

February 23, 2012

**MEMORANDUM:**

**TO:** University Graduate Programs Committee

**From:** Dr. Paul Hart *P.H.*  
Associate Dean, College of business

Dr. Allen Smith  
Chair, College of Business Graduate Council

**Subject:** Proposal for Accelerated B.S.

The College of Business Graduate Council met on February 9, 2012 to review the B.S./B.B.A. MIS-MSITM Program proposed by the Information Technology and Operations Management Department (ITOM) within the College of Business. After discussion, the COB Graduate Council unanimously approved the proposed B.S./B.B.A. MIS-MSITM Program.



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## **MEMORANDUM**

**TO:** College of Business Graduate Council

**FROM:** Tamara Dinev, Department Chair and Associate Professor

**RE:** Proposal for Creation of Accelerated B.B.A. in MIS/MSITM Degree Program

**DATE:** February 6, 2012

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This proposal is to create an integrated, five-year, 150 credit-hour program that leads to the joint award of a B.B.A/B.S. in Management Information Systems (MIS) and a Master of Science in Information Technology Management (MSITM) awarded by ITOM. ITOM combined-degree program provides academically talented students an opportunity to complete a bachelor's and a master's degree in a shorter period of time. The ITOM Department voted unanimously for the program. In creating the program, ITOM is following the model of leading combined degree programs such as the one in FAU's School of Accounting, UF, and others.

### **I. Rationale for the Program.**

- **Florida SUS Priority on STEM Education.** State officials say less than 20 percent of Florida college and university graduates are earning degrees in the STEM disciplines. In a recent speech, State University Chancellor Frank Brogan noted that Florida must reinvent its university system by placing a greater emphasis on graduating students in science, technology, engineering, and math. Mr. Brogan said Florida needs to build a "knowledge-based economy" that will better help college graduates find jobs. The MIS and MSITM degrees ITOM offers in the College of Business are STEM degrees. ITOM educates and trains the future IT business professionals and managers who create, run, apply, and manage the Information Technology and the Information Systems in businesses and organizations.

- **High Industry Demand for high skilled IT professionals.** Nationwide and in South Florida industries are experiencing shortage of highly skilled IT workers, as evidenced by many studies and articles. Some examples are given below:
  - According to the U.S. Bureau of Labor Statistics, career opportunities for MIS professionals are expanding rapidly and will continue to do so for the foreseeable future due to the growth of the knowledge economy, data analytics, e-commerce, and telecommunications industries.
  - The same agency reports that employment in computer professionals category, including computer systems analysts, database administrators and other computer professionals is expected to increase up to 53.4 percent by 2018; computer and information systems managers by 17% increase.
  - 51% of CIOs (Chief Information Officers) say it's difficult to find skilled IT professionals.
  - 64% indicate understaffing interferes with innovation.
  - IT jobs rank #6 among top 10 hardest to fill in US (source: Robert Hall Technology Survey, 2011, Manpower group talent shortage survey, 2011)
  - A 2010-2011 CNN Money study based on data from the Bureau of Labor Statistics states that 16 of the top 50 careers will be in information technology.

To prepare a qualified workforce skilled in information technology and information technology management, the COB's Information Technology and Operations Management (ITOM) department offers a B.B.A. in MIS and an Master of Science in IT Management. However, at this time we cannot most efficiently capture the talented undergraduates and direct them to a graduate program and offer them a smooth and efficient, cost-saving way to earn a graduate degree.

- **Competition from other academic institutions.** Our neighboring and aspiring institutions, such as University of Florida, University of South Florida, University of Miami, Florida International University, Nova Southeastern University all offer similar programs and some of them - accelerated or combined degree programs.

This competition requires us to be creative to pursue new and different ways to grow our programs and especially to capture the most talented students before they leave the university and offer them a lucrative way to earn their graduate degree.

***Summary. In view of the strategic priorities of FAU for STEM education, the industry demands, and the competition, we want our top undergraduate students to stay at FAU and pursue a master's degree at FAU. We want to provide access to our high performers.***

To this end, we are proposing the ITOM Accelerated Undergraduate MIS and Master of Science in ITM Program.

## II. Advantages of the Accelerated Degree

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- Qualified students can obtain an undergraduate and a graduate degree in much less time than two separate degrees.
- The cost of both degrees is reduced.
- Students have time to decide whether to pursue further graduate or professional study.
- Student marketability is greatly enhanced; many professions now require a master's degree for even entry-level positions.

## III. Program Details and Coursework

The proposed *Accelerated B.B.A. in MIS/MSITM Degree Program* would be a dual-degree program designed to prepare highly-motivated students for careers as IT professionals. The program would be a full-time two-year program beginning in the senior year and would be based on the Boca Raton campus. Students will complete a rigorous curriculum, take their information technology classes together as a cohort group, and participate in professional development activities.

Students should apply for the program in the spring semester of their junior year and must complete 150 credits in specified courses, satisfy all University and College major degree requirements for each academic program, maintain a cumulative and major GPA of at least 3.0 on a 4.0 scale, and satisfy all other requirements of the accelerated program. Upon completion, students will receive a Bachelor of Business Administration in Management Information Systems and a Master of Science in Information Technology Management. Students must receive both degrees simultaneously, even if the bachelor's degree requirements are completed earlier. For details, contact an advisor in the College of Business Office of Graduate Student Programs.

Prerequisite Coursework for Transfer Students: Students transferring to Florida Atlantic University must complete both lower-division requirements and requirements for the college and major. Lower-division requirements may be completed through the A.A. degree from any Florida public college, university or community college or through equivalent coursework at another regionally accredited institution. Before transferring and to ensure timely progress toward the baccalaureate degree, students must also complete the prerequisite courses for their major as outlined in the *Transfer Student Manual* (see [www.fau.edu/registrar/tsm.php](http://www.fau.edu/registrar/tsm.php)).

All courses not approved by the Florida Statewide Course Numbering System that will be used to satisfy requirements will be evaluated individually on the basis of content and will require a catalog course description and a copy of the syllabus for assessment.

## ADMISSION PROCESS

Students should apply to the program in the spring semester of their junior year. To be considered for the program, students must have a cumulative undergraduate GPA of at least 3.0 and an information technology GPA of at least 3.0. Students must also complete an on-site essay and interview with a member of the Information Technology and Operations Management Accelerated Undergraduate/Graduate Programs Committee. Prior to beginning the program, students must complete:

**Junior Year Courses:** Pre-requisites to enter 2 year program - GPA of at least 3.0

<b>Semester</b>	<b>Course</b>	<b>Title</b>	<b>Pre-Requisite</b>	<b>Credits</b>
Fall	ISM 3011	Management Information Systems	ISM 2000 COB Core	**3**
		<b>Management Information Systems Major Course</b>		
Fall	ISM 3230	Introduction to Computer Systems and Software Development	ISM 2000	3
Fall	ISM 4220	Business Data Communications	ISM 3011	3
Spring	ISM 4212	Database Management Systems	ISM 3230	3
Spring	ISM 4133	Adv. Systems Analysis and Design	ISM 4212	3
			<b>Major Courses total</b>	<b>12</b>

### Time Table for Admission and Acceptance (junior year)

December: Applications due one week after fall grades posted

February: Complete essay and interview

March: Notification of admittance

Fees: Students must complete the graduate application and submit the \$30 processing fee.

### On-Site Essay

Students meeting the GPA and admission test minimums will be invited for an on-site essay to be administered by the Office of Graduate Student Programs. Normally students take the GMAT exam as part of the graduate admission process. The GMAT has an analytical writing component. The on-site essay for applicants to the ITAUG serves as an alternative way for the writing of applicants to be evaluated. Students will be contacted through their FAU email account to schedule the on-site essay.

## **Faculty Interview**

Students who satisfactorily meet the admission criteria and who have demonstrated acceptable writing skills in the on-site essay will be invited for an interview. Students will have the opportunity to ask questions about the program. Interview committee members will use the interview to determine the student's commitment and ability to complete the rigorous requirements of the program and interest in the information technology profession. Because the program includes an internship, students should treat the interview with the same importance as a job interview. This includes being prepared, bringing a resume, and dressing professionally.

## **PROGRAM REQUIREMENTS**

Students accepted into the **Accelerated B.B.A. in MIS/MSITM Degree Program** must abide by the rules set forth by the Information Technology and Operations Management Accelerated Undergraduate/Graduate Programs Committee.

Specific requirements include:

- Agree to be full-time students for two years
- Complete cohort courses as scheduled
- Maintain an overall GPA of 3.0 and an information technology GPA of 3.0
- Abide by the Information Technology Accelerated Undergraduate MIS and Master of Science in ITM Program Honor Code
- Participate in student organizations
- Attend special events designed to enhance understanding of the information technology profession or to improve the student's personal skills

Students who successfully complete the first year of the program are admitted to graduate school in the fall of the second year. The financial aid status of the student changes to graduate at this time. Students who have not maintained the requirements are not automatically admitted to graduate school. These students may apply to graduate school by taking the GMAT and going through the regular graduate school admission process.

**INFORMATION TECHNOLOGY ACCELERATED UNDERGRADUATE MIS AND MASTER OF SCIENCE IN ITM PROGRAM TWO YEAR PROGRAM PLAN**

Three of the following MIS major courses must be completed with a grade of "B" or better. If you wish to concentrate in one of the two areas below, it is recommended that you take all three courses from that concentration.

**Year 1: Undergraduate MIS Concentration (Senior Year)**

<u>Semester</u>	<u>Course</u>	<u>Title</u>	<u>Pre-Requisite</u>	<u>Credits</u>
		<b>Business Intelligence Concentration</b>		
Fall	ISM 3116	Introduction to Business Intelligence	ISM 3011	3
Fall	ISM 4117	Data Mining and Data Warehousing	QMB 3600	3
Spring	ISM 4403	Advanced Business Intelligence	QMB 3600	3
		<b>Information Security Concentration</b>		
Fall	ISM 4320	Information System Security	ISM 4220	3
Fall	ISM 4323	Security Management		3
Spring	ISM 4324	Computer Forensics		3
		<b>Optional courses when available</b>		
	ISM 4930	Special Topics in Information Systems		3
	ISM 4930	Social Media and Web Technologies		3
			<b>MIS Concentration total</b>	<b>9</b>

**Year 1: MS/ITM Courses (Senior Year)**

<u>Semester</u>	<u>Course</u>	<u>Title</u>	<u>Note</u>	<u>Credits</u>
Spring	GEB 6215	Graduate Business Communication Applications	Undergraduate Elective	3
Summer	ISM 6026	Management of Information Systems and Technology		3
Summer	TBD	College of Engineering and Computer Science – Course		3
			<b>Year total</b>	<b>9</b>

**Year 2 - MS/ITM Courses – 12 credits each semester**

<b>Semester</b>	<b>Course</b>	<b>Title</b>	<b>Note</b>	<b>Credits</b>
Fall	ISM 6368	Enterprise Information Technology Service Management		3
Fall	ISM 6316	IT Project and Change Management		3
Fall	ISM 6930	Advanced Business Analytics – replaces ISM 6319	ITOM SUBSTITUTE COURSE	3
Fall	TBD	College of Engineering and Computer Science – Course		3
Spring	ISM 6328	Information Security Management		3
Spring	ISM 6508	Web-based Business Development		3
Spring	ISM 6509	IT Sourcing Management		3
Spring	TBD	College of Engineering and Computer Science – Course		3
Spring	ISM 6319	IT Investment Planning and Evaluation	Not currently offered	*3*
TBD	ISM 6930	Information Technology & Operations Management Internship	ITOM SUBSTITUTE COURSE Enrollment is dependent on availability of employers	**3**
			<b>Year total</b>	<b>24</b>

<b>Pre-Business core – min. 60 credits</b>		<b>60</b>
<b>Business Core - 33</b>		<b>33</b>
<b>BBA or BS MIS MAJOR</b>	<b>21</b>	
<b>MSITM graduate credits</b>	<b>33</b>	
<b>Information Technology Accelerated Undergraduate MIS and Master of Science in ITM Program Total Credits</b>	<b>54</b>	<b>54</b>
<b>One undergraduate or graduate elective</b>		<b>3</b>
<b>Combined Degree Total</b>		<b>150</b>



## MSITM — Master of Science in Information Technology and Management

*Minimum 33 Hours Required for Graduation*

### FOUNDATION COURSES <sup>(a)</sup>

Business Data  
Communications  
ISM 6225  
(ISM 4220)

Information Technology  
Fundamentals  
ISM 6148  
(ISM 3230)

Database Management  
Systems  
ISM 6217  
(ISM 4212)

Advanced Systems  
Analysis and Design  
ISM 6123  
(ISM 4133)

### REQUIRED COURSES (24 Credits)

Graduate Business Communication Applications  
(Graduate Communications Program)  
GEB 6215 <sup>(b)</sup>

Management Information Systems and Technology  
ISM 6026 <sup>(b)</sup>

Web-Based Business Development  
ISM 6508 <sup>(b)</sup>

IT Project and Change Management  
ISM 6316

IT Sourcing Management  
ISM 6509

Advanced Business Analytics  
ISM 6405 <sup>(b)</sup>

Enterprise Information Technology  
Service Management  
ISM 6368

Information Security Management  
ISM 6328 <sup>(b)</sup>

### PROGRAM ELECTIVES (9 Credits)

Select 3 classes from the following offered by the College of Engineering:

Object-Oriented Software Design  
COP 5330

Theory/Implement. Database Systems  
COP 6731

Advanced Software Engineering  
CEN 5035

Computer Data Security  
CIS 6370

Wireless Networks  
EEL 6591

Data Mining & Machine Learning  
CAP 6673

Advanced Web Technologies  
COT 5930

Computer Network Programming  
CNT 5715

Mobile Computing  
CIS 6302

Software Testing  
CEN 6076

Component Programming with .NET  
COP 5595

- (a) Foundation courses cannot be taken for credit; however, prior course work or professional experience may be considered in lieu of these courses, with departmental approval.
- (b) It is recommended that GEB 6215 be taken in the first semester. It must be taken prior to or concurrent with ISM 6026, ISM 6319, ISM 6328, and ISM 6508.

**ITOM MSITM Graduate Courses Offered by Course Prefix**

Course	Enrollment				
	Fall 2009	Spring 2010	Summer 2010	Fall 2010	Spring 2011
ISM 6026 - Mgmt Info Systems & Tech	52 (2 sections)	51 (2 sections)	50 (2 sections)	68 (3 sections)	55 (2 sections)
ISM 6316 - IT Proj and Chnge Mgmt	6			17	
ISM 6328 - - Info Security Mgmt	4****			4****	
ISM 6368 - Enterpr Info Tech Svc Mgmt	7			14	
ISM 6508 - E-Business Development		12			35
ISM 6509 - Info Tech Sourcing Mgmt		11			NA***
ISM 6405 - Advanced Business Analytics					6**
ISM 6942 - Grad Info Tech/Op Man Intern	NA	NA		NA	NA

\*offered as ISM 6930 as Advanced Business Intelligence.

\*\* offered as ISM 6930 as Adv Excel Macro & VBA Modeling

\*\*\*class not offered, professor on sabbatical. Substituted with QMB 6603 - Data Analysis for Managers or DIS - ISM 6509

\*\*\*\* offered as DIS - ISM 6509

**CONCLUSION: Upon careful planning and advising, a student can complete the degree in 12-18 months. We have never had**

- ISM 6026 Offered every semester, including Summer
- ISM 6405 Offered every semester (when enrollments are less than 10, cross listed with the
- ISM 6368 Offered every Fall
- ISM 6328 Offered every Fall
- ISM 6316 Offered every Fall
- ISM 6509 Offered every Spring
- ISM 6508 Offered every Spring

Summer 2011	Fall 2011	Spring 2012	Summer 2012	Fall 2012
52 (2 sections)	36 (2 sections)	40 (2 sections)	46 (2 sections)	42 (2 sections)
	15			13
	16			13
	9			12
		15		
		10		
	3*	7*		6
NA	NA	1 (inception)	1	1

and a case where a student's progress has been impeded from lack of course offering

(e.g. equivalent ISM 4403)

## Response to the questions of the University Graduate Council regarding the proposal to create accelerated MSITM program at ITOM, College of Business.

- History of the courses taught in the MS ITOM program (this would include which courses are taught, the frequency with which they are offered, and the enrollments). Please provide these data about these courses since the inception of the program.

### Response:

Please see attached spreadsheet.

**CONCLUSION: Upon careful planning and advising, a student can complete the degree in 12-18 months.**

**We have never had a case where a student's progress has been impeded from lack of course offering**

ISM 6026 Offered every semester, including Summer

ISM 6405 Offered every semester (when enrollments are less than 10, cross listed with the ug equivalent ISM 4403)

ISM 6368 Offered every Fall

ISM 6328 Offered every Fall

ISM 6316 Offered every Fall

ISM 6509 Offered every Spring

ISM 6508 Offered every Spring

- History of any graduate students in this program who have completed 12-15 credit hours in one semester. Are there many students who have taken this course load? How do they fare academically?

**Response:** We had only one student taking 12 hours a semester since the start of the program in fall 2009. The student had a 3.89 GPA for that semester. There are two reasons explaining the data:

- The graduate program is very small and has grown to more significant numbers only the last 3 semesters

As seen in the table below

	<u>Semester</u>					
	Fall, 2009	Spring, 2010	Fall, 2010	Spring, 2011	Fall, 2011	Spring, 2012
	#	#	#	#	#	#
<b>Total</b>	2	4	12	14	20	18

- Most of our current MSITM students are full time working professionals and many are working part time. Thus they do not have the capacity to take more than 12 credits per semester.

This data highlight the importance of our proposal to create the accelerated program. If we have the program in place, we will be able to attract and retain the best undergraduate MIS students before they leave the university to pursue careers or further studies. The best students will be capable and available to take more than 12 credits, as evident from other successful accelerated programs, such as Accounting Scholar Program. However, a critical mass of such students has to be developed and nurtured but it cannot be done if we do not have the program in place.