

**Institute Undergraduate Curriculum Committee
Appeals and Academic Matters (Full Committee)
Tuesday, November 8, 2011**

Present: Seitzman (AE), Pikowsky (REG), Loss (MATH), Conte (CoC), Goodisman (BIOL), Hollengreen (ARCH), Walker (PSYC), Economou (ARCH), Isbell (CoC), Paradis (ME), Riley (ECE), Smith (ME), Senf (LCC), Yaszek (LCC)

Visitors: Laros (REG), Howson (REG), Bacon (OIE), Vito (Provost Office), Henry (OIE), Guzdial (IC), Brown (PUBP), Dussich (Career Services), Shook (ML), Bowman (INTA), Sankar (AE), Jacobs (CoE), Appel-Silbaugh (ODOS), Llewellyn (CETL), Mobley (Career Services), Dobranski (LCC), Zhou (ISYE), Jang (ML), Orlando (CoS)

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.

Academic Matters

1. A motion was made to **approve** a request from the School of International Affairs for a course deactivation and a new certificate. A motion was also made to **table** a request for Special Topic courses that were requesting social science core and global perspective overlay attributes. The motions were seconded and approved.

COURSE DEACTIVATION: (approved)

INTA 3750 – Int'l Language Policies

NEW CERTIFICATE: (approved)

Certificate in Scenarios, Models, and Military Games

This certificate program will give students a grounding in the use of scenarios, models, and gaming in the analysis of national security issues. The initial courses provide a broad overview of the relationship between technology and military operations. The subsequent courses build upon that and teach students to apply advanced computational and analytic methods to national security issues. The additional requirement consisting of a class in Geographic Information Systems (GIS) introduces the student to geographically distributed data and the usage of maps for spatial analysis. It is suggested that students take their chosen courses in the following order.

This certificate will require a total of 12 hours coursework as follows:

Pick one of the following courses:

INTA 4011 - Technology and Military Organization

INTA 4016 - Strategy and Arms Control

INTA 4803 - War in the 20th Century

Take the following:

CP 4510 - Introduction to GIS

Take one of the following two courses:

INTA 4014 - Scenario Writing and Path Gaming

Cross-listed with graduate section of INTA 6014

INTA3111 - United States Foreign and Security Strategy

Take the following course:

INTA 4742/CS 4343 or CSE 6742 Modeling, Simulation, and Military Gaming

Requirements

- Courses required by name and number and/or used to satisfy core areas A through E in a student's major degree program may not be used in satisfying the course requirements for a certificate.
- A course may not be counted toward more than one minor and/or certificate.
- All courses for the certificate must be taken on a letter-grade basis, and a grade of C or better is required in each course counted toward the certificate.
- No more than six credits of special topics (4803) and three credits of special problems (4903) may be used towards the certificate.
- To receive the Certificate in Scenarios, Models and Military Games, the student must complete all requirements for a bachelor's degree at Georgia Tech.

Enrollment and Tracking

Students may apply for the Certificate in Scenarios, Models and Military Games by submitting the Declaration of Certificate application to the Nunn School Undergraduate Advisor, listing the courses taken and grades earned toward satisfying the certificate requirements. The School will review the application for verification and recommendation. Students who would like to use classes not included in the curriculum towards the certificate, should submit this request to the Nunn School Director of Undergraduate Programs for consideration.

Certificates will be awarded upon graduation and mailed to students.

SPECIAL TOPICS COURSE ATTRIBUTES: (tabled)

Department requested new 2000-level Special Topics courses to carry the Social Science and Global Perspectives attributes.

INTA 2801: Special Topics

INTA 2802: Special Topics

INTA 2804: Special Topics

Department requested Social Science and Global Perspectives credit for an existing Special Topics course.

INTA 2803: Special Topics

Proposal was tabled and forwarded to the Gen Ed subcommittee for further review.

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

DEGREE MODIFICATION for the BSIE: (approved)

Current BSIE program allows students to take 2 lab sciences from the list below

Course # and Name	Pros	Cons
CHEM 1310 General Chemistry	A prerequisite for many Engineering electives	Does not count as Environmental course
CHEM 1211K & CHEM 1212K Chemistry Principles I & II	Complete the lab sequence in Chemistry classes	Does not count as Environmental course
EAS 1600 Intro Environmental Science	Satisfies environmental requirement	Limits choices of Engineering electives
EAS 1601 Habitable Planet	Satisfies environmental requirement	Limits choices of Engineering electives
EAS 2600 Earth Processes	Satisfies environmental requirement	Limits choices of Engineering electives
BIOL 1510 Biology Principles	Satisfies environmental requirement	Limits choices of Engineering electives

Beginning Spring 2012, students will be allowed to use only one EAS class to meet this requirement.

NOTE: This change will appear officially in the 2012-2013 *Catalog*. ISyE informed students that the change was effective as of Spring 2012 and that from that point forward they would have to adhere to this new restriction.

3. A motion was made to **approve** a request from the School of Modern Languages new courses and a new minor. The motion was seconded and approved.

NEW COURSES: (approved)

CHIN 3696: Economic Development and Sustainability in China 3-0-3

Not repeatable for credit.

After much discussion, it was determined that CHIN 3691, 3692, and 3693 should be not be listed as either Co-requisites or Prerequisites.

Forwarded to the Gen Ed Subcommittee for consideration of request for Humanities credit.

SPAN 3040: A Practical Application of Spanish Grammar 3-0-3

Forwarded to the Gen Ed Subcommittee for consideration of request for Humanities credit.

After much discussion, it was determined that the title of this course should be changed from “A Practical Review of Spanish Grammar” to what is listed above since “review” carries a connotation of “remedial” and that is not the nature of this course.

SPAN 3590: Issues of Sustainable Development in the Andean Region 3-0-3

Forwarded to the Gen Ed Subcommittee for consideration of request for Humanities credit.

SPAN 3591: Cultural Patrimony in Peru 3-0-3

Forwarded to the Gen Ed Subcommittee for consideration of request for Humanities credit.

NEW MINOR: (approved)

Minor in Korean

A new Minor in Korean for B.S. students is proposed at Georgia Tech to allow students with heritage or strategic interests in Korea and Korean culture to develop the advanced language skills and basic cultural knowledge to understand and begin to operate in Korean communities here in the U.S. as well as in South Korea.

Curriculum - 15 semester credit hours of KOR courses, 2002 or higher

KOR 2002	Intermediate Korean II	3 semester credit hours	existing
KOR 3001	Advanced Korean I	3 semester credit hours	existing
KOR 3002	Advanced Korean II	3 semester credit hours	existing
KOR 3691	Business Korean	3 semester credit hours	existing
KOR 3692	Issues and Technology in Korea	3 semester credit hours	existing

KOR 3693	Exploring Modern Korea	3 semester credit hours	existing
KOR 4001	Contemporary Korean	3 semester credit hours	existing
KOR 4002	Selected Reading of Modern Korea	3 semester credit hours	existing

Any other KOR 3/4000-level course as listed in the GT Catalog.

Internship or research credit from abroad may be approved by the KOR advisor and applied to the KOR minor. Internships abroad will be organized as appropriate by the Georgia Tech Work Abroad Office (<http://www.workabroad.gatech.edu/>), which continuously evaluates and revamps internship possibilities based on reports from participating students and their supervisors. Research projects abroad may be organized by students and host institution faculty in consultation with faculty from the School of Modern Languages. Service learning projects may be organized at home or abroad by faculty from Modern Languages. All these programs are optional, but likely to be fairly frequent.

It was noted during the discussion that students studying in Korea would have an easier time pulling together the requirements for this minor, but that it could be done while studying in Atlanta.

4. A motion was made to **approve** a request from the Schools of Aerospace Engineering, Electrical and Computer Engineering, Mechanical Engineering, Economics, Public Policy, Chemistry and Biochemistry, and Earth and Atmospheric Sciences for a new minor. The motion was seconded and approved.

NEW MINOR: (approved)

Minor in Energy Systems

The minor in Energy Systems provides students a **15-hour multidisciplinary educational opportunity to study energy systems**. The minor includes courses which provide depth in an area relevant to energy that is within the scope of the student’s chosen program. Depth course options available to students may vary depending on the program. Appropriate courses are selected by program faculty to meet the needs of their students. The minor also includes requirements for courses which cut across disciplines. These courses are intended to add breadth of knowledge in areas outside the student’s major but important to energy systems. A terminal “capstone” or project course provides an opportunity for students from multiple disciplines to work together in multidisciplinary teams on a significant project in the energy area. Appropriate projects are either solicited from industry or faculty experts.

The minor is open to all Georgia Tech undergraduate students whose majors have approved the minor. The breadth courses and the capstone project course, courses taken by all students completing the minor, require one or more pre-requisites; specifically, basic economics, mathematics, and lab science courses.

Curriculum – 15 semester hours

Prerequisite Courses

The prerequisites needed for one or more of the courses required for the minor (breadth courses and the capstone project course) are:

- a. Mathematics (MATH 1501, 1502, 2401 through Calculus III)
- b. Physics (PHYS 2211, 2212)
- c. Chemistry (CHEM 1310)
- d. Economics ECON 2100, 2101, 2105, or 2106

Students ordinarily pursue the minor upon completion of the needed prerequisites. However, the depth course requirements (see below) may be taken as soon as students have met the relevant prerequisites. Students pursuing the minor are expected to remain in good academic standing while pursuing the minor. There is no specific GPA requirement nor are there any required grades in specific courses.

Depth Courses

The minor requires **six hours of depth courses** related to energy systems. A list of acceptable courses which meet the depth requirement is provided by each major approving the minor. Depth courses may be taken in the student's major to ensure the depth in that major needed to peruse a multidisciplinary minor. All acceptable depth courses must be consistent with the goals of the minor. Examples of acceptable courses include:

- a. Engineering courses covering a specific energy technology like solar or relevant engineering science
- b. Science courses which cover energy science like biomass or other relevant basic science
- c. Public Policy courses which cover policy analysis or methodology
- d. Economics courses covering economic analysis of complex systems
- e. Relevant CoA or CoM courses

Depth courses may ordinarily serve as technical or free electives in the student's program of study. However, courses required by name and number and/or used to satisfy Core Areas A through E cannot be used to satisfy the requirements of a minor. All courses in the minor also must be 3000 level and above. For multidisciplinary minors, up to six hours of courses in the student's major may, with the IUCC approval, count toward meeting the minor requirements.

Breadth Courses

The minor requires **six hours of breadth courses** (two courses). Students should strive to complete the necessary prerequisites and the depth courses prior to enrolling in the breadth courses. However, depth courses may be taken concurrently with the courses taken to meet the breadth requirement. All students pursuing the minor choose either a) or d) and either b) or c) from the list below. Their choices depend on their majors (see notes below). While restrictions apply as to which courses can be used by various majors to fulfill the minor requirements (see Notes a – d), breadth courses may, with permission of the student's major, be taken for credit outside the minor.

As of the writing of these Minutes, there were several clarifications needed for the courses supporting the Minor. The Registrar's Office will work with Dr. Vito to clear up any remaining issues and the final details of these courses will be posted in the next set of Minutes as an informational, follow-up item. Once completed, the revised New Course Proposals will be uploaded to the ICC web site for future reference.

- | | | |
|--------------|--|--------------|
| a) ME 3700 | Introduction to Energy Systems Engineering | (See note a) |
| b) ECON 3300 | Economics of International Energy Markets | (See note b) |
| c) PUBP 3350 | Energy Policy (ICC 460-approved) | (See note c) |
| d) CHEM 3700 | The Science of Alternative Energy | (See note d) |

Notes:

- a) Cannot be used to complete the minor by COE students.
- b) Cannot be used to complete the minor by ECON students.
- c) Cannot be used to complete the minor by PUBP students.
- d) Cannot be used to complete the minor by COS students.

These courses address overarching issues important to achieving the goals of the minor such as:

- energy prices, markets, resources, and consumption
- energy security issues surrounding, for example, oil dependence and nuclear energy
- energy pollution and abatement policies
- global warming and climate mitigation policies (e.g., mandates vs. markets)
- units used in energy systems
- specifying, design, modeling, testing and optimization of energy systems
- concept of "trade offs" in decision making
- sustainability of an energy system

Priority enrollment in these courses will be given to students pursuing the minor. Two of these courses (CHEM 3700, PUBP) have been previously taught.

Capstone Course

Ordinarily, students must complete all minor requirements before they can register for the Project in Energy Systems course (GT 4813, 3 hours). Some flexibility in the pre-requisite chain may be allowed during the first two years of the minor.

Since courses required by name and number cannot be used in a minor, the capstone course in the minor cannot serve as a replacement for the current capstone courses which exist in all engineering programs and in some other programs. Ideally, this course would have a "cross cutting" designator and be team taught by faculty appropriate to the projects.

The capstone course is new but the model for such courses exists already in both traditional senior capstone courses taught in the COE and the capstone in the Technology and Management Minor, an existing multidisciplinary minor. Given the pre-requisites and the existing courses, this course has not been offered as a special topic,

Menus of Depth Courses by Program

Aerospace Engineering

- AE 4701 Wind Engineering (ICC 530-approved for AE)
- AE 43xx Life Cycle Cost Analysis
- NRE 3208 Fundamentals of Nuclear and Radiological Engineering (Pre-req: NRE 3301)
- NRE 3301 Radiation Physics
- AE 4461 Intro to Combustion

Note: AE 43xx has been taught as special topic but are not yet approved by the IUCC.

Mechanical Engineering (prerequisites in parentheses)

- ME 4011 Internal Combustion Engines (ME 3322)
- ME 4315 Energy Systems Analysis and Design (ME 2110, ME 3345) (if not used as Design Elective)
- ME 4325 Fuel Cells (ME 3322)
- ME 4321 Refrigeration and Air Conditioning
- ME 4823 Mechatronic Systems in Hybrid-Electric Powertrains (ECE 3710)
- ME 4823 Renewable Energy Systems (ME 3322, ME 3340, ME 3345*)
- ME 4171 Environmental Design and Manufacturing (senior standing)
- ME 4172 Sustainable Energy Systems Design (senior standing)
- ME/AE 4701 Wind Engineering (ICC 565-approved for ME)

Electrical and Computer Engineering

- ECE 3070 – Electromechanical and Electromagnetic Energy Conversion (prereq: ECE 3025 and ECE 3040)
- ECE 3071 – Modern Electric Energy Systems (prereq: ECE 2040)
- ECE 4320 – Power System Analysis and Control (prereq: ECE 3070)
- ECE 4321 – Power System Engineering (prereq: ECE 3070)
- ECE 4325 – Electric Power Quality (prereq: 3070)
- ECE 4330 – Power Electronics (prereq: ECE 3040 and ECE 3042*)
- ECE 4335 – Electric Machinery Analysis (prereq: ECE 3070)
- NRE 3208 -- Fundamentals of Nuclear and Radiological Engineering (prereq: NRE 3301)
- NRE 3301 -- Radiation Physics (prereq: MATH 1502 and PHYS 2211)

Note: If used for EE Breadth credit, ECE 3070 and ECE 3071 cannot be used for this minor. Any course on this list that is taken for ECE elective, engineering elective, or approved elective credit can count for this minor.

Public Policy

- PUBP 3315 Environmental Policy and Politics
- PUBP 3600 Sustainability, Technology & Policy
- PHIL 4176 Environmental Ethics
- PUBP 4420 Science, Technology, and Regulation

Economics

- ECON 4440 Environmental Economics
- ECON 4340 Industrial Organization

Chemistry and Biochemistry

CHEM 3511 "Survey of Biochemistry"

CHEM 4XXX/6284 "Environmental Analytical Chemistry"

CHEM 4XXX/6483 "Chemistry of Electronic Materials"

Earth and Atmospheric Sciences

EAS 4410 Climate and Global Change

EAS 3110 Energy, Environment, and Society

NEW COURSES: (approved)

ME 3700 Introduction to Energy Systems Engineering 3-0-3
For non-ME majors

ECON 3300 Economics of International Energy Markets 3-0-3
Abbreviated Title change: Intl Energy Markets
Prerequisites: ECON 2100 or ECON 2101 or ECON 2105 or
ECON 2106 rather than ECON 2105 and ECON 2106 as originally
proposed.

Forwarded to the Gen Ed Subcommittee for consideration of request for
Social Sciences and Global Perspectives credit.

CHEM 3700 The Science of Alternative Energy 3-0-3
For non-CHEM majors

GT 4813 Special Topics 3-0-3
Secondary Title: Project in Energy Systems
Letter Grade only
This Special Topics will be reconsidered as a permanent course in the future.

EAS 3110 Energy, Environment, and Society 3-0-3

5. A motion was made to **table** a request from the Division of Student Affairs/Career Services for a new course. The motion was seconded and approved.

NEW COURSE: (tabled)

GT 3699 1-0-1

This course was tabled until a procedure is in place for vetting courses from nonacademic departments. Once the policy and procedures for vetting of these courses is in place, Career Services is encouraged to resubmit this request. It will be taught again in the Spring under the Special Topics format.

6. A motion was made to **approve** a request from the College of Computing and School of Literature Communication and Culture for a degree modification. The motion was seconded and approved.

DEGREE MODIFICATION: (approved)

Bachelor of Science in Computational Media Interdisciplinary
- COC and Ivan Allen College

CHANGE REQUESTING. Specifically, we recommend that courses currently required by number (e.g. CS 2261, LCC 2720) and by category (e.g. CS specialty course, LCC specialty course) be replaced by a CS core and threads established within each discipline (e.g. Media thread [CS], Film Performance, and Media Studies thread [LCC]). Under the new threaded model students will complete a CS core that guarantees ABET standards are satisfied as currently stated, and then students will complete their course requirements by fulfilling the requirements of one of three possible CS threads and one of four possible LCC threads.

We believe a switch to a “threaded model” will allow students to better comprehend and articulate the areas of specialization within their degree program. This awareness will help them to choose a degree path that will better suit their personal interests and career plans and then express their classroom experience in terms that will resonate with potential employers.

KEY DIFFERENCES BETWEEN CURRENT AND PROPOSED. The threaded CM curriculum does not differ substantially from the existing BSCM model. In fact, the same combination of classes could be used to satisfy degree requirements under the old and new models. The new curriculum primarily repackages existing degree requirements to clarify relationships between courses within the LCC and CS specialty areas and to invite areas of possible cross-pollination between the disciplines.

The **only substantial change** to the BSCM degree program plan is the addition of the Intelligence thread as an option for CM majors. While previously students were required to take 12 hours of “CS Specialty courses” from the Media or People threads, they may now choose to take instead the Intelligence thread to complete the CS side of the degree. This new option will allow students who are interested in game AI, for example, to complete the Games Studies thread (LCC) in combination with the Intelligence thread (CS).

CM majors will have fewer specific LCC requirements under the proposed threaded curriculum, but all four threads still include the LCC 2700 Introduction to Computational Media Class and another 27 hours of LCC coursework—the amount required under the current curriculum. The degree will maintain its emphasis on design because three of the four threads require a minimum of three design courses, and students completing the fourth option—Film, Performance, and Media Studies—will likely take some design courses to complete their degree because of the limited number of film classes in any given semester.

Degree program completion hours remain the same (120 + 2).

BSCM Curriculum under Proposed Threads

Core Required Classes: 46 hours		Hours
ENGL 1101		3
ENGL 1102		3
HUMANITIES ELECTIVE		3
LCC HUMANITIES ELECTIVE		3
MATH 1501 - Calculus 1		4
MATH 1502 - Calculus 2		4
MATH 2605 - Calculus 3 for Computer Science		4
HIST 2111 or 2112 or INTA 1200 or POL 1101 or PUBP 3000		3
SOCIAL SCIENCE ELECTIVE		3
SOCIAL SCIENCE ELECTIVE		3
SOCIAL SCIENCE ELECTIVE		3
LAB SCIENCE		4
LAB SCIENCE		4
HPS 1040 - Wellness		2
CS Classes: 31-40 hours		Hours
CS 1332 - Data Structures		3
CS 2050 - Constructing Proofs		3
CS 2110/2261 - Computing Organization/Media Device Architecture		4
CS 2340 - Objects and Design		3
CoC Media, People, or Intelligence Thread		
Course requirements vary according to thread, see details on attached sheet		18-27
LCC Classes: 30 hours		Hours
LCC 2700 - Intro to CM		3
LCC Games, Interaction, Narrative, or Film Thread		
Course requirements will vary according to thread, see details on attached sheet		27
Required Capstones: 4 Hours		Hours
Capstone (CS 4911 and CS 4901)		4
Free Electives: 2-11 Hours		Hours
FREE ELECTIVE (hours vary, depending on CS thread)		1-10
Total Hours Required for Graduation: 122 hours		122

LCC Computational Media threads

Each thread consists of 10 LCC courses, amounting to 30 credit hours. Students will take an additional LCC humanities class to satisfy the Core Area C humanities requirement, bringing their total LCC hours to 33, which roughly matches 31-40 on the CS side.

Each thread has only one or two required courses and then various sets of choices. For example, in Interaction Design and Experimental Media, students would have to take 2720 along with 2700. Then they would have to take at least 1 of 2 media design courses; 3 more design and communication courses from the 6 that we offer. Their 5 other courses would come from CM or from other LCC media electives.

Games Studies

LCC 2700 Intro to Computational Media

3 of these Game Design courses:

LCC 4725 – Games Dsgn-Cultural Prac

LCC 4731 – Game AI

LCC 4720 – Interactive Narrative

LCC 4732 –Intelligent Story Sys

6 other CM or Media Specialty courses

Narrative Studies

LCC 2700 –Introduction to Computational Media

LCC 3202 – Studies in Fiction

1 of these Narrative Systems courses:

LCC 4720 – Interactive Narrative

LCC 4732 – Intelligent Story Sys

2 of these Design or Communication courses:

LCC 2730 – Construct-Moving Image

LCC 3710 – Prin-Interaction Design

LCC 3206 – Communication & Culture

5 (other) CM courses or LCC literary courses

Interaction Design and Experimental Media

LCC 2700 – Intro-Computational Media

LCC 2720 – Prin of Visual Design

1 of these 2 design courses:

LCC 3710 – Prin-Interaction Design

LCC 4730 – Experimental Digital Art

3 of these Design or Communication courses:

LCC 2730 – Construct-Moving Image

LCC 3206 – Communication & Culture

LCC 3406 – Video Production

LCC 3705 – Prin-Information Design

LCC 3710 – Prin-Interaction Design

LCC 4730 – Experimental Digital Art

4 (other) CM or Media Specialty courses

Film, Performance, and Media Studies

LCC 2700 – Intr-Computational Media

1 of these Media Foundations courses:

LCC 2400 – Intro to Media Studies

LCC 2500 – Intro to Film

LCC 2600 – Intro to Perform Studies

4 of these Communication and Media courses;

LCC 3206 – Communication & Culture

LCC 3252 – Film and Television

LCC 3254 – Film History

LCC 3256 – Major Filmmakers

LCC 3257 – Global Cinema

LCC 3258 – Documentary Film

LCC 3259 – Experimental Film and Video

LCC 3352 – Film Technology

LCC 3314 – Tech of Representation

LCC 3362 – Sci, Tech & Performance

4 (other) CM or Media Specialty courses

Elective lists

CM Courses: all available LCC 27/37/47XX courses not already taken by the student.

Media Specialty Courses: all courses in film or literature in LCC, plus selected other courses as indicated.

LCC literary courses: all courses with focus in literary studies in LCC.

CoC Threads

CS common classes include CS 1332, CS 2050, CS 2110/2261, and CS 2340—classes required for ABET accreditation, but not required by each thread. For some threads, these classes will overlap with existing thread requirements, but each class should, of course, be taken only once.

Media

Required Courses

CS1315 Introduction to Media Computation, 3

CS1331 Introduction to Object-Oriented Programming, 3

CS1332 Data Structures and Algorithms, 3

CS2050 or CS2051 Introduction to Discrete Math for CS, 3

CS2261 Media Device Architectures, 4 (When combined with another thread that requires CS 2110, students should take CS 2110 instead of CS 2261.)

CS2340 Objects and Design, 3

CS3451 Computer Graphics, 3

Pick 2 of Media Technologies:

CS4455 Video Game Design and Programming, 3

CS4460 Information Visualization, 3

CS4464 Computational Journalism, 3
CS4475 Computational Photography, 3
CS4480 Digital Video Special Effects, 3
CS4496 Computer Animation, 3
CS4590 Computer Audio, 3

Elective Courses (9 hours)

Free Electives

FREE-ME1 Free Elective-Media, 3
FREE-ME2 Free Elective-Media, 3
FREE-ME3 Free Elective-Media, 3

Computing Fundamentals

CS3240 Languages and Computation, 3
CS3510 Design and Analysis of Algorithms, 3

Multimedia Applications and Design

CS4464 Computational Journalism, 3
CS4475 Computational Photography, 3
CS4770 Mixed Reality Experience Design, 3

Media Technologies

CS4455 Video Game Design and Programming, 3
CS4480 Digital Video Special Effects, 3
CS4496 Computer Animation, 3
CS4590 Computer Audio, 3

Multimedia Connections

CS4230 Distributed Simulation Systems, 3
CS4460 Information Visualization, 3
CS4470 Introduction to User Interface Software, 3
CS4550 Scientific Data Processing and Visualization, 3

People

Required Courses

Must take PSYC 1101 as one of the Social Sciences electives

CS1301 Introduction to Computing and Programming, 3
CS1331 Introduction to Object-Oriented Programming, 3
CS2340 Objects and Design, 3
PSYC2015 Research Methods and Practices, 4

Pick 1 of Social/Behavioral Science for Computing:

PSYC2210 Social Psychology, 3
PSYC2760 Psychology of Human Language, 3
PSYC3040 Sensation and Perception, 3

Pick 2 of Human-Centered Technology:

- CS3750 Human-Computer Interface Design and Evaluation, 3
- CS3790 Introduction to Cognitive Science, 3
- CS4660 Introduction to Educational Technology, 3

Pick 1 of User Support Technology

- CS4460 Information Visualization, 3
- CS4470 Introduction to User Interface Software, 3
- CS4605 Mobile and Ubiquitous Computing, 3
- CS4625 Intelligent and Interactive Systems, 3

Elective Courses (6 hours)

Free Electives

- FREE-PEP1 Free Elective-People, 3
- FREE-PEP2 Free Elective-People, 3

Educational Technology

- CS4660 Introduction to Educational Technology, 3
- CS4665 Educational Technology: Design and Evaluation, 3
- CS4670 Computer-Supported Collaborative Learning, 3

Design and Evaluation

- CS3750 Human-Computer Interface Design and Evaluation, 3
- CS4472 Design of Online Communities, 3
- CS4690 Qualitative Methods, 3
- CS4770 Mixed Reality Experience Design, 3
- PSYC2020 Psychological Statistics, 4 (Required for PSYC3011, Requires PSYC2010)

Human Cognition and Interaction

- CS3790 Introduction to Cognitive Science, 3
- CS4793 Perspectives Cognitive Science, 3
- PSYC2210 Social Psychology, 3 (Requires PSYC1101)
- PSYC2760 Psychology of Human Language, 3
- PSYC3012 Cognitive Psychology, 4 (Requires 2020)
- PSYC3040 Sensation and Perception, 3
- PSYC4090 Cognitive Neuropsychology, 3
- PSYC4260 Aging, 3

Intelligence

Required Courses

Must take PSYC 1101 as one of the Social Sciences electives

- CS1301 Introduction to Computing and Programming, 3
- CS1331 Introduction to Object-Oriented Programming, 3

CS1332 Data Structures and Algorithms, 3
CS2050 or CS2051 Introduction to Discrete Math for CS, 3
CS2110 Computing Organization and Programming, 4
CS2340 Objects and Design, 3
CS3510 Design and Analysis of Algorithms, 3
CS3600 Introduction to Artificial Intelligence, 3

Pick 1 of Computational Complexity:

CS3240 Languages and Computation, 3
CS4510 Automata and Complexity Theory, 3

Pick 1 of Embodied Intelligence:

CS3630 Robotics and Perception, 3
CS3790 Introduction to Cognitive Science, 3
PSY3040 Sensation and Perception, 3

Pick 2 of Approaches to Intelligence:

CS4495 Computer Vision, 3
CS4635 Knowledge-based AI, 3
CS4641 Machine Learning, 3
CS4731 Game AI, 3

Elective Courses (6 hours)

Free Electives

FREE-INT1 Free Elective-Intelligence, 3
FREE-INT2 Free Elective-Intelligence, 3

Knowledge-Based Intelligence

CS3790 Introduction to Cognitive Science, 3
CS4615 Modeling and Design, 3
CS4635 Knowledge-based AI, 3
CS4649 Robot Intelligence: Planning, 3
CS4650 Natural Language Understanding, 3

Data-Driven Intelligence

CS4616 Pattern Recognition, 3
CS4641 Machine Learning, 3
MATH4280 Introduction to Information Theory, 3

Intelligent Systems

CS3651 The Art of Building Intelligent Appliances, 4 (requires ECE 2031)
CS4495 Computer Vision, 3
CS4625 Intelligent and Interactive Systems, 3
CS4632 Advanced Intelligent Robotics, 3
CS4731 Game AI, 3

Philosophical Issues in Intelligence
CS4752 Philosophical Issues in Computation, 3
CS4793 Perspectives in Cognitive Science, 3

It was noted that the College of Computing had not signed off on this proposal. The College of Computing does support it, and will sign off on it, but should have been a signatory during the initial process. When programs cut across disciplines or units, all the proper signatures are expected to be on the signature page.

7. A motion was made to approve a request from the International Plan Committee for changes to the International Plan. The motion was seconded and approved.

Note: A motion and a vote were necessary on this proposal because it contained some items that do not require IUCC approval and some that do, including additional wording for the diploma. Included in the next set of Minutes will be a clear accounting of which specific items required approved.

The International Plan Committee recently approved a substantial set of changes to the requirements to be met by students in order to earn the “International Plan” degree designator. These changes were the results of a lengthy and detailed review of the existing International Plan by a task force appointed by Dr. Steve McLaughlin, Vice Provost for International Initiatives. The attached document describes the background and approved changes in the International Plan.

In addition to all of the task force recommendations, the IPC also approved two additional requirement changes, as follows.

- Remove the existing minimum GPA of 2.7 from the set of three core “Global Experience” courses, and the 1000-2000 level language courses. Instead, students will have to maintain at least a 2.7 overall GPA throughout the program.
- Require that the students’ language selection is consistent with the language spoken at one of their two international immersion semesters.

There are no changes to any course content or degree requirements.

Overview of the Georgia Tech International Plan

The current International Plan requires that students meet a number of requirements detailed below. Students who successfully complete the minimum requirements are given the International Plan designator on their diploma and on their Georgia Tech transcript. A summary of the existing requirement is given below.

- Students who wish to participate in the International Plan must first apply for admission to the program within their first four semesters of undergraduate study. Further, the student’s major department must be participating in the International Plan program.
- All applicants excepting first semester freshmen must have a minimum GPA of 2.5.
- Students must pass a minimum of 12 credit hours in a single foreign language class offered by the Georgia Tech School of Modern Languages.

Note: There is some confusion as to whether the 12 credit hours of ML classes is a requirement, due to the fact that it is not found anywhere in the IP web pages. This issue will be clarified for the next set of Minutes.

- Students must complete a minimum of two semesters, not less than 26 weeks, of active engagement abroad, either studying at a foreign institution or by working on Georgia Tech sponsored international program.
- Students must complete at least three globally oriented courses, including at least one in International Relations, one in Global Economics, and one country or region related course applicable to the chosen region for the international immersion. The Office of International Education maintains a list of pre-approved courses.
- Students can choose either the “English Language Track” whereby the international experience is in an English-speaking country, or choose the “Foreign Language Track”, where the international experience is in a non-English language country.
- Students choosing the Foreign Language Track must demonstrate proficiency in their chosen language by taking and passing the examination ministered by the American Council for the Teaching of Foreign Languages (ACTFL). The required level for the ACTFL varies depending on the chosen language.
- Students must complete a senior-level capstone course. Each major participating in the International Plan has a list of pre-approved courses to satisfy this requirement.

Recommendations from the International Plan Task Force

- The existing two-semester/26-week international residency requirement is a strong differentiator for the GT International Plan and should be continued.
- Remove the existing “English Language Track” option.
- Change the requirement of passing the ACTFL examination from mandatory to optional.
- Students choosing to skip the ACTFL examination will be given the degree designator “International Plan” on both the diploma and the transcript.
- Students who choose to take and pass the ACTFL examination will be given the designator “International Plan, Language Proficiency” on both the diploma and the transcript.
- Allow students to select two different countries to satisfy the international residency requirement.
- Designate a special section of the existing GT1000 course for International Plan students only, and encourage all newly accepted IP students to register and attend.
- The International Plan Committee should prepare a detailed document describing all International Plan requirements, policies, and petition process to be delivered to and presented to the Georgia Tech Academic Advisors Network (GTAAN).
- The International Plan Committee should designate a single point of contact in the Office of International Education responsible for clarifying requirements and answering questions from the academic advisors in the various academic units.
- Undergraduate coordinators at the various academic units participating in the International Plan should prepare a list of pre-approved transfer courses from pre-approved international campuses, to ease the burden on students choosing where to study abroad.

- Academic advisors should encourage International Plan students to consider increasing their foreign language proficiency by either pursuing a minor in the chosen foreign language (15 credit hours) or a double major in the chosen language as the second major.
 - The recommended changes above to the IP requirements, once approved by the GT International Plan committee, will take place immediately. Students currently participating in the International Plan can choose to follow the new revised requirement or continue with the requirement in force when they enrolled.
8. A motion was made to approve a request from the special *ad hoc* subcommittee on nonacademic units offering courses for academic credit headed by Dr. Riley for implementation of a procedure for vetting new course proposals. The motion was seconded and approved.

Course Approval Process and Policy

OBJECTIVE: To establish and document the Georgia Institute of Technology procedure to be followed by all units to obtain approval for any new course offering and to establish a policy for requests submitted by non-academic units.

CURRENT PROCESS AND BACKGROUND INFORMATION: Two committees, membership of which is determined by general faculty elections, review and approve requests to offer new courses or to substantially modify existing courses, at both the undergraduate and graduate level. The Institute Undergraduate Curriculum Committee (IUCC) handles the undergraduate course offerings and the Institute Graduate Curriculum Committee (IGCC) handles the graduate course offerings. Both committees meet frequently during the academic year and summer term, and review carefully each proposed new course. Based on this review, the committee then approves the course, returns the proposal to the sponsoring unit for revision or clarification, or denies the request.

Both committees rely heavily on prior review and approval processes conducted by appointed faculty committees or personnel within the sponsoring units. All academic units have both an internal undergraduate committee and a graduate committee, or in the case of smaller units governance by a committee of the whole or other practices. Generally speaking, faculty within each unit are more qualified to comment on, modify, and approve or disapprove courses specific to the primary content of the disciplines within the academic area of that unit.

Further, for each course request, signed concurrence is required from the chairperson of the appropriate unit committee (undergraduate or graduate) or faculty curriculum coordinator, the school chair, and the college dean. Given approval and concurrence from the school and college chairs, the IUCC and IGCC can be confident that the proposed course offering meets an educational and mission need within the unit, is consistent with the curriculum of that unit, and that qualified instructors are available to deliver the course.

The role of the IUCC and IGCC then becomes to ensure that the proposed courses are not duplicates of other courses, that they do in fact meet the educational requirements and needs of the academic unit, and that they are consistent with educational goals and initiatives of Georgia Tech.

The required procedure to obtain course approvals as described above is generally well known within the units. However, aside from the instructions that appear on the Institute Curriculum Committee Web Site (<http://www.icc.gatech.edu/>) during submission of the requests, there is no formal, written, and approved procedure and policy statement that documents this process. Therefore, we propose the following procedure and policy statements to be approved by the Curriculum Committees and the Provost's Office, and then recognized by the Faculty Senate through approval of the Committees' Minutes. The procedure and policy statements, once approved, will be posted to the ICC web site and to the Graduate Studies web site.

In addition, the current procedure defined above does **not** adequately address academic course offerings to be sponsored and offered by any of the non-academic units within Georgia Tech. There are presently a number of examples of existing courses sponsored by and offered by non-academic units. These were presented to the IUCC and IGCC, were approved, and are in the course catalog and offered for academic credit. Clearly, such courses did not get the same level of prior review as do academic offerings from the various academic units, given that the non-academic units do not have curriculum committees, school chairs, or deans. Therefore a new policy is proposed for course offerings by non-academic units.

POLICY FOR NEW COURSE PROPOSALS (SAME AS CURRENT PROCEDURE):

All course offerings submitted to either the IUCC or IGCC by academic units must have prior review and approval by the appropriate undergraduate or graduate committee within the sponsoring unit or by a committee of the whole, or some equivalent governance practice defined by the unit. Once approved by the unit committee, the appropriate committee chair, the school chair of the sponsoring unit, and finally the dean or the dean's designee of the sponsoring college must state their concurrence with the contents of the course proposal through their signature. If the course is interdisciplinary, all appropriate academic units would be required to sign off on the proposal.

The sponsoring unit then submits a new course proposal request to the IUCC or IGCC consisting of a cover letter with the required signatures, a "New Course Proposal Form", a statement of educational outcomes and objectives, a relevant course syllabus indicating the intended course content, course requirements, grading structure and delivery format. A single cover letter with signatures can indicate concurrence for multiple course proposals if they are submitted simultaneously.

NEW POLICY FOR NON-ACADEMIC UNITS: In order to insure that all new course proposals from all units within GT obtain the same level of governance and review, the office of the Provost will appoint a Provost's Curriculum Committee (PCC). The PCC will provide oversight and review for all course proposals from any of the non-academic units within GT in a fashion similar to the oversight given to proposals from the academic units. The committee will consist of academic faculty only, and have at least five members selected from the faculty at large at the discretion of the provost's office (the members are to be appointed rather than elected, since their function is analogous to the appointed committees within the units). As necessary, the PCC will seek input from other faculty with specific subject matter expertise. The committee will elect or otherwise appoint a chairperson from their membership.

Any course offerings proposed by non-academic units must first be submitted to, reviewed by, and approved by the PCC. The submission should include the same materials required for all course proposals (“New Course Proposal Form”, educational objectives and outcomes, and detailed syllabus, as well as the signature of the head of the proposed sponsoring unit).

The role of the PCC committee will be to insure that the proposed course material benefits enrolled students in some way, that educational objectives and outcomes are consistent with the stated course material in the proposed syllabus, that the course has a level of rigor and student evaluation consistent with other academic offerings, and that the course content is consistent with expertise within the sponsoring non-academic unit. In addition, the proposal must provide *justification why the course should be offered by the non-academic unit rather than an existing academic unit.*

Once the proposal is approved by the PCC, the committee chair, the head of the sponsoring unit, and finally the Vice-Provost for Graduate and Undergraduate Studies indicate their concurrence by their signature. At that point, the course proposal paperwork may be presented to the IUCC or IGCC for final approval in the same manner as course proposals initiated by academic units.

It should be noted that the process for vetting instructors for courses offered by non-academic units is consistent with that for the academic units. If these courses are to carry academic credit, the instructors must be subjected to the same vetting process.

Finally, in light of the fact that there are several existing academic courses presently sponsored by and offered by some non-academic units, the following interim procedure is adopted.

PROCEDURE TO REVIEW CURRENT ACADEMIC COURSES OFFERED BY NON-ACADEMIC UNITS: Prior approval by the IUCC and IGCC for non-academic course offerings will continue to be in force until the end of the Fall semester, 2013. At some point during the interim, non-academic units with existing prior approvals are expected to follow the above policy for those courses and represent them to the IUCC or IGCC for approval once the necessary Provost’s committee approval and signatures are obtained.

CLARIFICATIONS REGARDING “DEGREE APPLICABILITY” OF ACADEMIC COURSE OFFERINGS SPONSORED BY NON-ACADEMIC UNITS. Regarding degree applicability of courses offered by non-academic units, the following criteria apply (in general, they are the same criteria that apply to all course offerings).

Courses offered by non-academic units may be offered for academic credit and in all three grade modes (letter grade, pass/fail, and audit). The Curriculum Committee reserves the right to allow audit only grade mode if the proposed course does not carry sufficient academic content.

Individual programs will have the option whether or not to allow these courses as Free Electives. If not otherwise noted by the program via notification to the IUCC or GCC, an undergraduate program that has Free Elective space will, by default, allow such courses. It

will be the responsibility of the program to request restrictions to the appropriate curriculum committee.

For undergraduate programs that have “Approved Electives,” as opposed to Free, the default will be to *not* allow these courses. The individual program may choose to allow these courses, also by notification to the appropriate curriculum committee.

For graduate programs, these courses may be used towards degree requirements, but are subject to departmental approval when composing a student’s program of study.

These courses, if approved through the Curriculum Committee and the Senate, can be offered in the next academic term, as is the case with courses offered through academic units. Unless restrictions such as those listed above exist, these courses may be used to meet degree requirements either as Free or Approved electives at the discretion of the individual program.

In order to facilitate data tracking and proper categorization, courses originating from non-academic units will be assigned a GT course prefix, unless they have an already-existing prefix, such as CETL. GT courses reside in the College of the Registrar. If there are any revenue issues related to GT-prefix courses, the Office of the Registrar will work with the Office of Institutional Research and Planning to implement additional coding on the course record to facilitate that process. The titles of the courses and the instructors should be sufficient to “credit” the hours to the unit offering the course as needed. This would obviate the need to create a more complex administrative structure for these courses that should be very few in number.

CONCLUSION. We believe that these policies and procedures establish a consistent, fair, and level playing field for all units within Georgia Tech to further the educational experience of our students, and will help insure the students are academically prepared for their future endeavors by enabling a variety of course offerings.

9. The chair and vice-chair of the Committee remained after the meeting to further discuss the program review process that was raised briefly during the meeting. Once there is a better sense of where the subcommittee is with the outstanding documents, the program review process for the next cycle will be discussed and assignments made for completion of the reports.

Petitions

1. A motion was made to approve a written appeal for a selective withdrawal from a course. The motion was seconded and approved.

Adjourned,

Reta Pikowsky
Registrar