

Georgia Institute of Technology
Graduate Curriculum Committee
Minutes
April 12, 2012

Present: Sanders (MSE), Mark (CoC), Dickson (CHEM), Flowers (ARCH), Goldsman (ISyE), Storici (BIOL), Mazalek (LCC), Butera (ECE), Silva (ECON), Ferri (ECE), Yang (COA), Pikowsky (REG)

Visitors: Budd (ID), Laros (REG), White (CoC), Daniell (APPH), Kistenberg (APPH), Scott (COM), Howson (REG), Drummond (CP/ARCH), Economou (ARCH), Singhose (ME), Walker (PSYC), Llewellyn (CETL), Soleil (CETL), Sharp (COA), Paraska (VPLE)

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.

Administrative Matters

1. Susan Paraska updated the Committee on recent changes to proposal requirements, review, and submission.

The Board of Regents (BOR) of the USG approved changes to the review and approval process for new academic programs, programs to be offered via distance education delivery, minors, and certificates. I encourage you to share this information with your chairs and faculty curriculum coordinators so that I may address any questions they may have.

The **two major changes** are:

1. Submission and a positive review of a 'Program Prospectus' before a formal academic program proposal may be submitted for BOR review and approval.
2. Notification by USG institutions to offer programs to be offered via distance education delivery, minors, and certificates. Previously, these proposals required either USG administrative approval or BOR approval.

These BOR changes do not change reporting requirements with regard to SACS Commission on Colleges standards and policies.

1. New Academic Program Proposals

Effective: January, 2012

Board of Regents Policy Manual 3.6.1; USG Academic Affairs Handbook 2.3.2

New academic program proposals will be submitted via secured USG website by designated staff at each USG institution. The two-step process begins with submission of a Program Prospectus. The Program Prospectus will be reviewed by the staff of the USG Office of Academic Affairs staff and

following that review a letter outlining the review results will be sent to the institution's designated representative.

Review results to the institution will be: 1) to move forward with the submission of a Formal Proposal, or 2) to not move forward with a formal proposal submission. Review results will be sent via letter (email) to the Office of the Provost within 30 business days and will include details of the review.

a. **New Academic Program Prospectus**

A program prospectus is the initial submission of a potential degree and/or major that the institution deems a priority. The program prospectus is designed to allow institutions to submit program ideas for feedback without incurring expenditures of resources toward the development of a new program proposal. The prospectus will undergo a preliminary review through the USG Office of Academic Affairs. After review of the prospectus, an institution will be sent written notification indicating whether or not to submit a formal proposal.

Program Prospectus Requirements

- 1) Provide a justification of how the program is a primary need for the university system, the state, and the institution's service region.
- 2) Explain how the proposed program is tied to the state's economic development and any relevant major statewide initiatives (e.g., Complete College Georgia), and provide an analysis of the stated demand for the program.
- 3) Include evidence that the program does not unnecessarily duplicate existing USG programs.
- 4) The prospectus should be no more than 650 words and then uploaded to the USG secure website (see #1 footnote below) .

Results of the USG's review will be provided to each institution's chief academic officer. The results will then be shared with the academic unit's faculty and leadership.

b. **Formal Proposal for a New Academic Program**

Upon a positive review of a program prospectus, the USG Office of Academic Affairs will invite Georgia Tech to submit a formal program proposal. *The formal program proposal is the same as we do now.*

- 1) Program description and objectives
- 2) Program's fit with institutional mission
- 3) Demand for proposed program
- 4) Curriculum
- 5) Admissions criteria
- 6) Assistantship availability (as applicable)
- 7) Student learning outcomes
- 8) Program administration
- 9) Degree Credit-Hour Waiver (as applicable)
- 10) Projected enrollments

- 11) Faculty inventory and workload
- 12) Fiscal and Facilities Impact with Estimated Budget
- 13) New and Online Program Delivery criteria (as applicable)

2. Distance Education Programs, Minors, and Certificates

The major change here is that institutions do not need to submit the proposal documents that are approved at the institutional level. USG institutions may now send a 'notification' to the USG Office of Academic Affairs for these proposed programs:

- Distance Education/Learning Programs² —if already an existing, approved degree program
- Minors
- Certificates – for academic credit

Upon receipt of the notification, the USG Office of Academic Affairs will acknowledge receipt and include them in the USG database of approved programs.

Proposing faculty will submit proposals for review and recommendation for approval by faculty committee(s) of the home academic unit, college dean, and Institute faculty governance bodies before submission by the Office of the Provost.

- Continued coordination with key academic and campus support units helps to ensure teaching and learning, financial, physical, technology, and administrative resources are available and in place for the proposed program.
- Curricular information contained within proposals helps to ensure approved curriculum is accurately documented in the GT catalog and related databases, enrolled and prospective students know all program requirements, and with verification of completed academic requirements.

Footnotes:

1 Submission upload to the USG secure website will be completed by an Office of the Provost designated representative.

2 Georgia Tech must also notify SACS Commission on Colleges (SACSCOC) for all distance education offerings.

Academic Matters

1. A motion was made to approve a request from the College of Computing for a degree modification and a new course. The motion was seconded and approved.

Degree Modification

Rationale for changing the approved degree program:

In accordance with the degree modification for the Master of Science in Computer Science as approved by the IGC on January 20, 2011, the College of Computing hereby informs you of modifications to the list of approved courses for the **High-Performance Computing** concentration. Changes are indicated in *bold italic*.

Currently Approved vs. Proposed Program Curriculum—see below.

High-Performance Computing

Core Courses (6 hours)

CSE 6140 Computational Science and Engineering Algorithms

CSE 6220 High Performance Computing

Electives (9 hours)

Pick 3 of:

CSE 6221 Multicore Computing: Concurrency and Parallelism on the Desktop

CS/CSE 6230 High-Performance Parallel Computing: Tools and Applications

Added: CS 6241 Compiler Design

CS 6290 High-Performance Computer Architecture

CS/CSE 8803 Special Topics: Parallel Numerical Algorithms

CSE 6236 Parallel and Distributed Simulation

CSE 8803 Special Topics: Hot Topics in Parallel Computing

New Course

CS 6402: Databases and Information Security 3-0-3

2. A motion was made to approve a request from the College of Computing, School of Literature, Communication, and Culture, and School of Psychology for a degree modification and new courses. The motion was seconded and approved.

Proposed Modifications to MS-HCI degree requirements

February 2012

Rationale for changing the approved degree program

The general catalog links for each of the three offering units:

The vast majority of changes are due to new courses being offered, old (no longer offered, changed content so no longer appropriate) courses being dropped, courses moving from one school to another (Architecture to Industrial Design and to Music) and courses that were special topic seminars becoming regular courses. The only changes not in this category are:

- The previously optional but encouraged MS-HCI seminar (CS course number) is being replaced by a required seminar (new CS course number) for a student's first and second fall terms, and is graded rather than being P/F. Feedback from current and past students is that the course content is very valuable for their professional preparation. We are also adding to the seminar more discussion of the master's project, with a goal of ensuring greater quality and consistency.
- MS-HCI students LCC no longer have the option of doing an LCC Digital Media (DM) master's project. The DM project has substantially different expectations than the MS-HCI project and requires more intensive faculty advising.

The basis for the changes are evolution of GT course offerings over the past years – new courses created, old courses no longer taught (although sometimes still listed), courses changing their emphasis, one-time seminars becoming numbered courses, Architecture courses becoming courses in Industrial Design or Music and hence having new numbers and in some cases new names. Student surveys suggested that the professional practice seminar be required for both fall semesters, rather than being strongly encouraged. To keep total the credit hour requirement at 36, we reduced the number of specialization and elective hours. Otherwise we would have a 38 credit MS, which is too high.

- The key difference is that the required fixed core now has 11 credits rather than 9, and the specialization and/or elective credit hours have been reduced accordingly to maintain the 36 credit program. The increase in the core from 9 to 11 is desired so that we can require two credits of the professional practice seminar (fall first and second years).
- The program is managed by a three-member faculty committee, consisting of one representative from each of the three offering units. The members are James Foley (Interactive Computing, Program Director), Ali Mazalek (LCC, Associate Program Director) and Bruce Walker (Psychology, Associate Program Director). Ms. Jessica Celestine (Interactive Computing) is the Program Coordinator.

New Course Proposals

CS 6753 Human-Computer Interaction - Professional Preparation and Practice LCC 6753
Human-Computer Interaction - Professional Preparation and Practice PSYC 6753 Human-
Computer Interaction - Professional

Preparation and Practice
LCC 6998 HCI Master's Project
PSYC 6998 HCI Master's Project
LCC 8903 Special Problems in Human-Computer Interaction

OVERVIEW

The interdisciplinary Master of Science in Human-Computer Interaction (HCI) degree program is a cooperative effort of the College of Computing; the School of Literature, Communication, and Culture; and the School of Psychology. The program provides students with the practical, interdisciplinary skills and theoretical understanding they will need to become leaders in the design, implementation, and evaluation of the computer interfaces of the future.

COURSE OF STUDY

The HCI master's degree is a four-semester program consisting of a total of 36 semester hours. Each student will be required to complete a set of core courses, a set of area specialization courses, and a master's project. The core is divided into fixed and flexible sets of courses. Students are required to complete three courses in the fixed core and a subset of courses in the flexible core based upon their academic background. The specific courses for each student will be determined by the HCI program

coordinator in consultation with the academic unit. The area specialization courses are determined by the academic unit in which the student resides. The areas of specialization are Computing; Digital Media (DM, through the School of Literature, Communication, and Culture); and Psychology.

FIXED CORE (9 hours)

CS/PSYC 6750, Human-Computer Interaction (must be taken during the first semester)

PSYC 6018, Principles of Research Design

PSYC 7101, Engineering Psychology I: Methods and Controls

FLEXIBLE CORE (12 hrs Computing and Psychology specializations; 9 hrs IDT)

All specialization courses may also be taken as part of the Flexible Core, but at least 9 hours of the Flexible Core must be taken outside your specialization. A maximum of 3 hours of CS 8903 may count toward the Flexible Core.

Computing

COA/CS 6763, Design of Environments

COA 8901, Special Problems: Network Music

COA 8903, Special Problems: Project Studio in Music Technology

COA 8903, Special Problems: Computer Music Composition

CS 7467, Computer-Supported Collaborative Learning

CS 8803, Special Topics: Computer Audio

CS/PSYC 6795, Introduction to Cognitive Science

International Affairs

INTA 8803, Special Topics: Computers, Communications, and International Development

INTA 8803 / PUBP 8803, Special Topics: Information Technology Policy

Industrial and Systems Engineering

ISYE 6205 / AE 8803, Cognitive Engineering

ISYE 6215, Models in Human-Machine Systems

ISYE 6224, Topics in Human-Integrated Systems

ISYE 6231, Design of Human-Integrated Systems

ISYE 6413, Design and Analysis of Experiments

ISYE 6414, Statistical Modeling and Regression Analysis

ISYE 6739, Basic Statistical Methods

Literature, Communication, and Culture

LCC 6213, Educational Applications of New Media

LCC 6215, Issues in Media Studies

LCC 6314, Design of Networked Media

LCC 6315, Project Production
LCC 6316, Historical Approaches to Digital Media
LCC 6317, Interactive Fiction
LCC 6318, Experimental Media
LCC 6319, Intellectual Property Policy and Law
LCC 6320, Globalization and New Media
LCC 6321, The Architecture of Responsive Spaces
LCC 6325, Game Design and Analysis
LCC 6330, Expressive Virtual Space
LCC 6350 / ARCH 8821 / COA 8904, Spatial Constructions of Meaning
LCC 8000, Proseminar in Media Theory

Music

COA 8901, Network Music
COA 8903, Special Problems: Computer Music Composition
COA 8903, Special Problems: Music Technology Research
COA 8903, Special Problems: Project Studio in Music Technology
MUSI 4803, Special Topics: Interactive Music

Psychology

PSYC 7104, Psychomotor and Cognitive Skills
PSYC 8040, Seminar in Engineering Psychology: Assistive Technologies
PSYC 8040, Seminar in Engineering Psychology: The Psychology of HCI

Public Policy

PUBP 8803, Special Topics: The Internet and Public Policy
Certificate Option for the Flexible Core Certificate in Management of
Technology
MGT 6056, Electronic Commerce
MGT 6057, Business Process Analysis and Design
MGT 6111, Innovation and Entrepreneurial Behavior
MGT 6165, Venture Creation
MGT 6326, Collaborative Product Development
MGT 6351, Operations Resource Planning and Execution
MGT 6353, Operations Strategy
MGT 6772, Managing Resources of the Technological Firm
MGT 8803, Special Topics in Management: Database and Customer-Relationship
Marketing
MGT 8803, Special Topics in Management: Seminar on Emerging Technologies
PUBP 6401, Science, Technology, and Public Policy

COMPUTING SPECIALIZATION (11 hours)

Software (3 hours):

CS 4452, Human-Centered Computing Concepts

CS 6300, Software Development Process
CS 6452, Prototyping Interactive Systems
CS 6456, Principles of User Interface Software
CS 7470, Mobile and Ubiquitous Computing
CS 8803, Special Topics: Adaptive Personalized Information Environments
CS 8803, Special Topics: Augmented Reality Design

Design, Evaluation, and Cognitive Modeling (6 hours):

CS 6010, Principles of Design
CS 6451, Introduction to Human-Centered Computing
CS 6455, User Interface Design and Evaluation
CS 6460, Educational Technology: Conceptual Foundations
CS 6470, Design of Online Communities
CS 6770, Mixed Reality Experience Design
CS 7450, Information Visualization
CS 7460, Collaborative Computing
CS 7610, Modeling and Design
CS/PSYC 7790, Cognitive Modeling
CS 8902, Special Problems

The remaining two credit hours may be taken from either section. A maximum of 3 hours of CS 8903 may count toward the Computing specialization. The master's degree requirements for students in the College of Computing supplement those of the Institute. Students must achieve a grade point average of at least 3.0 to graduate, and no course grade below C will count toward graduation.

DIGITAL MEDIA (DM) SPECIALIZATION (12 hours)

Required (may be repeated; up to 6 hours of LCC 6650 may be applied toward the specialization) LCC 6650, Project Studio (enrollment by permission of instructor)

One of the following courses, preferably taken in the first year of study: LCC 6310, The Computer as an Expressive Medium
LCC 6311, Visual Culture and Design
LCC 6312, Design, Technology, and Representation
LCC 6313, Principles of Interactive Design

Students may fulfill the rest of the required hours with any other LCC 6000 or 8000 level course.

PSYCHOLOGY SPECIALIZATION (11 hours)

Required:
PSYC 6019, Statistical Analysis of Psychological Data I (5 hours)
PSYC 7102, Engineering Psychology II: Displays and Stressors

At least 3 hours from the following courses:

PSYC 6011, Cognitive Psychology
PSYC 6014, Sensation and Perception

PSYC 6020, Statistical Analysis of Psychological Data II (5 hours)

PROJECT (4 hours; 6 hours for students in the DM specialization)

Each student should complete this requirement, under the supervision of a faculty member, during the last two semesters of the program. Students should also submit a brief written report to their project supervisors at the end of each semester of work and present their work during the MS-HCI student seminar during the semester of graduation.

CS 8902, Special Problems (repeatable; variable semester hours)
or
PSYC 8903, Special Problems in HCI (repeatable; variable semester hours)

NOTE to reviewers:

The proposed program changes are shown as modifications to the current program, with a strike-through representing deletions and *italics representing additions*.

Master of Science in Human - Computer Interaction

OVERVIEW

The interdisciplinary Master of Science in Human-Computer Interaction (HCI) degree program is a cooperative effort of the *School of Interactive Computing*, ~~College of Computing~~; the School of Literature, Communication, and Culture; and the School of Psychology. The program provides students with the practical, interdisciplinary skills and theoretical understanding they will need to become leaders in the design, implementation, and evaluation of the computer interfaces of the future.

COURSE OF STUDY

The HCI master's degree is a four-semester program consisting of a total of 36 ~~semester~~ credit hours. Each student ~~will be~~ required to complete a set of *four* core courses, *a set of elective courses based on their academic background and interests*, a set of area specialization courses *based on the academic unit in which they reside*, and a Master's project. ~~The core is divided into fixed and flexible sets of courses. Students are required to complete three~~ *four* courses in the ~~fixed core and a subset of courses in the flexible core~~ *electives* courses based upon their academic background. The specific courses for each student will be determined by the HCI program coordinator in consultation with the academic unit. The area specialization courses are determined by the academic unit in which the student resides. The areas of specialization are: Computing; Digital Media (DM, through the School of Literature, Communication, and Culture); and Psychology.

FIXED-Core Courses (9 hours) (11 Credit hours)

- CS/PSYC 6750, Human-Computer Interaction (must be taken during the first semester)
- ~~PSYC 6018,6023 Principles of Research Design~~ *Psychology Research Methods for HCI (4 credit hours with lab)*
- ~~PSYC 7401, 6031 Engineering Psychology I: Methods and Controls~~ *Engineering Psychology Analysis Techniques (2 credit hours)*
- ~~CS/LCC/PSYC6753 Human-Computer Interaction – Professional Preparation and Practice~~ *(1 hour credit Fall of first year and 1 credit hour Fall of second year)*

Elective Flexible-Core Courses (12 hrs credit hours for Computing Specialization; 10 hrs credit hours for Psychology Specialization; 9 credit hours for Digital Media Specialization ~~IDT~~)

All specialization courses may also be taken as part of the Flexible-Core Elective courses. ~~but~~ For the computing and psychology tracks, at least 9 hours credit hours of the Flexible Core Elective must be taken outside your specialization. For the Digital Media specialization, at least 6 credit hours must be taken outside your specialization. A maximum of 3 credit hours of Special Problems in HCI (CS/LCC/PSYC 8903) may count toward the Elective Courses. ~~A maximum of 3 hours of CS 8903 may count toward the Flexible Core.~~

Architecture

~~COA/CS 6763, Design of Environments~~
~~COA 8901, Special Problems: Network Music~~
~~COA 8903, Special Problems: Project Studio in Music Technology~~
~~COA 8903, Special Problems: Computer Music Composition~~
COA 6763 Design of Environments, Design Games
COA 8823-ED Special Topics in Architecture and Behavior: Health Environment of the Future
COA 8823 Special Topics: Patient Room of the Future
COA 8843-ED Special Topics in Design Computing: Design Games

Computer Science

Software

~~CS 6300, Software Development Process~~
~~CS 6452, Prototyping Interactive Systems~~
~~CS 6456, Principles of User Interface Software~~
~~CS 7470, Ubiquitous Computing~~
~~CS 8803-MAS, Special Topics: Mobile Apps and Services~~
~~CS 8803, Special Topics: Adaptive Personalized Information Environments~~
~~CS 7467, Computer-Supported Collaborative Learning~~
~~CS 8803, Special Topics: Computer Audio~~
CS 8903 Special Problems in Human-Computer Interaction (variable hours)

Design, Evaluation, and Cognitive Modeling

CS 6010, Principles of Design
CS 6150 - Computing for Good
CS 6451, Introduction to Human-Centered Computing
CS 6455, User Interface Design and Evaluation
CS 6460, Educational Technology: Conceptual Foundations
CS 6465 Computational Journalism
CS 6470, Design of Online Communities
CS 6795, Introduction to Cognitive Science
CS 7450, Information Visualization
CS 7460, Collaborative Computing
CS 7610, Modeling and Design
CS/PSYC 7790, Cognitive Modeling
CS 8803-DG Special Topics: Design Games
CS 8803-HEF Special Topics: Healthcare Informatics
CS 8803-HAR Special Topics: Handheld Augmented Reality Game Studio
CS 8803-HRI Special Topics Human-Robot Interaction
CS 8803-IBI Special Topics: Introduction to Bio Informatics
CS 8803-VG Special Topics: Video Game Design
CS 8803-SOC Social Computing
CS 8903 Special Problems in Human-Computer Interaction (variable hours)

International Affairs

INTA 8803, Special Topics: Computers, Communications, and International Development
~~INTA 8803 / PUBP 8803, Special Topics: Information Technology Policy~~

Industrial Design

ID 6100 Human Centered Design ID
6101 Human Centered Design ID 6200
Graduate Studio II
ID 8900 Healthcare Environment of the Future
ID 8900 Web Design Accessibility
ID 8900 Advanced Sketching
ID 8900 Interactive Product Design for Home Health & Well-Being
ID 8900 Service Design and Organizational Activation
ID 8900 Universal Design: Exploration & Investigation of Real World Applications

Industrial and Systems Engineering

ISYE 6205 / AE 8803, Cognitive Engineering ISYE
6215, Models in Human-Machine Systems ~~ISYE 6224,~~
~~Topics in Human-Integrated Systems~~
ISYE 6231, Design of Human-Integrated Systems
ISYE 6413, Design and Analysis of Experiments

ISYE 6414, ~~Statistical Modeling and~~ Regression Analysis
ISYE 6739, Basic Statistical Methods
ISYE 6772, Managing the Resources of Technological Firms
ISYE 7210, Real-Time Interactive Simulations

Literature, Communication, and Culture (*Digital Media*)

~~LCC 6213, Educational Applications of New Media~~
LCC 6215, Issues in Media Studies
LCC 6310, The Computer as an Expressive Medium
LCC 6311, Visual Culture and Design
LCC 6312, Design Technology and Representation
LCC 6313, Principles of Interactive Design
LCC 6314, Design of Networked Media
LCC 6315, Project Production
LCC 6316, Historical Approaches to Digital Media
LCC 6317, Interactive Fiction
LCC 6318, Experimental Media
LCC 6319, Intellectual Property Policy and Law
~~LCC 6320, Globalization and New Media~~
~~LCC 6321, The Architecture of Responsive Spaces~~
LCC 6325, Game Design and Analysis
~~LCC 6330, Expressive Virtual Space~~
~~LCC 6350 / ARCH 8821 / COA 8904, Spatial Constructions of Meaning~~
LCC 6399, Discovery and Invention in Digital Media
LCC 6650, Project Studio
LCC 8000, Proseminar in Media Theory
LCC 8001, Pro-Seminar in Digital Media Studies
LCC 8903, Special Problems in Human-Computer Interaction
~~LCC 8813 Advanced Issues in Interactive Narrative~~
LCC 8823, Special Topics in Game Design and Analysis

Management of Technology (MOT)

MGT 6056, Electronic Commerce
MGT 6326, Collaborative Product Development
MGT 6772, (K, TSA) Managing Resources of the Technological Firm
MGT 8803, Software Project Management

Music

~~COA 8901, Network Music~~
~~COA 8903, Special Problems: Computer Music Composition~~
~~COA 8903, Special Problems: Music Technology Research~~
~~COA 8903, Special Problems: Project Studio in Music Technology~~
~~MUSI 4803, Special Topics: Interactive Music~~
MUSI 6001, Music Perception and Cognition

MUSI 6003, Music Technology History and Repertoire
MUSI 6104, Integrating Music in Multimedia
MUSI 6301, Music Interface Design
MUSI 6303, Network Music
MUSI 7100, Music Technology Research Lab

Psychology

PSYC 6011, Cognitive Psychology (3 credit hours) PSYC
6012, Social Psychology (3 credit hours)
PSYC 6014, Sensation and Perception (3 credit hours)
PSYC 6022, Psychological Statistics for HCI (4 credit hours including lab, Fall or Spring)
PSYC 6032, Engineering Psychology Stressors (1 credit hour minicourse, Fall)
PSYC 6033, Engineering Psychology Cognitive Ergonomics (1 credit hour minicourse, Spring)
PSYC 6034, Engineering Psychology Displays (1 credit hour minicourse, Spring)
PSYC 6035, Engineering Psychology Controls & Workspaces (1 credit hour minicourse, Spring)
PSYC 6041, Topics in Cognitive Aging (3 credit hours)
PSYC 7104, Psychomotor and Cognitive Skills
PSYC 8040, Seminar in Engineering Psychology: Assistive Technologies
PSYC 8040, Seminar in Engineering Psychology: The Psychology of HCI
PSYC 8903, Special Problems in Human-Computer Interaction

Public Policy

PUBP 8803 6111, Special Topics: The Internet and Public Policy
PUBP 6401, Science, Technology, and Public Policy
Certificate Option for the Flexible Core Certificate in Management of Technology,
http://mgt.gatech.edu/programs/graduate_certificates/index.html

MGT 6056, Electronic Commerce
MGT 6057, Business Process Analysis and Design MGT

~~6111, Innovation and Entrepreneurial Behavior MGT 6165, Venture Creation~~
~~MGT 6326, Collaborative Product Development~~
~~MGT 6351, Operations Resource Planning and Execution~~
~~MGT 6353, Operations Strategy~~
~~MGT 6772, Managing Resources of the Technological Firm~~
~~MGT 8803, Special Topics in Management: Database and Customer Relationship Marketing~~
~~MGT 8803, Special Topics in Management: Seminar on Emerging Technologies~~

COMPUTING SPECIALIZATION (11 9 credit hours)

Software (3 credit hours):

~~CS 4452, Human-Centered Computing Concepts~~
CS 6300, Software Development Process

CS 6452, Prototyping Interactive Systems
CS 6456, Principles of User Interface Software
CS 7470, ~~Mobile and Ubiquitous Computing~~
CS 8803-MAS, *Special Topics: Mobile Apps and Services*
CS 8803, ~~Special Topics: Adaptive Personalized Information Environments~~
CS 8803, ~~Special Topics: Augmented Reality Design~~

Design, Evaluation, and Cognitive Modeling (6 credit hours):

CS 6010, Principles of Design
CS 6150, *Computing for Good*
CS 6451, Introduction to Human-Centered Computing
CS 6455, User Interface Design and Evaluation
CS 6460, Educational Technology: Conceptual Foundations
CS 6465 *Computational Journalism*
CS 6470, Design of Online Communities
CS 6470, Mixed Reality Experience Design
CS 6795, *Introduction to Cognitive Science*
CS 7450, Information Visualization
CS 7460, Collaborative Computing
CS 7610, ~~Modeling and Design~~
CS/PSYC 7790, Cognitive Modeling
CS 8902, ~~Special Problems~~
CS 8803-DG, *Special Topics: Design Games*
CS 8803-HEF, *Special Topics: Healthcare Informatics*
CS 8803-HAR, *Special Topics: Handheld Augmented Reality Game Studio*
CS 8803-HRI, *Special Topics Human-Robot Interaction*
CS 8803-IBI, *Special Topics: Introduction to Bio Informatics*
CS 8803-VG, *Special Topics: Video Game Design*
CS 8803-SOC, *Social Computing*
CS 8902 ~~Special Problems (variable hours)~~
CS 8903, *Special Problems (variable hours)*

~~The remaining two credit hours may be taken from either section.~~ A maximum of 3 hours of CS 8903 may count toward the Computing specialization. The master's degree requirements for students in the College of Computing supplement those of the Institute. Students must achieve a grade point average of at least 3.0 to graduate, and no course grade below C will count toward graduation.

DIGITAL MEDIA (DM) SPECIALIZATION (~~12~~ 10 credit hours)

Required (may be repeated; ~~up to 6 hours of LCC 6650 may be applied toward the specialization~~)

LCC 6650, Project Studio (enrollment by permission of instructor)

One of the following courses, preferably taken in the first year of study: LCC

6310, The Computer as an Expressive Medium

~~LCC 6311, Visual Culture and Design~~

LCC 6313, Principles of Interactive Design

LCC 6399, Discovery and Invention in Digital Media ~~LCC 6312, Design, Technology, and Representation~~ *LCC 8903, Special Problems in HCI*

Students may fulfill the rest of the required *credits* hours with any other LCC 6000 or 8000 level course.

A maximum of 3 hours of LCC 8903 may count toward the Digital Media specialization.

PSYCHOLOGY SPECIALIZATION (11 credit hours)

Required (8 credit hours):

~~PSYC 6019, Statistical Analysis of Psychological Data I (5 credit hours)~~ PSYC 7102, *Engineering Psychology II: Displays and Stressors*

PSYC 6022, Psychological Statistics for HCI (4 credit hours including lab, Fall or Spring)

PSYC 6032, Engineering Psychology Stressors (1 credit hour minicourse, Fall)

PSYC 6033, Engineering Psychology Cognitive Ergonomics (1 credit hour minicourse, Spring)

PSYC 6034, Engineering Psychology Displays (1 credit hour minicourse, Spring)

PSYC 6035, Engineering Psychology Controls & Workspaces (1 credit hour minicourse, Spring)

~~At least 3 credit hours from the following courses:~~

PSYC 6011, *Cognitive Psychology (3 credit hours)* PSYC

6012, *Social Psychology (3 credit hours)*

PSYC 6014, *Sensation and Perception (3 credit hours)*

PSYC 6041, Topics in Cognitive Aging (3 credit hours)

~~PSYC 6020, Statistical Analysis of Psychological Data II (5 hours)~~

PROJECT (4 credit hours; 6 credit hours for students in the DM specialization)

~~Each student should complete this requirement, under the supervision of a faculty member, during the last two semesters of the program. Students should also submit a brief written report to their project supervisors at the end of each semester of work and present their work during the MS-HCI student seminar during the semester of graduation.~~

Each student completes this requirement, under the supervision of a faculty member, normally during the last two semesters of their program. Students must submit a project proposal and final report and present their work to the three school faculty coordinators and other MS-HCI students late during the semester of graduation.

~~CS 89026998, Special Problems MS-HCI Project (repeatable; variable semester hours)~~

or

LCC 6998, MS-HCI Project (repeatable; variable semester hours)

or

~~PSYC 8903, Special Problems in HCI (repeatable; variable semester hours)~~

PSYC 6998, MS-HCI Project (repeatable; variable semester hours)

SEMINAR

The HCI MS professional preparation and practice course aims to prepare students for success in their studies and careers. It includes presentations by leading HCI practitioners concerning career choices and preparation and new developments, visits to corporate HCI labs in the Atlanta area, research presentations, skills tutorials, discussion of potential MS projects and “how to succeed” in graduate school and as a professional.

Students take this seminar in the fall semester of their first and second years of study.

CS 6753, Human-Computer Interaction - Professional Preparation and Practice (may be repeated for credit once)

or

LCC 6753, Human-Computer Interaction - Professional Preparation and Practice (may be repeated for credit once)

or

PSYC 6753, Human-Computer Interaction - Professional Preparation and Practice (may be repeated for credit once)

New Courses

CS 6753 HCI Professional Preparation and Practice 1-0-1

LCC 6753 HCI Professional Preparation and Practice 1-0-1

LCC 6998 HCI Master's Project 0-3-27-1-9

LCC 8903 Special Problems in HCI 0-3-12-1-3

PSYC 6753 HCI Professional Preparation and Practice 1-0-1

PSYC 6998 HCI Master's Project 0-3-27-1-9

Note: Committee members observed that the credit hour notations on the NCPs appeared not to be correct. The Registrar’s Office will review all of them and make corrections as appropriate.

Note: There was also discussion on the grade modes for the courses with the College of Computing requiring letter grades only and the other units preferring options on their version of the courses.

3. A motion was made to approve a request from the School of Literature, Communication and Culture to rename the School. The motion was seconded and approved.

Rename as: School of Literature, Media, and Communication

The recommendation resulted from the IAC Dean’s Task Force and the LCC Ad Hoc Committee on Rebranding and was accepted, along with other recommendations, by the faculty by a vote of 18 in favor and 5 opposed at the January 19 faculty meeting.

The Registrar's Office asked whether the School had considered or was going to consider a new subject code to match the name of the School. It was noted that if that option is pursued, it might be a good opportunity to clean up the course offerings, deactivating those that are no longer going to be offered in future terms.

4. A motion was made to approve a request from the School of Applied Physiology for new courses and a degree modification. The motion was seconded and approved.

New Courses

APPH 6410: Rehabilitation Engineering 2-3-3

Note: This will be changed to a "67" number to be consistent with the cross-list protocol with the ME version.

APPH 6971: Intro to P&O Processes & Clinical Methods 1-1-1

APPH 6975: Introduction to Prosthetics 2-0-2

Degree Modification

Rationale for changing the approved degree program:

The Master of Science in Prosthetics and Orthotics (MSPO) program, based in the School of Applied Physiology, is completing its tenth year. The MSPO program faculty has made the decision to revise some areas of the program curriculum to enhance student learning.

1. Remove **APPH 6203 Biomechanics/Kinesiology in P&O** from the **MSPO** curriculum. Content from this course is included in other MSPO courses creating unnecessary redundancy of content. However, this course will still be taught to PhD students in the School of Applied Physiology.
2. Add a new course **APPH 6971 Introduction to P&O Processes and Clinical Methods** for 1 credit hour. Development of this course is in response to student and graduate feedback requesting additional content in P&O Processes and Clinical Methods.
3. Add a new course **APPH 6975 Introduction to Prosthetics** for 2 credit hours. This course will allow for introductory content to be provided prior to and serve as a pre-requisite for the core Prosthetics courses (APPH 6984 Transtibial Prosthetics, APPH 6985 Transfemoral Prosthetics & APPH 6981 Upper Limb Prosthetics).

Course Number and Name	Credit Hours	Per Week (class:lab:credit)	Proposed Credit Hours	Proposed Per Week Change (class:lab:credit)
APPH 6971 Introduction to P&O Processes and Clinical Methods	New Course	New Course	1	1-1-1
APPH 6975 Introduction to Prosthetics	New Course	New Course	2	2-0-2

In summary, the **total hours for the degree requirement will not change** and each student will maintain, as in the present program, 12 credit hours of class each semester.

a. Provide information to any change to any of the following administration and support areas.

If none, then reflect as N/A.

- 1) Program leadership—N/A
- 2) Faculty and support staff levels—N/A
- 3) Space requirements—N/A
- 4) Technology and/or Learning Resource—N/A
- 5) Instructional delivery and/or format—N/A

Currently Approved vs. Proposed Program Curriculum

Program total hours	48	48
<u>1st semester</u>	<u>Current</u>	<u>Proposed</u>
Clinical Gait Analysis w/lab	3	3
Kinesiology— APPH 6203	2	X Delete
Clinical Pathology	2	2
Lower Limb Orthotics	3	3
Intro. to P&O Processes & Clinical Methods-APPH 6971	X	1 - New
Introduction to Prosthetics- APPH 6975	X	2 - New
Clinical Practicum	2	1
TOTAL	12	12
<u>2nd Semester</u>		
CAD/CAM	1	1
Lower Limb Orthotics	4	4
Transtibial Prosthetics	4	4
Clinical Practicum	2	2
Research Seminar I	1	1
TOTAL	12	12

3rd Semester

Transfemoral Prosthetics	4	4
Spinal Orthotics	4	4
Research Seminar II	1	1
Assistive Technology	1	1
Clinical Practicum	<u>2</u>	<u>2</u>
TOTAL	12	12

4th Semester

Upper Limb Orthotics	4	4
Upper Limb Prosthetics	3	3
Research Seminar III	3	3
Clinical Practicum	<u>2</u>	<u>2</u>
TOTAL	12	12

5. A motion was made to approve a request from the College of Management for a degree modification. The motion was seconded and approved.

Request: For the Master of Business Administration (MBA) degree, change the major name from “Management” to “Business Administration.” This request parallels one previously made by the College of Management’s Undergraduate office to change its major name for the BSBA degree to “Business Administration” from “Management.” This request is to ensure consistency within the College and to enhance the accuracy of reports.

Rationale: When the College of Management’s request to change its degree name from Master of Science in Management (MSM) to Master of Business Administration (MBA) was approved by the Board of Regents, we did not change the “major” name on the degree. Currently the major name for the MBA degree is management.

6. A motion was made to approve a request from the College of Architecture and from the School of Architecture for new courses. The motion was seconded and approved.

New Courses

COA 6114 Art and Architecture in Classical Greece 3-0-3

ARCH 6447: Urban Ecological Design 3-0-3

7. A motion was made to approve a request from the School of City and Regional Planning for new courses. The motion was seconded and approved.

New Courses

CP 6005 Freehand Drawing for Planners 1-0-1
CP 6190 Introduction to Climate Change Planning 3-0-3

CP 6570 Socioeconomic GIS 3-0-3
CP 6680 Citizen Participation & Community Engagement 3-0-3
CP 6850 Public Health & the Built Environment 3-0-3

CP 6836: Urban Ecological Design 3-0-3

Note: An undergraduate version of CP 6190 will be proposed.

8. A motion was made to approve a request from the School of Industrial Design for new courses. The motion was seconded and approved.

New Courses

ID 6214 Strategic Design Language 3-0-3
ID 6763 Design of Interactive Environments 3-0-3
ID 6820 Web Design, Usability and Accessibility 3-0-3

Note: There was discussion of the titles of these courses for the transcript. It is preferable to have the word “design” spelled out where possible.

9. A motion was made to approve a request from the Center for the Enhancement of Teaching and Learning (CETL) for new courses. The motion was seconded and approved.

New Courses

CETL 8713 Fundamentals of Teaching and Learning in Higher Education 2-3-3
CETL 8715 Teaching Practicum - Higher Education 1-3-6-2-3
CETL 8717 Course Design for Higher Education 2-3-3
CETL 8719 Teaching Immersion - Higher Education 1-0-1

Note: There was discussion about the activities and conversations leading up to this vote. This past year, a procedure was put into place that would provide a means for non-academic units such as CETL to have course proposals vetted through a Committee formed by the Provost’s Office to ensure adequate faculty oversight and to mimic the

process that course proposals go through in the academic units. This proposal from CETL was tabled in January in anticipation of the new process being in place.

The Graduate Committee agreed to hear and act on these proposals during the transition to the new process given the fact that there is one more Senate meeting this academic year and for these courses to be offered starting in Summer 2012, they have to be approved at this meeting on April 12 and approved by the Senate on April 24. This was an issue of timing and the Graduate Committee acted on the proposals as an interim measure. Future requests from non-academic units will have to be reviewed and recommended through the Provost's Curriculum Committee which has now been formed.

There was also considerable discussion about the use of CETL courses to meet degree requirements for Master's and PhD programs. This is best explained as an "opt in" situation. In other words, since the academic units set study plans for Master's and PhD degrees, they can decide locally whether to allow CETL courses to be included. All that approval of the Graduate Committee means is that courses offered for academic credit by CETL are **available** for use should the academic unit choose to include them. It does not mean they must be allowed for credit in any of the programs.

10. A motion was made to approve a request from the School of Economics for reactivation of a course. The motion was seconded and approved.

ECON 9000: Doctoral Thesis

11. A motion was made to approve a request from the School of Industrial and Systems Engineering for a degree modification. The motion was seconded and approved.

Degree Modification

Rationale for Modification: We propose a new track in the MS Health Systems (MSHS) program focusing on "predictive health." The development and offering of this track will be supported by a \$300K gift from the George Foundation. The new track will help increase the reach of the MSHS program both in terms of the incoming students (e.g., from medical schools) as well as its long term impact. Track requirements will focus on the courses relevant to predictive health, but will also align with the existing MSHS requirements. "ISYE Core" courses proposed for the track are offered regularly. "HS Core" courses are the same as in the current MSHS program requirements, and there is a plan/desire to offer these courses regularly even if this track is not developed (HS courses have not been offered regularly in the past few years). Hence, we expect that the additional workload to ISyE faculty due to the creation of this new track will be minimal. We also expect that this track will motivate and align with research efforts in this area.

Curriculum Comparison [include all coursework, required and optional]:

Current MSHS Program	Proposed Predictive Health Track
<p>ISyE Core (select 3 courses) ISyE 6644 Simulation ISyE 6669 Deterministic Optimization ISyE 6650 Probabilistic Models ISyE 6414 Regression Analysis</p>	<p>ISyE Core (3 courses) ISyE 6644 Simulation ISyE 6669 Deterministic Optimization ISyE 6650 Probabilistic Models</p> <p>Predictive Health Core(2 courses) ISyE 6414 Regression Analysis ISyE 7406 Data Mining and Stat Learning</p>
<p>Health Systems Core (2 courses) HS 6000 Intro to Healthcare Delivery HS 6400 Health Systems Practice or ISyE 6320 Public Impact Applications of OR</p>	<p>Health Systems Core (2 Courses) HS 6000 Intro to Healthcare Delivery HS 6400 Health Systems Practice - or ISyE 6320 Public Impact Applications of OR</p>
<p>Elective Health Systems Courses (3 courses) To be selected from an approved list of courses, in health-related areas/subjects, maintained in the School Graduate Office.</p> <p>Finance/Management (2 courses) MGT 6000 Financial and Managerial Accounting MGT 6060 Financial Management I ISyE 6225 Engineering Economy ISyE 6227 Introduction to Financial Engineering HS 6200 Healthcare Financial Management</p> <p>FREE ELECTIVE (1 course) To be selected from an approved list in ISyE, CoC, or Management.</p>	<p>Elective Health Systems Courses (1 course) To be selected from an approved list of courses, in health-related areas/subjects, maintained in the School Graduate Office.</p> <p>Finance/Management (1 course) MGT 6000 Financial and Managerial Accounting MGT 6060 Financial Management I ISyE 6225 Engineering Economy ISyE 6227 Introduction to Financial Engineering HS 6200 Healthcare Financial Management</p> <p>FREE ELECTIVE (1 course) To be selected from an approved list in ISyE, CoC, or Management.</p>

Note: During the review it was noted that the number of hours in the left hand column of the chart do not add up to 30 which means a correction is needed. This will be reviewed and so noted after it is determined where the error lies.

Notes: The 5 core courses in the proposed new track (under the headings of ISyE core and Predictive Health Core) align well with the current MSHS program, while providing more structure for the focus of the new track. These courses are offered regularly by ISyE faculty.

The two health systems core courses (HS 6000 and HS 6400) have not been offered regularly by ISyE faculty over the past couple of years due to our limited resources, and MSHS students had to substitute other courses for them in some years. However, it is the department's intention to offer these courses regularly in the future. A few years ago, there was an effort to revamp HS 6000 by adding more ISyE content and methodology, i.e., focusing on how various methods such as simulation, optimization, etc. can be used for modeling, analyzing, and solving healthcare problems at various levels (hospital, policy, treatment, etc.). One of our Ph.D. Students, Jackie Griffin, taught the course with that content. One year later, the course was taught by a visiting professor from Stanford (Polly He, Stefanos Zenios's former student). Polly may have added some more content. Unfortunately, there was no one available to teach this course in the Spring 2012 semester, so it is not offered. This is a key course for MSHS students to see the connections between IE/OR methodology and health applications. Turgay Ayer (and a few other ISYE faculty) is interested in teaching this course.

HS 6400 has been in our course catalog for a long time, and it is a project course. This has been traditionally included in the MSHS core with the goal of enabling the MSHS students to get some "experience" in the health sector. Since this course was not offered in recent years, students did independent study (with a project focus) and substituted some other courses in place of HS 6400. In the future, the department would like to offer this course regularly; however, if resources are tight, it is possible that independent study could be substituted in its place. Alternatively, ISYE 6320 is likely to be offered every other year, and some of the students can take that course to satisfy core requirements. The projects for the students in the proposed predictive health track will have a focus aligning with the track's goals, and we expect that most of these projects will be advised by statistics faculty.

The remaining elective courses in the proposed track and the regular MSHS program are similar, although there are fewer electives in the proposed track.

Student Petitions

1. A motion was made to approve the recommendations of the Petitions Subcommittee for requests in the following areas. The motion was seconded and approved.

The following Petitions were reviewed by the Graduate Petition Subcommittee. (All approved except where noted).

- 1 –Drop below full-time and maintain Teaching Assistance status (**Denied**)
- 1 –Two term residency requirement waiver (No Action, alternative found)
- 1- Use excess pass-fail credits
- 4- Selective withdrawal
- 1- Term withdrawal for Fall 2011

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

- 20 -Full Graduate Standing
- 1 –Cancel registration
- 2 –Change registration
- 1 –Use two courses towards degree not used for BS degree
- 1 –Change nine hours of ME 9000 to ME 7000 to meet M.S. Degree requirement
- 1 –Be allowed to use nine transfer credits towards degree
- 1 –Seven-year rule waiver

Administrative Update

1. This item is to document a follow-up conversation with the College of Computing on course equivalencies discussed originally at the September 1, 2011 meeting. In the follow-up conversation with the College of Computing it was determined that the equivalency listed for CS 7641 and CSE 6740 is, in fact, accurate and needs to be enforced. The Registrar's office made that correction and the two are now coded appropriately in the data base.

“The Committee was unclear about some of the details of the requested equivalencies listed below. Dr. Boldyreva volunteered to follow up with the College and clarify the details with the Registrar's Office. In a subsequent conversation, the College of Computing asked that this request be withdrawn so that it can be properly re-evaluated and re-submitted at a later date.

CS 7641 (Machine Learning) equivalent to CSE 6740 (Computational Data Analysis)

CS 4400 (Introduction to Database Systems) equivalent to CS 6400 (Database Systems Concepts and Design)

CS 4420 (Database Systems Implementation) equivalent to CS 6400 (Database Systems Concepts and Design)

CS 4420 (Database Systems Implementation) equivalent to CS 6422 (Database Systems Implementation)

CS 6400 (Database Systems Concepts and Design) equivalent to CS 6422 (Database Systems Implementation)

This motion was also approved by the UCC on August 16, 2011.”

Adjourned,

Reta Pikowsky
Registrar