FLORIDA ATLANTIC UNIVERSITY™

Graduate Programs—PROGRAM CHANGE REQUEST

DEPARTMENT: SCHOOL OF ACCOUNTING	COLLEGE: BUSINESS

PROGRAM NAME: MASTER OF ACCOUNTING

EFFECTIVE DATE
(PROVIDE TERM/YEAR)

____FALL 2013____

PLEASE EXPLAIN THE REQUESTED CHANGE(S) AND OFFER RATIONALE BELOW AND/OR ATTACHED:

MASTER OF ACCOUNTING (ACCOUNTING INFORMATION SYSTEMS (AIS)). PLEASE SEE MEMO ATTACHED.

Faculty contact, email and complete phone number:	Consult and list departments that might be affected by the change and attach comments.
Dr. Karen Hooks, khooks@fau.edu, (561) 297-3932	

Approved by:

Department Chair: _____

College Curriculum Chair: _____

College Dean: Paul Hair _____

UGPC Chair: _____

Graduate College Dean: _____

UFS President: _____

Provost: _____

Date:

____3/1/13____

3/11/13

3.12.13

Email this form and syllabus to *UGPC@fau.edu* **one week before** the University Graduate Programs Committee meeting so that materials may be viewed on the UGPC website prior to the meeting.

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March 1, 2013

MEMORANDUM

TO: COB Graduate Council

FROM: Rob Pinsker, Assistant Professor
            School of Accounting

THROUGH: Karen Hooks, Professor
            Chair, SOA Curriculum Committee
            School of Accounting

SUBJECT: Proposal for an Accounting Information System Concentration in the SOA Master of Accounting
            Program

Summary

Accounting concentrations should consist of 5 accounting core courses (please see core course listing below),
GEB 6215 (Graduate Business Communication Applications), 1 required ACG elective, and 3 free electives. The
proposed AIS concentration would replace the 3 free electives with 3 IT-related classes taught by ITOM
Instructors/Professors. Additionally, ACG 6475 (Advanced Accounting Information Systems) is part of the core
courses all Master of Accounting students need to take. The integration of the 3 ISM classes would give students
the ability to tie in accounting concepts taught to the wider spectrum of critical IT-related issues affecting global
business. A 4 course concentration (including the required ACG elective) is consistent with the broader College
and University catalogs. Students choosing this concentration would be allowed to select ACG 5647 Auditing and
Assurance Services as their ACG elective or a different 6000-level ACG course from those listed below. (The
catalog description for ACG 5647 is: study of auditing the different transaction cycles and accounts of a business;
AICPA attestation standards and engagements; AICPA compilation and review standards and engagements; IFAC
Code of Ethics for Professional Accountants; IAASB International Standards on Auditing). Students in the AIS
concentration are required to receive departmental approval and process a "change of major" form for their
participation in the concentration to be documented via the Banner system.

The 5 accounting core courses are as follows:

1. ACG 6135   Advanced Accounting Theory
2. ACG 6138   Advanced Financial Reporting and Accounting Concepts
3. TAX 6025   Concepts of Federal Income Tax
4. ACG 6475   Advanced Accounting Information Systems
5. ACG 6655   Advanced Audit

The 3 ISM courses are as follows. Students are not restricted in terms of course order.

1. ISM 6217
2. ISM 6328
3. ISM 6405

Detailed Course Descriptions (directly from the course syllabi)

ISM 6217 (3 credits) Database Management Systems

This course focuses on the development of well-formed databases for the purpose of data management from the initial design of the database to the implementation and query and to the application of database management tools and techniques such as data security for use in business and government organizations.
This course is graduate level and the following learning outcomes are expected of students.

- Students will reinforce learning of basic database concepts such as tables, relationships and queries. They will be introduced to advanced concepts such as normalization, instance charts, structured query language (SQL) code. The emphasis will be on database design.

- Students will demonstrate the ability to use software to create enterprise resource diagrams (ERDs). Students will demonstrate proficiency in use of SQL to create, populate and query a database.
- Students will reinforce their team communication skills by working on a team semester long project with the objective to design and create a database based on a limited real world business problem.

- Students will be able to demonstrate the ability to analyze data and available documents in order to demonstrate proficiency in applying database design techniques.

- Students will be able to demonstrate the ability to use a well-formed design to create a database. Students will use queries to answer business questions relevant to their project by choosing the appropriate data and most appropriate query type.

ISM 6328 (3 credits) Information Security Management

This course introduces participants to the various technical and administrative aspects of information security. Emphasis is on the management of information security efforts as well as progression in adopting this field within IT organization.

This course also discusses various administrative, technical, governance, regularity and policy aspects of Information Security Management. We will examine security management development, risk assessment and mitigation, security management models, integration of project management techniques, and laws governing system, application and network security. We will also explore theoretical concepts of information security. A few practical and hands-on approaches will be discussed to better understand and to devise strategies related to security policy development and enforcement. This course will explore high-level network security implementation as well as techniques and strategies to address security and IT governance related issues.

While technical side of IS security is not neglected, as a number of technical aspects and security technologies are specifically considered, the emphasis of the course is the management of information systems and in particular information security. It does, therefore, seek to highlight the implications of the underlying technologies, rather than the actual mechanics of those technologies.

This course is graduate level and the following learning outcomes are expected of students.

- Ability to conduct research and to utilize analytical skills in articulating information technology investment strategies that align with business strategies. Understanding elements of organizational function processes, work practices and human resource capital as integrated components to address technical, logistical and business challenges and to provide paradigm shift in IT service delivery and to explore alternative opportunities to contain cost without impacting organizational mission.

- Students will demonstrate effective oral and writing communication skills necessary to be effective and to compete at global business environment.

- Students will demonstrate an ability to understand sourcing issues involving global IT providers and terms. Students will apply this knowledge for selecting and evaluating information technology vendors, partners and service providers to augment in-house skills.

- Students will demonstrate understanding various aspect of information security management including planning, process, policy, procedure and security model as well as hardware and software technologies to safeguard organizational assets.

ISM 6405 (3 credits) Advanced Business Analytics

Advanced Business Analytics, is a 3 hour projects-based course that provides an in-depth understanding of Business Intelligence (BI) methods of visualization, data mining, text mining, and web mining through the use of Microsoft Office tools. It involves using publicly available real world business data sets to develop and present actionable analysis.
This course is graduate level and the following learning outcomes are expected of students.

- It is designed to give those with basic Excel knowledge, as well as those with more advanced Excel abilities, more of what organizations need and value for data mining, business analytics and reporting.

- Additional skills such as when and how to use pivot tables and macros, how to automate and integrate downloads of data into reports with one click, user form creation, graphing, and the creation and use of simulation and decision support modeling are all are covered in a hands-on lab setting using Excel 2010 and Visual Basic.

- Business analytics as applied to smaller firms is investigated.

Support for Specific Proposed Courses

The following peer institutions, both in-state and out-of-state, have established and successful AIS concentrations: University of South Florida (USF); James Madison University (JMU), and North Carolina State University (NCSU). Links to each of the University's curriculum are provided below for comparison purposes to proposed electives described above.

USF: http://business.usf.edu/programs/master/macc/audit.asp

JMU: http://www.jmu.edu/cob/accounting/wm_library/MSA_programs_of_study_2011-12.pdf
http://www.jmu.edu/cob/mba/courses_infosec.shtml

NCSU: http://poole.ncsu.edu/mac/academics/information-technology-concentration/
http://poole.ncsu.edu/mac/academics/mac-course-descriptions/

A few more notes to consider:

- All 3 universities have very high placement of their AIS/IT-related Master of Accounting graduates (as defined by 90-100%), with increased market demand forecasted in the future.

- James Madison is one of KPMG's top 39 recruiting universities. Their AIS-related concentration graduates all get placed (typically in either KPMG or McGladrey) with the exceptions of international students who return to their native countries after graduation (their placement is not tracked by JMU).

- Unlike the other universities, JMU has 3 AIS/IT-related electives for its concentration, with one of those classes taught by the IT department. Conversely, NCSU has 3 required IT classes and an advanced AIS class and USF has 4 required concentration classes intertwining IT and auditing concepts.

- Current enrollments in the AIS/IT-related concentrations range from 10-50 across the three universities.

Professional Support for an AIS Concentration

The SOA had previously awarded Master of Accounting Degrees with an AIS concentration dating back into the early-mid 1990s. However, resource constraints, lack of interest from the students and low demand in the marketplace caused this concentration to go dormant. Feedback from SOA Advisory Board members in large accounting firms has placed the idea of a more IT-related concentration (relative to the AIS concentration that previously existed) back on the table. Further, recent conversations with practitioners at large CPA firms provide anecdotal evidence about the high demand for a potential AIS concentration. These practitioners stated that the Public Company Accounting Oversight Board (PCAOB) wants the external audit staff to be able to test IT controls, rather than having a separate IT team testing them on the same engagement. Specifically, the PCAOB is issuing findings in its reviews of CPA firms and recommending that external auditors have more IT expertise (i.e., IT expertise not concentrated in IT audit specialists). Consequently, the firms want these same IT control assessment skills for their external auditors so that they can use their IT team for more robust services.

The specific skills the practitioners cited above would like to see in an AIS concentration:

- Working knowledge of COSO-ERM (Enterprise Risk Management), including the ability to apply COSO (Committee of Sponsoring Organizations of the Treadway Committee) while evaluating internal controls. Working within the COSO framework when evaluating internal controls is introduced in ACG 4401 and reinforced in both ACG 6475 and the respective auditing courses. Additionally, ISM 6328 focuses on managing the information security side of risk.

- Solid knowledge of relational databases (not necessarily for specific ERP software package, but the ability to analyze the tables in any Enterprise Resource Planning system). ACG 6475 provides an introductory level of proficiency of MS Access, but a stronger working knowledge would be provided in ISM 6217.

- Understanding how to access data from an AIS using reporting/export tools. This skill is currently lacking in the Master degree curriculum. ISM 6405 would provide the necessary skill level.

- Understanding how to follow data through an AIS and evaluate controls. A low-level proficiency in this skill is provided in ACG 6475. Required auditing courses and the required ACG elective build this skill.

- Solid flowcharting and documentation skills. These skills are introduced in ACG 4401, reinforced in ACG 6475 and have various aspects solidified in all 3 proposed ISM electives.

Although the impetus for this proposal stems from large CPA firm practitioners in the SOA Advisory Board, an improved AIS/IT skill set is not "limited" to careers in public accounting. According to a Senior IT Auditor at NCCI, who is also a CPA and FAU alumnus, the combination of accounting and IT is essential. He said FAU used to offer a combined degree of this sort at the Master level (his boss at NCCI is also a FAU alumnus and received the combined degree). He believes that the traditional Operational Internal Auditor will soon be extinct. The Operational Auditor will need to know the Application Auditing side of IT auditing to be useful because the few manual processes that still exist are intricately bound to applications. The traditional IT Auditor will still need to know the application (software) side and the infrastructure (hardware) side.

He was talking to the manager of Internal Audit at a large financial services company. That company has done away with their IT Audit staff and is requiring/training their former Operational Auditors in Application Auditing so that they can perform combined operational and application-based audits. He also heard that a large cruise line headquartered locally is requiring that their Internal Operational Auditors handle the Application Auditing to perform such combined audits.

Here are some specific skills that Auditors need:

- Advanced MS Excel to perform End User Computing (EUC) audits on spreadsheets used to store/import/export/report data in any phase of AIS. Excel skills are diffused throughout the undergraduate accounting curriculum, now emphasized in ACG 4401, and would be expanded upon in ISM 6405.

- MS Access to understand and create relational databases and linking tables. MS Access is introduced in ACG 6475, but significantly enhanced in ISM 6217.

- SQL queries or at least some of the tools used to perform SQL queries. Same as above (ISM 6217).

- Visio for flowcharting. Currently, ACG 4401 teaches Excel for flowcharting. ISM 6405 would complement/extend the knowledge this using Visio.

- Solid knowledge of COSO-ERM. See explanation above.

- Solid knowledge of AIS transaction cycles and the documents used in each cycle. See explanation above.

- Risk assessment of AIS processes to determine key control points and specific internal controls. This skill is currently diffused throughout a variety of ACG courses (e.g., ACG 4651). ISM 6328 focuses on the information security side of risk.

Certifications for students to consider with the new AIS concentration:

- CPA – BEC AIS/IT section

- ISACA – CISA (Certified Information Systems Auditor)

- IIA – CIA (Certified Internal Auditor; FAU is a recognized internal auditing institution according to the local IIA chapter, but currently offers very little curriculum support)

Recommendation

The School of Accounting (SOA) strives to provide graduates who are competitive in the marketplace: encompassing the skills employers demand. All evidence seems to indicate a strong market need for an AIS/IT-related Master concentration. According to NC State's website provided earlier in this proposal, "Each of the Big Four firms— Deloitte, Ernst & Young, KPMG, and PricewaterhouseCoopers — have well developed information technology advisory practices. Our contacts at these firms report that this is a rapidly growing practice area, and they will be expanding staff devoted to these practice lines over the next few years. In addition to the firms above, both Grant Thornton and RSM McGladrey offer extensive information technology advisory services to their clients." The utilization of ITOM Professors/Instructors to teach all 3 ISM elective courses would not further constrain SOA resources, yet offers a worthwhile concentration to SOA students. When combined with the non-public accounting conversations captured and reported on above, it is hereby recommended that the SOA offers the Master of Accounting degree with an AIS concentration as proposed (comprised of 5 core ACG courses, GEB 6215, 1 ACG elective [allowing for ACG 5647], and 3 ISM electives).