last academic year I met numerous times with my college Dean, Vice Dean, Associate Deans, Executive Committee members and undergraduate administration, to discuss the best way to assess our students’ General content knowledge. Based on the results of the discussions in these meetings and also based on our experience from the last cycle of the Learning Outcomes assessment, we have decided to conduct an online multiple choice question test. The M/C questions have already been prepared in the Spring of 2012 by six departments’ faculties who are teaching eight courses that all business majors at the Smith School, regardless of their majors, should take. We will run this test on the last weekend of fall semester before final exams. It is required for all students who are registered for BMGT 495 Business Policies during the Fall 2012 semester in which assessments will take place. Students do not need to prepare themselves for this test. To make sure that students take this test seriously, five percent of their BMGT 495 final grade will be based on these test results. All this information has been discussed with the BMGT 495 faculties and published on the BMGT 495 course syllabus, and students are aware of this test.

In BMGT 495 (the capstone course for business students), groups of six students are working on a big project during the Fall semester. To assess outcome 2, 3, 4, and 5, I will provide rubrics for each outcome to all faculties that will be teaching BMGT 495 and ask them to assess their own students and score them based on the given rubric about critical reasoning and written communication, oral communication skills and team work skill.
Mr. Colson,

After talking to my colleagues, I believe it is fine with us.

Please let me or our Assistant Dean Brian Horick know if there are further questions.

Thank you.

-- Zhi-Long

On Wed, Apr 3, 2013 at 5:04 PM, Michael D Colson <mcolson@umd.edu> wrote:

Dear Dr. Chen,

I am writing in regard to a question regarding the Computer Science department regarding your recent PCC proposal to modify the Information Systems major. Please read the email messages below and let me know if the Computer Science request is amenable to you. If so, I will add this email to the PCC proposal file: http://www.provost.umd.edu/ProgDocs/12-13/12047_BMGT_BMGT_ModifyBSInformationSystems.pdf. I also forwarded this message to Brian Horick, who is out of the office this week.

Please let me know if you have any questions.

Thank you,

Mike Colson

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Mike Colson

Senior Coordinator for Academic Programs
Hi Brian,

Betsy wanted to make sure that the Computer Science department was supportive of the Information Systems proposal. They responded below. Could you check to see if their response works for you? If so, I’ll add it to the proposal.

Thanks,

Mike

---

Mike Colson

Senior Coordinator for Academic Programs

Office of the Associate Provost for Academic Planning and Programs

1122 Main Administration Building

University of Maryland
Dear Betsy,

Below is the CS response to the question you raised about Information Systems addition CS courses as an option. There had been some previous conversation about this. Please see the line that I have highlighted in yellow. I think that this is a prudent restriction given the demands on CS, and that these courses are currently full. The department can support this to give more flexibility to Info systems majors who are declared as double major/degree/or minors with CS. Would you please confer with business that that is acceptable. If their intent is to make it an option for all, we would have some bigger concern about the potential impact, and somehow need to size up with business the intent of the change, and how many students they anticipate.

Thanks,B
Bob,

We heard from the business school assistant dean, Brian Horick, at the beginning of March. I lost track of the request, but it's not that complicated.

As far as I can tell, and I think Samir agrees, they are targeting CS minors and double majors. Moreover, by having one substitute course be

CMSC132 (the 2nd course in our intro sequence), and not CMSC131 (the first course), they're discouraging other business majors from taking

CMSC132 instead of the BGMT course. Similarly, CMSC424 can only be taken by a CS major or minor anyway because of its prerequisites (our entire intro sequence).

So, in the end, I think this is OK. However, I think it should be in the proposal that the CS classes can only substitute if the student is also a CS major or minor. Don't know if such a clause is permissible, though.
Alan

On 03/26/2013 04:49 PM, Robert L. Infantino wrote:

> Samir and Alan, are you aware of the proposed change below? Do you
> support the request?
>
> Thanks. Bob
>
> Sent from the bobiPhone
>
> Begin forwarded message:
>
>> *From:* "Jayanth R. Banavar" <banavar@umd.edu
>> <mailto:banavar@umd.edu>>
>> <mailto:banavar@umd.edu>>
>> *Date:* March 26, 2013 3:43:05 PM EDT
>> *To:* "Robert L. Infantino" <rinfanti@umd.edu
>> <mailto:rinfanti@umd.edu>>
>> <mailto:rinfanti@umd.edu>>
>> *Cc:* Elizabeth Jane Beise <beise@umd.edu <mailto:beise@umd.edu>>
>> *Subject:* *Fwd: changes to Information Systems Major within the
>> Smith
>> School*
>>
>> Thanks much, Betsy. Bob will get back to you after checking.
>>
>>
Dear Jayanth:

The Smith School has proposed a curriculum change to its LEP undergraduate program in Information Systems. One of the changes allows two CMSC courses, CMSC 132 and CMSC 424, to substitute for two upper-level Business courses, BMGT 302 and BMGT 402.

Because Inf. Sys. is a limited enrollment program and because of the potential impact on enrollments in the Computer Science courses, I am writing to confirm that the Computer Science department was consulted, is aware of this change, and is prepared to accept potential increased enrollments in these two courses.

I noticed that both CMSC courses are essentially full this semester,
and that CMSC 424 has some prerequisites and requires permission of
the department to enroll.

The proposal can be found here:

http://www.provost.umd.edu/ProgDocs/12-13/12047_BMGT_BMGT_ModyBSIn
formationSystems.pdf

Regards,
Betsy

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Prof. Elizabeth Beise
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