Institute Graduate Curriculum Committee
Minutes
Thursday, October 06, 2016

Present: Breedveld (ChBE), Sluss (CoB), Pikowsky (Registrar), Chow (CoC-CSE), Flowers (CoD-ARCH), Hays (CoC-IC), Sharp (for Cozzens-Vice Provost), Jagoda (AE), Scripka (GCC Student Rep-for Jani), Ries (ECON),

Visitors: Hodges (REG), Bamburowski (Graduate Studies), Sokol (ISyE), Bruner (Graduate Studies), Mark (GTPE), White (CoC), Jacobs (CoE), Wooley (GTPE), Essa (CoC), Romberg (ECE), Bramblett (IRP/DSS/AE), Sun (CSE), Mitra (CoB)

Note: All action items in these minutes require approval by the Academic Senate. In some instances, items may require further approval by the Board of Regents or the University System of Georgia. If the Regents' approval is required, the change is not official until notification is received from the Board to that effect. Academic units should take no action on these items until USG and/or BOR approval is secured. In addition, units should take no action on any of the items below until these minutes have been approved by the Academic Senate or the Executive Board. It may also be that approval of the Southern Association of Colleges and Schools is also required.

There was no quorum for this meeting. 13 voting members are needed to reach a quorum. In the absence of a quorum, the full committee will vote via email on the Minutes as recommendations of those that were present and then they will vote to approve the Minutes.

All votes are unanimous except as noted.

Administrative Items:

1. David Bamburowski, Director of Graduate Studies, presented for the Committee's information Memorandum of Understanding documents to renew the cooperative agreement between GT Lorraine & Institut National Polytechnique de Toulouse-Ecole Nationale Superieure Electronique Electrotechnique Informatique Hydralique Telecommunications (France)

   Discussion of renewal of cooperation agreements – Acknowledged without Concern

2. David Bamburowski updated the Committee on upcoming plans to issue licenses to Committee members and another person each member chooses to pilot new plagiarism software, iThenticate. Committee members will be contacted via email with further details for testing and providing feedback.

Discussion of piloting new software – Informational

Academic Matters

1. A motion was made to *approve* a request from the College of Business for a degree modification. This motion was seconded and approved.

   Degree Modification – APPROVED
   Master of Business Administration

   This proposal is a request to formalize electives for the MBA degree so they may be added to the catalog and to DegreeWorks.

   The following courses are approved as acceptable electives:
   - MGT 6030 International Accounting
   - MGT 6070 International Finance
   - MGT 6071 Multinational Financial Management
   - MGT 6116 Gender, Race, and Ethnicity
   - MGT 6185 International Business Environments
   - MGT 6197 Global Strategic Management
   - MGT 6335 International Marketing
   - MGT 6352 International Practicum
   - MGT 6360 Global Operations and Supply Chain

   Note: The original proposal erroneously included MGT 6832, which was removed at the request of the proposer, as well as Special Topics courses, which will not be added to the list until they received permanent course numbers.

2. The College of Computing, the College of Engineering, and the College of Sciences presented a pre-proposal for an upcoming new degree proposal for a Doctor of Philosophy with a major in Machine Learning degree.

   Note: The Committee invited the units to submit a formal degree proposal with some suggested details included in the proposal. The Committee recommended the policies for qualifying exams be added to the proposal and there was also some concern regarding the degree not providing enough shared courses for students in the various Schools.

3. A motion was made to *approve* a request from the College of Business, School of Computational Science and Engineering, and School of Industrial and Systems Engineering for a new online delivery format of a degree. This motion was seconded and approved.

New Online Delivery Format of Degree Program – APPROVED
Online Master of Science in Analytics

This vote was not unanimous. There were nine votes to approve and one vote to deny.

Georgia Tech began offering an on-campus Master of Science in Analytics degree in 2014, with a proposed size of 45 new students each year. By the third year of the program (2016), we already were receiving nearly 800 applications for those 45 slots. Approximately 600-700 of the applicants met our admission criteria; however, on-campus class space limited our ability to teach more than about 10% of them. In addition, we have received hundreds of inquiries about the availability of an online version of the M.S. in Analytics degree from working professionals and others who cannot come to Atlanta, but would like to pursue the degree.

The online offering of the degree will require the same degree requirements as the on-campus version of the degree, however, due to lower tuition the Online students will not receive the same services offered by the units that on-campus MSANLT students receive.

The online offering will only offer two tracks for the times being (Analytical Tools and Computational Data Analytics) and the Business track is planned to be offered to online students in the future.

GENERAL REQUIREMENTS FOR M.S. ANALYTICS

As with the on-campus M.S. in Analytics degree, the following set of requirements is the complete set of requirements for all M.S. Analytics students:

3 Introductory core courses (9 hours)
One course each in computing, business, and statistics/OR. Each of these three courses may be replaced by an elective on a student-by-student basis, if the student has the appropriate background (e.g., a student who has a previous M.B.A. degree does not need to take an introductory business course, and substitutes an elective in its place)

1 Computing course (3 hours) from list 'C" below
1 Business course (3 hours)
2 Statistics electives (6 hours) from list "S" below
1 Operations research elective (3 hours) from list "O" below
2 Track electives (6 hours)
1 Applied analytics practicum course (6 hours)
Each student's course choices must satisfy the requirements of at least one of the defined tracks (on campus, these tracks are currently Analytical

Tools, Business Analytics, and Computational Data Analytics; online, we plan to initially offer the Analytical Tools track and the Computational Data Analytics track, with the hope that, over time, we can offer the Business Analytics track online as well)

TOTAL: 36 hours

All tracks currently share the same introductory core courses:

CSE 6040 Computing for Data Analytics
ISYE 8803 Introduction to Analytics Modeling
MGT 8803 Introduction to Business for Analytics

All tracks currently share the same required computing course and required business course:

CSE 6242 Data and Visual Analytics
MGT 6203 Data Analytics in Business

INDIVIDUAL TRACK REQUIREMENTS

Analytical Tools Track

The Analytical Tools track provides students with a greater understanding of the quantitative methodology of analytics: how to select, build, solve, and analyze models using methodology, such as parametric and non-parametric statistics, regression, forecasting, data mining, machine learning, optimization, stochastics, and simulation. The general M.S. Analytics requirements are tailored to the Analytical Tools track in a way that provides students the opportunity to gain practical knowledge customized to their own individual interests within the field, as shown below:

Track electives must include at least 2 approved statistics/operations research courses beyond the core and those used to satisfy the statistics requirement and operations research requirements, from lists "S" and "O" below.
Required business course is MGT 6203 Data Analytics in Business.
Required computing course is CSE 6242 Data and Visual Analytics.

Computational Data Analytics Track

The Computational Data Analytics track provides students with a deeper understanding of the practice of dealing with so-called "big data," including how to acquire, preprocess, store, manage, analyze, and visualize data arriving in high volumes, velocity, and variety. The general M.S. Analytics requirements are tailored to the Computational Data Analytics track in a way that provides students the opportunity to gain practical knowledge customized to their own individual interests within the field, as shown below:

Track electives must include at least 2 approved computing courses beyond the core, from list "C" below.
Required business course is MGT 6203 Data Analytics in Business.
Required computing course is CSE 6242 Data and Visual Analytics.
CSE/ISyE 6740 Computational Data Analytics (or equivalent) must be taken, and can be used as either a statistics elective or a track elective.

COURSE LISTING
(This list includes all courses that we plan to offer online within the first two years.)

Core courses (list "I")
I1. CSE 6040 Computing for Data Analysis: Methods and Tools
I2. ISyE 8803 Introduction to Analytics Models
I3. MGT 8803 Introduction to Business for Analytics
I4. CSE 6242 Data and Visual Analytics
I5. MGT 6203 Data Analytics in Business
Statistics courses (list "S")
S1. CSE/ISyE 6740 Computational Data Analytics (also equivalent to CS 7641)
S2. ISyE 6402 Time Series Analysis
S3. ISyE 6404 Nonparametric Data Analysis
S4. ISyE 6413 Design of Experiments
S5. ISyE 6414 Regression Analysis
S6. ISyE 6416 Computational Statistics
S7. ISyE 6420 Bayesian Statistics
S8. ISyE 7406 Data Mining and Statistical Learning
Operations research courses (list "O")
O1. ISyE 6644 Simulation
O2. ISyE 6650 Probabilistic Models
O3. ISyE 6669 Deterministic Optimization
Computing courses (list "C")
C1. CSE 6140 Computational Science and Engineering Algorithms
C2. CSE 6220 High-Performance Computing
C3. CSE 6240 Web Search and Text Mining
C4. CSE/ISYE 6740 Computational Data Analytics (also equivalent to CS 7641)
C5. CS 6400 Database Systems Concepts and Design
C6. CS 7450 Information Visualization
Practicum course
P1. CSE/ISyE/MGT 6748 Applied Analytics Practicum

Note: There was some discussion about the reasoning behind the lower tuition costs and if it impacted the integrity of the degree. Also, there were concerns over instructors teaching the online courses 'out of workload'.

A motion was made to *approve* a request from the College of Business, School of Computational Science and Engineering, and School of Industrial and Systems Engineering for a degree modification. This motion was seconded and approved.

Degree Modification – APPROVED
Master of Science in Analytics

When the Master of Science in Analytics degree was created, there were some new required courses that we initially offered as 8803s. Four of those courses (including three that are cross-listed) have now been given permanent course numbers. This modification is meant to update the program to reflect those new course numbers.

The changes are:

Requirement	Original course name/number	Permanent course name/number
Required business course	MGT 8803 Big Data Analytics in Business	MGT 6203Data Analytics in Business
Required applied analytics practicum (CSE number)	1. CSE 8803 Applied Analytics Practicum I (3 hours) 2. CSE 8803 Applied Analytics Practicum II (3 hours)	CSE 6748 Applied Analytics Practicum (6 hours)
Required applied analytics practicum (ISYE number)	1. ISYE 8803 Applied Analytics Practicum I (3 hours) 2. ISYE 8803 Applied Analytics Practicum II (3 hours)	ISYE 6748 Applied Analytics Practicum (6 hours)
Required applied analytics practicum (MGT number)	1. MGT 8803 Applied Analytics Practicum I (3 hours) 2. MGT 8803 Applied Analytics Practicum II (3 hours)	MGT 6748 Applied Analytics Practicum (6 hours)

4. A motion was made to approve a request from the School of Computational Science and Engineering for a new course. This motion was seconded and approved.

New Course – APPROVED upon contingencies

CS 6250: Big Data Analytics for Healthcare 3-0-3

The Committee recommended that Box 7 (Pre-requisites) be clarified to indicate that a student can choose any of the listed courses to satisfy the pre-requisite for the course. The syllabus should be updated also to include this pre-requisite information. And, that the statement in Box 6 regarding preferred grade mode be removed; this field should only include the checked grade modes.

Student Petitions

1. A motion was made to deny a petition from an applicant seeking admission without the equivalent of a U.S. Bachelor's degree. The motion was seconded and approved.

2. A motion was made to approve Petitions Subcommittee and Administrative actions on petitions in the following areas. The motion was seconded and approved.

   Graduate Petition Summary 09/08/16

   The following petitions were reviewed administratively by the Registrar's office. (All approved except where noted.)

   Petitions reviewed from 06/23/16 to 9/08/16.

   8- Late registration
   8- Term withdrawal
   1- One-year rule waiver
   5- Change grade mode
   3- Full graduate standing
   4- Registration hour adjustment
   1- Permission to take Undergraduate course
   1- Three hour waiver
   1- Seven-year rule waiver
   5-Readmit after 1st drop
   1- Petition to return after withdrawing from previous term
   5- Six-year rule waiver
   1- Use courses taken on special status toward degree
   3- Cancel registration
   3- Selective withdrawal
   2- Count 9000 thesis hours as 7000 level thesis hours
   1- Two term enrollment waiver
   1- One hour waiver

1- Request to take 22 hours during the fall term
1- Adjust course registration to correct CRN
1- Count course toward degree requirement

Adjourned,

Reta Pikowsky, Registrar
Secretary