

**Institute Undergraduate Curriculum Committee  
Academic Matters and Appeals (Full Committee)  
Tuesday, March 11, 2014**

**Present:** Economou (ARCH), Goodisman (BIOL), Hollengreen (ARCH), Klein (ECE), McIntyre (CoC-IC), Pikowsky (Registrar), Sankar (AE), Scott (CEE), Senf (LMC), Smith (ME), Yaszek (LMC)

**Visitors:** Laros (REG), Merkousko (REG), Hodges (REG), Immergluck (CRP), Stiffl (CRP), Seitzman (AE), Colatrella (LMC/IAC), Comfort (ML), Shook (ML), Zhou (ISyE), Dobranski (CAS/OUE), Yen (BIOL)

**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 City and Regional Planning for a certificate modification. The motion was seconded and approved.

**Certificate in Land Development**

**Name changed to: Certificate in Real Estate Development - APPROVED**

The School of City and Regional Planning, in the College of Architecture, is proposing to modify its long-standing undergraduate Certificate in Land Development. This modification will include changing the name of the certificate to the "Certificate in Real Estate Development." "Land development" is an overly narrow and less-than-current term that is not well understood by students and some potential employers. "Real Estate Development" more accurately reflects the intended market and proposed content of the certificate.

The existing Certificate in Land Development has required one course together with two restricted electives that are chosen from a set of five courses, some of which are no longer regularly offered. This totals only nine credit hours, which is out of compliance with current certificate guidelines, which require twelve credit hours. The modified Certificate in Real Estate Development will require a student

to take one required foundational course, then choose one out of two possible additional required courses, which cover different aspects of real estate markets and processes, and then choose two more specialized electives from a list of 19 additional, existing real-estate-related courses. The three core courses and the 19 eligible electives are existing courses in the College of Architecture and the Scheller College of Business. Most of the courses are offered by the School of City and Regional Planning, the School of Building Construction, or the Scheller College of Business. Letters of support from the Chair of the School of Building Construction and the Senior Associate Dean of the Scheller College of Business are attached to demonstrate these units' cooperation in participating in serving students seeking the certificate.

Some of the electives eligible for the certificate are graduate courses. The regular Institute requirements for undergraduates taking graduate courses will apply (<http://www.catalog.gatech.edu/students/ugrad/geninfo/gradcourses.php>). These courses are included in order to offer students the ability to achieve advanced training in certain fields, such as finance and construction management, which are generally not available at the undergraduate level. Such courses will help high-performing students to develop advanced knowledge and skills in particular areas, improving their employment prospects and allowing them to be introduced to potential graduate studies in the field. However, undergraduates will be able to satisfy the requirements of the certificate without taking any graduate courses. The required courses are all at the undergraduate level, and ten of the 19 possible electives are undergraduate courses.

This certificate modification is intended to bring the certificate up to date, to strengthen the curriculum, and to make the certificate available and known to a broader segment of the undergraduate student body at the Institute.

The modified certificate curriculum reflects the growth of real-estate-related courses offered at the Institute over the past decade or so, both in the College of Architecture and in the Scheller College of Business. The revised certificate capitalizes on courses already taught at the Institute and packages them together in a curriculum that will offer Georgia Tech undergraduates an added competitive advantage in the employment marketplace. Moreover, by bringing in more real-estate-related coursework from a wider number of schools, the curriculum should appeal to many students outside the College of Architecture. This modification also stems from the interests of alumni and faculty who have recognized that there is substantial capacity of the Institute in the real estate arena that has not been incorporated into the certificate and has not been well marketed across campus.

The key differences between the current and modified certificate include: 1) increasing total required hours from 9 to 12 hours; 2) increase the required core courses to two (out of three possible courses); 3) update the curriculum to reflect the expanded real-estate-related courses available at the Institute.

### **Currently Approved vs. Proposed Program Curriculum**

The modifications to the certificate (currently located at <http://www.planning.gatech.edu/academics/undergraduate/overview>) are indicated below, with additions highlighted in yellow and deletions with strike-throughs.

The School of City and Regional Planning, **with the cooperation of the School of Building Construction and the Scheller College of Business**, offers a certificate in **land real estate** development for undergraduates in good standing at Georgia Tech. ~~Graduate students who are not enrolled in the City and Regional Planning master's program may participate as well.~~ The certificate is designed to provide specialized education in **land real estate** development. The certificate makes our students more competitive in securing employment and in advancing to graduate education.

Students must complete ~~nine~~ **twelve** credit hours in required and restricted elective courses that must be taken from the **School of City and Regional Planning College of Architecture or the Scheller College of Business**. ~~Georgia Tech~~ **Students must maintain** a minimum grade point average of 2.7. The certificate is awarded upon graduation or the next semester after graduation. ~~Students who have met all of the requirements may fill out the form on the right hand side to request a certificate.~~

**Students are Required to take the following** course for the **Land Certificate in Real Estate Development Certificate** are:

- **MGT 3082 Fundamentals of Real Estate Development**

**They must also take one of the following two courses:**

- CP 4610: Introduction to Real Estate Development
- **BC 4735 Real Estate Development and Construction**

**Finally**, students must also take two additional elective courses from the list below. ~~With prior approval, alternative courses in City and Regional Planning may be used as electives.~~

- ~~CP 4010: Foundations of Urban and Regional Development~~
- CP 4020: Introduction to Urban and Regional Planning
- ~~CP 4030: The City and Its Technology~~
- ~~CP 4210: Environmental Planning and Impact Assessment~~
- ~~CP 4310: Urban Transportation Planning~~
- ~~CP 4510: Fundamentals of GIS~~
- CP 4610: Introduction to Real Estate Development
- CP 6611 Principles of Real Estate Finance
- CP 6640 Real Estate Development Methods
- ARCH 4151 History of Urban Form
- BC 3620 Real Estate and Construction Financing and Accounting
- BC 4640 Construction Marketing
- BC 4735 Real Estate Development and Construction
- BC 6185 Intro to Construction Program Management
- BC 6375 Trends and Policies for Residential Development
- BC 6385 Management of Design Phase
- BC 6500 Real Estate Asset and Income Property Management
- BC 6675 Residential Design and Construction
- BC 8823 Business and Finance for Residential Construction
- MGT 3075 Security Valuation
- MGT 3078 Finance and Investments
- MGT 3609 Legal Aspects of Real Estate
- MGT 4068 Fixed Income Securities
- MGT 4803 Real Estate Practicum

2. 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 – Bachelor of Science in Industrial Engineering - APPROVED**

#### **Rationale for changing the approved program:**

BSIE did not have Ethics requirement before.  
 BSIE did not have GPA requirements on courses in the major  
 Update curriculum to replace 4803's with two permanent numbers that were previously approved:

- Proposal 534, New Course, ISYE 4311: Capital Investment Analysis
- Proposal 465, New Course, ISYE 4232: Advanced Stochastic Systems

Add Environmental list to Catalog and Degreeworks. Previously the Environmental requirement has been monitored at the School level and we would like this programmed into Degreeworks to monitor the requirement.

**Specific Actions and Background:**

*Add Ethics requirement to BSIE  
Add requirements GPA in required and elective ISYE courses  $\geq 2.0$   
See the updated degree requirements for all concentrations.  
See the list of Environmental courses in additional document.*

The Advisory Board recommended that ISyE formalize the ethics requirement. This will signify the importance of ethics, and ensure the transfer students also satisfy the requirements.

Some students graduated with GPA in major courses much below 2.0 because of multiple Ds or many Fs. A student with multiple Ds cannot be competent IEs. The student with multiple Fs took too much teaching resources that other students need.

**Key Differences:**

Currently, students have been required to take PSYC 1101 as one of their social science electives and use this course to also fulfill the ethics requirement. Occasionally, students may transfer in and use PSYC 1XXX which fulfills social science, but does not fulfill the ethics requirements. An ethics requirement will be added to the degree using the GT's Institute ethics list. This will be programmed in as a zero hour fall through requirement similar to what other engineering programs are already using. The course that meets this requirement is used for credit hours as a Social Science, Humanities, or Free elective course. Any student that has credit for PSYC 1101 would still automatically fulfill this requirement.

The Environmental requirement would also be programmed as a zero hour fall through requirement. The course that meets this requirement is used for credit as a Lab Science, Social Science, Engineering, or Free Elective.

**NOTE: The 4803 courses will be removed from the course options list.**

3. A motion was made to approve a request from the School of Modern Languages for a change in course title, new courses, and a degree modification for the BS-ALIS. The motion was seconded and approved.

### **Change in Course Title – APPROVED**

RUSS 1250: Vampires and Memory of Stalinism in Post-Soviet Russia 3-0-3  
Transcript title: Vampires and Memory

Changed to:

RUSS 1250: Vampires International--American and Russian Fiction and Films in Comparative Perspective 3-0-3  
Transcript title: Vampires International

Note: This course has not yet been taught.

### **New Courses – WITHDRAWN**

RUSS 4222: Russian 20<sup>th</sup> Century in Literature and Film 4-0-4

Note: This course has not yet been taught in Special Topics format.

### **New Courses – APPROVED**

SPAN 4694: Sustainability in Spain 3-0-3

Note: The Committee asked that P/F be added as a grade option.

RUSS 4320: 19<sup>th</sup> Century Russian Writers 3-0-3

RUSS 4335: Technology, Society, and Culture in the Soviet Union 3-0-3

RUSS 4380: Russian Culture in Exile 3-0-3

### **Degree Modification – APPROVED**

#### Bachelor of Science in Applied Linguistics and Intercultural Studies

#### **Rationale for changing the approved program:**

SML find it necessary to limit the ML Electives for each language concentration—something that was not clear in the original ALIS degree proposal. The ML electives for each language concentration should only allow electives in the same language as the concentration, and only at the 3/4000-level, but currently, courses in other languages are being counted among the ML electives. This creates some confusion for advising.

In addition, the current use of only ML courses to allow for completion of Core C-Humanities requirements is somewhat limiting, and we would like to be more consistent with Institute policy, allowing any course with the HUM attribute to satisfy this 6-hour requirement.

Finally, the specific courses that can be used to satisfy particular threads within the ALIS major requirements needs to be updated.

Upon recommendation of the Registrar's office, these changes are needed to correct minor discrepancies in how ALIS is scribed in DegreeWorks, and how the ML advisors and ALIS students track their progress through completing ALIS requirements.

Thus, the three key differences with the new program will be a) allowing any course with a HUM attribute to fulfill the HUM requirement; b) limiting courses that fulfill the ML electives to only 3/4000-level courses in the particular language concentration; and c) more accurately identifying the courses completing the individual threads of the ALIS requirements.

ALIS is a degree program of 122 total hours, with 6 language concentrations: Chinese, French, German, Japanese, Russian and Spanish. 33 hours are made up of language-concentration-specific courses (one course each in one of our major threads—Societies and Cultures, Industry and Technology, Arts and Media—two courses in Advanced Language Acquisition and 15 hours of language-specific electives in addition to a required capstone course) plus a 15 hour non-major cluster (to allow for completing a certificate, minor or second major in another discipline offered at GT). The remaining hours are made up of free electives.

#### BS in Applied Language and Intercultural Studies - Chinese 2013 - 2014 Degree Requirements

REQUIREMENT	REQ HRS	COURSE(S)	NOTES
Wellness	2	<a href="#">HPS 1040</a> or <a href="#">APPH 1040</a> or <a href="#">APPH 1050</a>	
Core A - Essential Skills	3	<a href="#">ENGL 1101</a>	
	3	<a href="#">ENGL 1102</a>	
	4	<a href="#">MATH 1501</a> or <a href="#">MATH 1712</a>	
Core B - Institutional Options	3	<a href="#">CS 1301</a> or <a href="#">CS 1315</a> or <a href="#">CS 1371</a>	
Core C - Humanities	6	<del>Modern Languages</del> ADD any HUM	a
Core D - Science, Math, & Technology	4	<a href="#">Lab Science</a>	

	4	<a href="#">Lab Science</a>	
	4	<a href="#">MATH 1502</a> or <a href="#">MATH 1711</a>	
Core E - Social Sciences	3	<a href="#">HIST 2111</a> or <a href="#">HIST 2112</a> or <a href="#">INTA 1200</a> or <a href="#">POL 1101</a> or <a href="#">PUBP 3000</a>	
	9	<a href="#">Any SS</a>	
Core F - Courses Related to Major	3	Tech Requirement	
	15	Approved Cluster	ADD b
ALIS Major Requirements	3	<del><a href="#">CHIN 2699</a></del> or <del><a href="#">CHIN 2813</a></del> or <del><a href="#">CHIN 2XXX</a></del> or <a href="#">CHIN 3021</a> or <a href="#">CHIN 3022</a> or <a href="#">CHIN 3691</a> or <a href="#">CHIN 3693</a> or <del><a href="#">CHIN 3813</a></del> or <del><a href="#">CHIN 3XXX</a></del> or <del><a href="#">CHIN 4003</a></del> or <del><a href="#">CHIN 4004</a></del> or <del><a href="#">CHIN 4006</a></del> or <del><a href="#">CHIN 4XXX</a></del> or <a href="#">CHIN 4699</a> or <a href="#">CHIN 4813</a> or <a href="#">CHIN 4901</a> or <a href="#">CHIN 4902</a> ADD or CHIN 4021 or CHIN 4031	ADD c
	3	<del><a href="#">CHIN 2699</a></del> or <del><a href="#">CHIN 2813</a></del> or <del><a href="#">CHIN 2XXX</a></del> or <a href="#">CHIN 3692</a> or <a href="#">CHIN 3693</a> or <del><a href="#">CHIN 3XXX</a></del> or <del><a href="#">CHIN 4XXX</a></del> ADD or CHIN 4695	ADD d
	3	<del><a href="#">CHIN 2699</a></del> or <del><a href="#">CHIN 2813</a></del> or <del><a href="#">CHIN 2XXX</a></del> or <a href="#">CHIN 3021</a> or <a href="#">CHIN 3022</a> or <a href="#">CHIN 3813</a> or <del><a href="#">CHIN 3XXX</a></del> or <a href="#">CHIN 4003</a> or <a href="#">CHIN 4004</a> or <del><a href="#">CHIN 4XXX</a></del> or <a href="#">CHIN 4699</a> or <a href="#">CHIN 4813</a> or <a href="#">CHIN 4901</a> or <a href="#">CHIN 4902</a> ADD or CHIN 4021 or CHIN 4031	ADD e
	6	<del><a href="#">CHIN 2699</a></del> or <del><a href="#">CHIN 2813</a></del> or <del><a href="#">CHIN 2XXX</a></del> or <del><a href="#">CHIN 3003</a></del> or <a href="#">CHIN 3004</a> or <a href="#">CHIN 3021</a> or <a href="#">CHIN 3022</a> or <a href="#">CHIN 3691</a> or <a href="#">CHIN 3692</a> or <a href="#">CHIN 3693</a> or <a href="#">CHIN 3813</a> or <del><a href="#">CHIN 3XXX</a></del> or <a href="#">CHIN 4003</a> or <a href="#">CHIN 4004</a> or <a href="#">CHIN 4006</a> or ADD or CHIN 4021 or CHIN 4031 or <del><a href="#">CHIN 4XXX</a></del> or <a href="#">CHIN 4699</a> or <a href="#">CHIN 4813</a> or <a href="#">CHIN 4901</a> or <a href="#">CHIN 4902</a>	ADD f
	3	<a href="#">CHIN 4500</a>	
	15	ML Electives	ADD g
Free Electives	26	Free Electives	
TOTAL:	122		

**Notes**

a = Any excess credit apply to Free Electives.



b = Designed for coursework toward certificates, minors, or additional degrees. Please consult with advisor on course selection.

c = Courses related to Societies/Cultures thread.

d = Courses related to Industry/Technology thread.

e = Courses related to Arts/Media thread.

f = Courses related to Advanced Language Acquisition thread.

g = Must be CHIN course 3000- or 4000-level.

### BS in Applied Language and Intercultural Studies - French 2013 - 2014 Degree Requirements

REQUIREMENT	REQ HRS	COURSE(S)	NOTES
Wellness	2	<a href="#">HPS 1040</a> or <a href="#">APPH 1040</a> or <a href="#">APPH 1050</a>	
Core A - Essential Skills	3	<a href="#">ENGL 1101</a>	
	3	<a href="#">ENGL 1102</a>	
	4	<a href="#">MATH 1501</a> or <a href="#">MATH 1712</a>	
Core B - Institutional Options	3	<a href="#">CS 1301</a> or <a href="#">CS 1315</a> or <a href="#">CS 1371</a>	
Core C - Humanities	6	<del>Modern Languages</del> ADD any HUM	a
Core D - Science, Math, & Technology	4	<a href="#">Lab Science</a>	
	4	<a href="#">Lab Science</a>	
	4	<a href="#">MATH 1502</a> or <a href="#">MATH 1711</a>	
Core E - Social Sciences	3	<a href="#">HIST 2111</a> or <a href="#">HIST 2112</a> or <a href="#">INTA 1200</a> or <a href="#">POL 1101</a> or <a href="#">PUBP 3000</a>	
	9	<a href="#">Any SS</a>	

Core F - Courses Related to Major	3	Tech Requirement	
	15	Approved Cluster	ADD a
		<u>FREN 3011</u> ADD or FREN 3012 or FREN 3014 or FREN 3015 or FREN 3017 or <u>FREN 3061</u> or <u>FREN 3062</u> or ADD FREN 3500 or <u>FREN 3691</u> or <u>FREN</u> <u>3692</u> or <u>FREN 3693</u> or <u>FREN 3694</u> or <u>FREN 3813</u> or <del>FREN 3XXX</del> or <u>FREN</u> ALIS Major Requirements 3 <u>4001</u> or <u>FREN 4061</u> or <u>FREN 4062</u> or <u>FREN 4101</u> or <u>FREN 4102</u> ADD or ADD b FREN 4103 or FREN 4105 or FREN 4107 or FREN 4200 or <u>FREN 4241</u> or <u>FREN 4242</u> ADD or FREN 4300 or FREN 4695 or <u>FREN 4699</u> or <u>FREN 4901</u> or <u>FREN 4902</u> or <del>FREN 4XXX</del>	
	3	<del>FREN 3011</del> or <u>FREN 3061</u> or <u>FREN 3062</u> or ADD FREN 3551 or FREN 3552 or FREN 3555 or FREN 3556 or <u>FREN 3691</u> or <u>FREN 3692</u> or <u>FREN 3693</u> or <u>FREN 3694</u> or <u>FREN 3813</u> or <del>FREN 3XXX</del> or <u>FREN 4061</u> or <u>FREN 4062</u> or ADD c ADD FREN 4300 or FREN 4695 or <u>FREN 4699</u> or <u>FREN 4901</u> or <u>FREN 4902</u> or <del>FREN 4XXX</del>	
	3	<del>FREN 3011</del> or ADD FREN 3110 or <u>FREN 3813</u> or <del>FREN 3XXX</del> or <del>FREN 4001</del> or ADD FREN 4011 or FREN 4013 or FREN 4015 or <u>FREN 4101</u> or <u>FREN</u> ADD d <u>4102</u> or <u>FREN 4241</u> or <u>FREN 4242</u> or <u>FREN 4699</u> or <u>FREN 4901</u> or <u>FREN</u> <u>4902</u> or <del>FREN 4XXX</del>	
	6	<u>FREN 3030</u> ADD or FREN 3040 or <u>FREN 3121</u> or <u>FREN 3813</u> or <del>FREN 3XXX</del> or ADD FREN 4001 or FREN 3695 or <u>FREN 4699</u> or <u>FREN 4901</u> or <u>FREN</u> ADD e <u>4902</u> or <del>FREN 4XXX</del>	
	3	<u>FREN 4500</u>	
	15	ML Electives	ADD f
Free Electives	26	Free Electives	
TOTAL:	122		

**Notes**

a = Designed for coursework toward certificates, minors, or additional degrees. Please consult with advisor on course selection.

b = Courses related to Societies/Cultures thread.

c = Courses related to Industry/Technology thread.

d = Courses related to Arts/Media thread.

e = Courses related to Advanced Language Acquisition thread.

f = Must be FREN course 3000- or 4000-level.

### BS in Applied Language and Intercultural Studies - German 2013 - 2014 Degree Requirements

REQUIREMENT	REQ HRS	COURSE(S)	NOTES
Wellness	2	<a href="#">HPS 1040</a> or <a href="#">APPH 1040</a> or <a href="#">APPH 1050</a>	
Core A - Essential Skills	3	<a href="#">ENGL 1101</a>	
	3	<a href="#">ENGL 1102</a>	
	4	<a href="#">MATH 1501</a> or <a href="#">MATH 1712</a>	
Core B - Institutional Options	3	<a href="#">CS 1301</a> or <a href="#">CS 1315</a> or <a href="#">CS 1371</a>	
Core C - Humanities	6	<del>Modern Languages</del> ADD any HUM	a
Core D - Science, Math, & Technology	4	<a href="#">Lab Science</a>	
	4	<a href="#">Lab Science</a>	
	4	<a href="#">MATH 1502</a> or <a href="#">MATH 1711</a>	
Core E - Social Sciences	3	<a href="#">HIST 2111</a> or <a href="#">HIST 2112</a> or <a href="#">INTA 1200</a> or <a href="#">POL 1101</a> or <a href="#">PUBP 3000</a>	
	9	<a href="#">Any SS</a>	
Core F - Courses Related to Major	3	Tech Requirement	

	15	Approved Cluster		ADD a
ALIS Major Requirements	3	<a href="#">GRMN 3010</a> ADD or <a href="#">GRMN 3011</a> or <a href="#">GRMN 3030</a> or <a href="#">GRMN 3050</a> or <a href="#">GRMN 3110</a> or <a href="#">GRMN 3696</a> or <a href="#">GRMN 3697</a> or <del><a href="#">GRMN 3XXX</a></del> or <a href="#">GRMN 3813</a> or <a href="#">GRMN 3901</a> or <del><a href="#">GRMN 4XXX</a></del> or ADD <a href="#">GRMN 4010</a> or <a href="#">GRMN 4012</a> or <a href="#">GRMN 4023</a> or <a href="#">GRMN 4024</a> or <a href="#">GRMN 4025</a> or <a href="#">GRMN 4026</a> or <a href="#">GRMN 4065</a> or ADD	ADD b	
		<a href="#">GRMN 4065</a> or <a href="#">GRMN 4691</a> or <a href="#">GRMN 4692</a> or <a href="#">GRMN 4695</a> or <a href="#">GRMN 4813</a> or <a href="#">GRMN 4699</a> or <a href="#">GRMN 4901</a> or <a href="#">GRMN 4902</a>		
	3	<del><a href="#">GRMN 3XXX</a></del> or <a href="#">GRMN 3071</a> or ADD <a href="#">GRMN 3110</a> or <a href="#">GRMN 3695</a> ADD or <a href="#">GRMN 3697</a> or <a href="#">GRMN 3813</a> or <a href="#">GRMN 3901</a> or <del><a href="#">GRMN 4XXX</a></del> or <a href="#">GRMN 4061</a> or ADD <a href="#">GRMN 4691</a> or <a href="#">GRMN 4692</a> or <a href="#">GRMN 4695</a> or <a href="#">GRMN 4699</a> or <a href="#">GRMN 4813</a> or <a href="#">GRMN 4901</a> or <a href="#">GRMN 4902</a>	ADD c	
		<a href="#">GRMN 3010</a> or <a href="#">GRMN 3011</a> or ADD <a href="#">GRMN 3030</a> or <a href="#">GRMN 3050</a> or <del><a href="#">GRMN 3XXX</a></del> or <a href="#">GRMN 3695</a> or <a href="#">GRMN 3813</a> or <a href="#">GRMN 3901</a> or <del><a href="#">GRMN 4XXX</a></del> or <a href="#">GRMN 4010</a> or <a href="#">GRMN 4023</a> or <a href="#">GRMN 4024</a> or <a href="#">GRMN 4025</a> or <a href="#">GRMN 4026</a> or ADD <a href="#">GRMN 4120</a> or <a href="#">GRMN 4699</a> or <a href="#">GRMN 4813</a> or <a href="#">GRMN 4901</a> or <a href="#">GRMN 4902</a>	ADD d	
	6	ADD <a href="#">GRMN 3010</a> or <a href="#">GRMN 3011</a> or <a href="#">GRMN 3023</a> or <a href="#">GRMN 3024</a> or ADD <a href="#">GRMN 3026</a> or <a href="#">GRMN 3695</a> or <a href="#">GRMN 4061</a> or <a href="#">GRMN 4126</a> or <a href="#">GRMN 3697</a> or <del><a href="#">GRMN 3XXX</a></del> or <a href="#">GRMN 3813</a> or <a href="#">GRMN 3901</a> or <del><a href="#">GRMN 4XXX</a></del> or ADD <a href="#">GRMN 4695</a> or <a href="#">GRMN 4699</a> or <a href="#">GRMN 4813</a> or <a href="#">GRMN 4901</a> or <a href="#">GRMN 4902</a>	ADD e	
	3	<a href="#">GRMN 4500</a>		
	15	ML Electives		ADD f
Free Electives	26	Free Electives		
TOTAL:	122			

**Notes**

a = Designed for coursework toward certificates, minors, or additional degrees. Please consult with advisor on course selection.

b = Courses related to Societies/Cultures thread.

c = Courses related to Industry/Technology thread.

d = Courses related to Arts/Media thread.

e = Courses related to Advanced Language Acquisition thread.

f = Must be GRMN course 3000- or 4000-level.

**BS in Applied Language and Intercultural Studies - Japanese 2013 - 2014 Degree Requirements**

REQUIREMENT	REQ HRS	COURSE(S)	NOTES
Wellness	2	<a href="#">HPS 1040</a> or <a href="#">APPH 1040</a> or <a href="#">APPH 1050</a>	
Core A - Essential Skills	3	<a href="#">ENGL 1101</a>	
	3	<a href="#">ENGL 1102</a>	
	4	<a href="#">MATH 1501</a> or <a href="#">MATH 1712</a>	
Core B - Institutional Options	3	<a href="#">CS 1301</a> or <a href="#">CS 1315</a> or <a href="#">CS 1371</a>	
Core C - Humanities	6	<del>Modern Languages</del> ADD any HUM	a
Core D - Science, Math, & Technology	4	<a href="#">Lab Science</a>	
	4	<a href="#">Lab Science</a>	
	4	<a href="#">MATH 1502</a> or <a href="#">MATH 1711</a>	
Core E - Social Sciences	3	<a href="#">HIST 2111</a> or <a href="#">HIST 2112</a> or <a href="#">INTA 1200</a> or <a href="#">POL 1101</a> or <a href="#">PUBP 3000</a>	
	9	<a href="#">Any SS</a>	
Core F - Courses Related to Major	3	Tech Requirement	
	15	Approved Cluster	ADD b
ALIS Major Requirements	3	<del>JAPN 2813</del> or <del>JAPN 2XXX</del> or <del>JAPN 3692</del> or <del>JAPN 3693</del> or <del>JAPN 3813</del> or <del>JAPN 3XXX</del> or <del>JAPN 4123</del> or ADD JAPN 4143 or JAPN 4165 or JAPN 4173 or JAPN 4183 or <a href="#">JAPN 4163</a> or <a href="#">JAPN 4743</a> or <a href="#">JAPN 4750</a> ADD or JAPN 4780 or <del>JAPN 4XXX</del>	ADD c
	3	<del>JAPN 2813</del> or <del>JAPN 2XXX</del> or <a href="#">JAPN 3061</a> or <a href="#">JAPN 3062</a> or <a href="#">JAPN 3691</a> or ADD	ADD d

JAPN 3692 or [JAPN 3813](#) or ~~JAPN 3XXX~~ or ~~JAPN 4123~~ or ~~JAPN 4XXX~~ ADD  
or JAPN 4183 or JAPN 4543 or JAPN 4695

3 ~~JAPN 2813~~ or ~~JAPN 2XXX~~ or [JAPN 3813](#) or ~~JAPN 3XXX~~ or [JAPN 4123](#) ADD  
or JAPN 4165 or JAPN 4173 or JAPN 4231 or JAPN 4233 or JAPN 4235 or ADD e  
JAPN 4695 or [JAPN 4743](#) or ~~JAPN 4XXX~~

6 ~~JAPN 2813~~ or ~~JAPN 2XXX~~ or [JAPN 3001](#) ADD or JAPN 3002 or [JAPN 3061](#)  
ADD or JAPN 3062 or [JAPN 3691](#) or [JAPN 3692](#) or [JAPN 3693](#) or [JAPN 3813](#)  
or ~~JAPN 3XXX~~ or [JAPN 4113](#) ADD or JAPN 4123 or JAPN 4133 or JAPN 4143 ADD f  
or [JAPN 4163](#) ADD or JAPN 4173 or JAPN 4183 or JAPN 4231 or JAPN 4233  
or JAPN 4543 or JAPN 3695 or [JAPN 4750](#) ADD or JAPN 4780 or ~~JAPN 4XXX~~

3 [JAPN 4500](#)

15 ML Electives d-ADD  
g

Free Electives 26 Free Electives

TOTAL: 122

### Notes

a = Any excess credit apply to Free Electives.

b = Designed for coursework toward certificates, minors, or additional degrees. Please consult with advisor on course selection.

c = Courses related to Societies/Cultures thread.

d = Courses related to Industry/Technology thread.

e = Courses related to Arts/Media thread.

f = Courses related to Advanced Language Acquisition thread.

g = Must be JAPN course 3000- or 4000-level.

## BS in Applied Language and Intercultural Studies - Russian 2013 - 2014 Degree Requirements

REQUIREMENT	REQ HRS	COURSE(S)	NOTES
Wellness	2	<a href="#">HPS 1040</a> or <a href="#">APPH 1040</a> or <a href="#">APPH 1050</a>	
Core A - Essential Skills	3	<a href="#">ENGL 1101</a>	
	3	<a href="#">ENGL 1102</a>	
	4	<a href="#">MATH 1501</a> or <a href="#">MATH 1712</a>	
Core B - Institutional Options	3	<a href="#">CS 1301</a> or <a href="#">CS 1315</a> or <a href="#">CS 1371</a>	
Core C - Humanities	6	<del>Modern Languages</del> ADD any HUM	a
Core D - Science, Math, & Technology	4	<a href="#">Lab Science</a>	
	4	<a href="#">Lab Science</a>	
	4	<a href="#">MATH 1502</a> or <a href="#">MATH 1711</a>	
Core E - Social Sciences	3	<a href="#">HIST 2111</a> or <a href="#">HIST 2112</a> or <a href="#">INTA 1200</a> or <a href="#">POL 1101</a> or <a href="#">PUBP 3000</a>	
	9	<a href="#">Any SS</a>	
Core F - Courses Related to Major	3	Tech Requirement	
	15	Approved Cluster	ADD b
ALIS Major Requirements	3	<a href="#">RUSS 3695</a> or <a href="#">RUSS 4335</a> or <a href="#">RUSS 4360</a> or <a href="#">RUSS 4380</a>	ADD c
	3	<a href="#">RUSS 3692</a> ADD <a href="#">RUSS 3695</a> or <a href="#">RUSS 4335</a> or <a href="#">RUSS 4340</a> or <a href="#">RUSS 4380</a> or <a href="#">RUSS 4695</a>	ADD d
	3	<a href="#">RUSS 3222</a> or <a href="#">RUSS 4320</a> or <a href="#">RUSS 4335</a> or <a href="#">RUSS 4360</a>	ADD e
	6	<a href="#">RUSS 3001</a> or <a href="#">RUSS 3002</a> or <a href="#">RUSS 3691</a> or <a href="#">RUSS 3692</a> or ADD <a href="#">RUSS 3695</a> or <a href="#">RUSS 4320</a> or <a href="#">RUSS 4335</a> or <a href="#">RUSS 4340</a> or <a href="#">RUSS 4360</a> or <a href="#">RUSS 4380</a> or <a href="#">RUSS 4695</a>	ADD f

	3	<a href="#">RUSS 4500</a>	
	15	ML Electives	✚ADD g
Free Electives	26	Free Electives	
TOTAL:	122		

a = Any excess credit apply to Free Electives.

b = Designed for coursework toward certificates, minors, or additional degrees. Please consult with advisor on course selection.

c = Courses related to Societies/Cultures thread.

d = Courses related to Industry/Technology thread.

e = Courses related to Arts/Media thread.

f = Courses related to Advanced Language Acquisition thread.

g = Must be RUSS course 3000- or 4000-level.

### BS in Applied Language and Intercultural Studies - Spanish 2013 - 2014 Degree Requirements

REQUIREMENT	REQ HRS	COURSE(S)	NOTES
Wellness	2	<a href="#">HPS 1040</a> or <a href="#">APPH 1040</a> or <a href="#">APPH 1050</a>	
Core A - Essential Skills	3	<a href="#">ENGL 1101</a>	
	3	<a href="#">ENGL 1102</a>	
Core B - Institutional Options	3	<a href="#">CS 1301</a> or <a href="#">CS 1315</a> or <a href="#">CS 1371</a>	
Core C - Humanities	6	<del>Modern Languages</del> ADD any HUM	
Core D - Science, Math, & Technology	4	<a href="#">Lab Science</a>	



	4	<a href="#">Lab Science</a>	
	4	<a href="#">MATH 1502</a> or <a href="#">MATH 1711</a>	
Core E - Social Sciences	3	<a href="#">HIST 2111</a> or <a href="#">HIST 2112</a> or <a href="#">INTA 1200</a> or <a href="#">POL 1101</a> or <a href="#">PUBP 3000</a>	
	9	<a href="#">Any SS</a>	
Core F - Courses Related to Major	3	Tech Requirement	
	15	Approved Cluster	<del>b</del> ADD a
ALIS Major Requirements	3	<del>SPAN 2690</del> or <a href="#">SPAN 3050</a> or ADD or <a href="#">SPAN 3064</a> or <a href="#">SPAN 3101</a> or <a href="#">SPAN 3102</a> or <a href="#">SPAN 3122</a> or <a href="#">SPAN 3211</a> or <a href="#">SPAN 3235</a> or <a href="#">SPAN 3241</a> or <a href="#">SPAN 3242</a> or ADD <a href="#">SPAN 3254</a> or <a href="#">SPAN 3260</a> or ADD <a href="#">SPAN 3500</a> or <a href="#">SPAN 3590</a> or <a href="#">SPAN 3690</a> or <a href="#">SPAN 3691</a> or <a href="#">SPAN 3692</a> or <a href="#">SPAN 3694</a> or ADD <a href="#">SPAN 3697</a> or <a href="#">SPAN 3698</a> or <del>SPAN 3XXX</del> or <a href="#">SPAN 4101</a> or <a href="#">SPAN 4150</a> or <a href="#">SPAN 4160</a> or <a href="#">SPAN 4165</a> or ADD <a href="#">SPAN 4220</a> or <a href="#">SPAN 4235</a> or <a href="#">SPAN 4236</a> or <a href="#">SPAN 4242</a> or ADD <a href="#">SPAN 4251</a> or <a href="#">SPAN 4255</a> or <a href="#">SPAN 4350</a> or <a href="#">SPAN 4400</a> or <a href="#">SPAN 4699</a> or <a href="#">SPAN 4813</a> or <a href="#">SPAN 4901</a> or <a href="#">SPAN 4902</a> or <del>SPAN 4XXX</del>	ADD b
	3	<a href="#">SPAN 3061</a> or <a href="#">SPAN 3062</a> or ADD <a href="#">SPAN 3064</a> or <a href="#">SPAN 3590</a> or <a href="#">SPAN 3690</a> or <a href="#">SPAN 3691</a> or <a href="#">SPAN 3692</a> or <a href="#">SPAN 3693</a> or <a href="#">SPAN 3694</a> or ADD <a href="#">SPAN 3697</a> or <del>SPAN 3XXX</del> or <a href="#">SPAN 4061</a> or <a href="#">SPAN 4062</a> or ADD <a href="#">SPAN 4236</a> or <a href="#">SPAN 4251</a> or <a href="#">SPAN 4350</a> or <a href="#">SPAN 4695</a> or <a href="#">SPAN 4699</a> or <a href="#">SPAN 4813</a> or <a href="#">SPAN 4901</a> or <a href="#">SPAN 4902</a> or <del>SPAN 4XXX</del>	ADD c
	3	<a href="#">SPAN 3050</a> or <a href="#">SPAN 3122</a> or <a href="#">SPAN 3211</a> or <a href="#">SPAN 3235</a> or <a href="#">SPAN 3241</a> or <a href="#">SPAN 3242</a> or ADD <a href="#">SPAN 3254</a> or <a href="#">SPAN 3260</a> or <a href="#">SPAN 3500</a> or <del>SPAN 3XXX</del> or ADD <a href="#">SPAN 4065</a> or <a href="#">SPAN 4070</a> or <a href="#">SPAN 4071</a> or <a href="#">SPAN 4101</a> or <a href="#">SPAN 4165</a> or ADD <a href="#">SPAN 4220</a> or <a href="#">SPAN 4235</a> or <a href="#">SPAN 4236</a> or <a href="#">SPAN 4242</a> or ADD <a href="#">SPAN 4251</a> or <a href="#">SPAN 4255</a> or <a href="#">SPAN 4400</a> or <a href="#">SPAN 4699</a> or <a href="#">SPAN 4813</a> or <a href="#">SPAN 4901</a> or <a href="#">SPAN 4902</a> or <del>SPAN 4XXX</del>	ADD d
	6	ADD <a href="#">SPAN 3040</a> or <a href="#">SPAN 3050</a> or <a href="#">SPAN 3064</a> or <a href="#">SPAN 3101</a> or <a href="#">SPAN 3102</a> or <a href="#">SPAN 3111</a> or <a href="#">SPAN 3112</a> or <a href="#">SPAN 3170</a> or <a href="#">SPAN 3691</a> or <a href="#">SPAN 3693</a> or <a href="#">SPAN 3697</a> or <del>SPAN 3XXX</del> or ADD <a href="#">SPAN 4101</a> or <a href="#">SPAN 4170</a> or <a href="#">SPAN 3695</a> or <a href="#">SPAN 4699</a> or <a href="#">SPAN 4813</a> or <a href="#">SPAN 4901</a> or <a href="#">SPAN 4902</a> or <del>SPAN 4XXX</del>	ADD e
	3	<a href="#">SPAN 4500</a>	

	15	ML Electives	✚ADD f
Free Electives	26	Free Electives	
TOTAL:	122		

a = Designed for coursework toward certificates, minors, or additional degrees. Please consult with advisor on course selection.

b = Courses related to Societies/Cultures thread.

c = Courses related to Industry/Technology thread.

d = Courses related to Arts/Media thread.

e = Courses related to Advanced Language Acquisition thread.

f = Must be SPAN course 3000- or 4000-level.

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

### **NEW COURSES – APPROVED**

AE 1601: Introduction to Aerospace Engineering 0-3-1  
 AE 2010: Thermodynamics and Fluids Fundamentals 4-0-4  
 AE 2610: Introduction to Experimental Methods in Aerospace 4-0-4  
 AE 2611: Technical Communications for Aerospace Engineers 1-0-1  
 AE 3030: Aerodynamics 4-0-4  
 AE 3140: Structural Analysis 3-0-3  
 AE 3330: Aerospace Vehicle Performance 3-0-3  
 AE 3340: Design and Systems Engineering Methods 2-0-2  
 AE 3530: System Dynamics and Vibration 3-0-3  
 AE 3531: Control System Analysis and Design 3-0-3  
 AE 3610: Experiments in Fluid and Solid Mechanics 1-3-2  
 AE 4341: Aircraft Design 2-3-3  
 AE 4342: Space System Design 2-3-3  
 AE 4343: Rotorcraft Design 2-3-3  
 AE 4531: Aircraft Flight Dynamics 3-0-3  
 AE 4532: Spacecraft Flight Dynamics 3-0-3  
 AE 4610: Dynamics and Control Laboratory 1-3-2

**Note:** Assessment information for all these courses is needed. AE will provide that to the Registrar's Office as soon as possible.

**Note:** The content in these new courses has already been taught for the most part. Content was rearranged from the existing courses to better address the overall needs of

the program. There is some new content in some of the courses, but for the most part these are repackaged courses.

## **DEGREE MODIFICATION – APPROVED**

### **Bachelor of Science in Aerospace Engineering**

#### Rationale for the change and Background:

The proposed degree modification involves no changes to the 45 hours of the curriculum associated with Institute Core areas A- E, and has the same total number of hours (132) as the previous curriculum. The proposed modifications involve a small change to the 18 hours of Core F, and significant change to the Major requirements. The proposed curriculum modification focuses on the 61 hours of AE, elective and technical communications courses in the Major requirements. This has been achieved with almost no change in the number of free elective credit hours (10 reduced to 9).

Within this 61 credit allocation, the number of credit hours for courses that focus on the required topics (in the new curriculum terminology, these are the **AE core** courses) have been reduced to provide student flexibility in the selection of 8 hours of focused **AE options** courses and an additional Math course (**Math option**) to improve our students math proficiency. In addition, an AE *core* course has been added to develop technical communication skills in the context of aerospace engineering. In addition, the core courses have been redesigned and realigned in a logical fashion (including interdisciplinary courses) to focus on fundamental and required skill sets (**topics**). The degree requirements form includes more details.

The Bachelor Science in Aerospace Engineering Program is ranked #2 in the nation, and is one of the largest programs in the country. Over the past several decades, the program has proven successful in producing graduates versed in the broad range of disciplines that make up aerospace engineering.

The existing curriculum was developed during 1995-1996 period as part of the conversion from quarter to semester systems. The curriculum has not been reviewed from a holistic perspective in nearly twenty years. Over this period, numerous small changes and fixes have been made to the program, with a limited inclusion of more modern topics. In addition, a large number of pre-requisites and required courses have left little room for student specialization and preparation for individual career choices. This rigidity also presents a barrier for many students to complete the requirements of the B.S.A.E. degree in eight academic semesters. Based on program assessments and feedback from alumni,

employers and the School's advisory board, the current program also provides insufficient mathematical development, required hands-on and team experiences, and interdisciplinary instruction.

To address these shortcomings, the AE School formed an Undergraduate Curriculum Reform Committee in Summer 2012. The Committee solicited and collected input from the faculty, recruiters, alumni, current students, and the School External Advisory Council, and reviewed peer aerospace engineering programs around the country for benchmarking purposes. The committee, in consultation with the faculty, generated a master list of skill sets required in our profession at the Bachelor's level. These fundamental skill sets were mapped into nearly 150 topics, and the topics were logically grouped into *core* courses. Additional topics were developed for *options* courses.

The curriculum changes have been made as a result of internal faculty review. As noted above, the current AE curriculum: 1) has not been modified from a holistic perspective in almost twenty years, with limited inclusion of modern topics; 2) is lacking in flexibility for our students, thus providing little room for student specialization and creating a barrier for many students to complete the requirements of the B.S. degree in eight academic semesters; and 3) fails to appropriately provide students with preparation in certain skills. Given this situation, the AE faculty decided to update our curriculum, maintaining fundamentals while pairing the *core* topical material to focus on identified crucial skill sets. In addition, specialized and more contemporary material is available through a set of AE *options* courses, selected by our students from a faculty-approved, but limited list. While maintaining a strong, common AE core, the revised curriculum exposes our students to more advanced, rigorous and modern topics than the present curriculum, better preparing them for graduate school and/or their chosen career path.

### **Key Differences:**

- Pre-requisites have been reduced wherever possible, making it easier for the students to complete the required courses over an 8 semester sequence.
- Topical content and organization of the required *core* AE courses has been modified based on a fundamental skill set review.
- Math requirements have been increased by 3 hours (*Math Option*), acknowledging the need for math proficiency beyond Math 2403 in modern aerospace engineering practice.
- Required *core* AE course hours has been reduced, making room for 8 hours of AE *options* (combined with free electives and *Math option*, this increases the number of elective hours from 13 to 20). Students will use

these *options* to broaden their knowledge or acquire in-depth knowledge in a chosen discipline or sector of AE. For advising purposes, suggested groupings of AE and Math Options will be provided to students so they can target various career and academic interests.

- The Introduction to AE class and lab classes have been reorganized into an integrated, interdisciplinary set of courses that provide hands-on experiences each year of the 4-year curriculum.
- Technical communication has been integrated into the AE curriculum, with a communication course tied to a sophomore-level, integrated lab class.

### Course Requirements

The current curriculum for the B.S.A.E degree can be divided into a set of general education and engineering classes (COE Core Curriculum) and aerospace engineering targeted courses (AE Curriculum) as indicated below.

COE Core Curriculum		Present AE Curriculum	
Math	16	Intro AE	2
Physics & Chem	12	Dynamics	3
MSE & ECE & Eng Graphics	9	Performance	3
Hum & SS	18	Fluids	6
Health	2	Structures	7
Computer Science	3	Flight Dynamics & Control	8
English	6	Propulsion	6
COE Statics & Def Bodies	5	Design	6
	<b>71</b>	Broadening Electives	13
		Technical Writing	2
		AE Labs	5

61

### Specializations

The only specialization option for students in the current curriculum is the choice of senior capstone design sequence: 1) Fixed Wing Aircraft, 2) Space Vehicle or 3) Rotorcraft.

### Broadening Electives

The current curriculum includes 10 hours of Free Electives and 3 hours of Technical Electives (limited to a list of science courses and 4000 level AE electives).

REQUIREMENT	Current		New Curriculum		NOTES
	Courses	Hours	New (Changes)	Hours	
Wellness	APPH 1040 or APPH 1050	2		2	
Core A - Essential Skills	ENGL 1101	3		3	
	ENGL 1102	3		3	
	MATH 1501	4		4	c
Core B - Institutional Options	CS 1371	3		3	
Core C - Humanities	Any HUM	6		6	
Core D - Science, Math, & Technology	CHEM 1310	4		4	e
	PHYS 2211	4		4	a,c
	MATH 1502	4		4	c
Core E - Social Sciences	HIST 2111 or HIST 2112 or INTA 1200 or POL 1101 or PUBP 3000	3		3	
	ECON 2100 or 2101 or 2105 or 2106	3		3	
	Any SS	6		6	
Core F - Courses Related to Major	MATH 2401	4		4	c
	MATH 2403	4		4	c
	MSE 2001	3		3	
	PHYS 2212	4		4	b,c
	Technical Elective	3	Math Option	3	d
Major Requirements	CEE 1770 or ME 1770	3		3	
Non-AE Required Courses and Electives	ECE 3710	2		2	
	ECE 3741	1		1	
	Free electives	10	Free Electives	9	
	AE 1350	2	AE 1601 Intro to AE	1	
	COE 2001	2		2	c
	AE 3450	3	AE 2010 Thermodynamics & Fluids Fundamentals	4	c
	AE 2220	3		3	c
	COE 3001	3		3	
	AE 3145	1	AE 2610: Introduction to Exper Methods in AE	1	
	LCC 3401	2	AE 2611: Tech Communications for Aerospace Er	1	
	AE 3310	3	AE 3330: Intro to Aerospace Vehicle Performance	3	
	AE2020	3	AE 3030: Aerodynamics	4	
	AE 3021	3			
	AE 3125	4	AE 3140: Structural Analysis	3	
	AE 4351 or 4357 or 4359	3	AE 3340: Design Methods	2	
	AE3515	4	AE 3530: System Dynamics and Vibrations	3	
			AE 3531: Control Systems Analysis and Design	3	
	AE 4220	3			
	AE 3051	2	AE 3610: Experiments in Fluid and Solid Mechani	2	
	AE3521	4	AE 4531 or 4532: Aircraft Flight Dynamics or Spacecraft Flight Dynamics	3	
	AE 4451	3		3	
	AE 4350 or 4356 or 4358	3	AE 4341 or 4342 or 4343: Aircraft Design, Space Systems Design, or Rotorcraft Design	3	
	AE 4525	2	AE 4610: Dynamics and Control Lab	2	
			AE OPTIONS	8	f
TOTAL:		132		132	

Pass-fail only allowed for Free Electives.

Limit of two D's allowed for all AE 2000-level or higher courses, COE 2001, and COE 3001.

a = If PHYS 2231 (5cr) is taken, excess hour applies to Free Electives.

b= If PHYS 2232 (5cr) is taken, excess hour applies to Free Electives.

c = C-minimum required

d= Technical Electives include: Any AE 4000-level course not used toward the program, except for AE 4355 and 4699. Also, BIOL 1510, BIOL 1520, CHEM 1311, CS 1331, EAS 1600, EAS 1601, EAS 2600, EAS 2750, EAS 4300, EAS 4430, EAS 4520, PHYS 2022, PHYS 2213, PHYS 2750, PHYS 3021, PHYS-

d = Current list of Math Options: Math 3215, 3770, 4305, 4317, 4320, 4347, 4541, 4581, 4640

e= Students pursuing Space Systems Design should choose AE 4310

e= or Chem 1211K and Chem 1212 K, excess hours applies to Free Electives.

f= ME 2202, ME 3015, and ME 3322 are not allowed

f = AE courses from list supplied by School

In summary, the Institute/COE core portion of the curriculum (71 hours of math, sciences, humanities, social sciences, and non-AE engineering classes) remains unchanged. The remaining 61 hours have been mapped into 41 hours of AE required *core* courses (35 of these hours are new courses), 8 hours of AE *Options* (addition), 3 hours of Math *Options* (addition), and 9 hours of free electives (reduction in 1 hour). Additional deletion: 2 hours of technical communications (LCC 3401, which is no longer taught); this has been integrated into the AE curriculum.

5. A motion was made to approve a request from the School of Literature, Media, and Communication for a new interdisciplinary minor. The motion was seconded and approved.

## **NEW MINOR - APPROVED**

### **East Asian Studies**

The Ivan Allen College of Liberal Arts proposes an interdisciplinary minor with the degree inscription: Minor in East Asian Studies, which will be housed in the school of Modern Languages for purposes of administration, including assessment and oversight. David Shook (ML) and Qi Wang (LMC) will serve as co-coordinators and advisors. However, the curriculum will be delivered by faculty in units across the Ivan Allen College of Liberal Arts.

Comprised of courses in history, political science, economics, languages, media, cinema, and literature, the interdisciplinary Ivan Allen College East Asian Studies minor connects study of China, Japan, and Korea and of Southeast Asia. East Asia plays a significant role in world politics and the global economy, and study of the region should be an integral part of a contemporary education. Through interdisciplinary study of history, politics, economics, literature, media, and languages in the regions of East Asia, and to a lesser extent Southeast Asia, students engage in comparative study of societies and values. This minor (jointly administered by Modern Languages and Literature, Media, and Communication) is designed for undergraduates who will enter a wide range of careers (engineering, science, business, public service, law, teaching, research, etc.).

The Ivan Allen College East Asian Studies (EAS) minor converges with the goals of internationalization and globalization articulated in the Strategic Plan. Courses taught in HTS, INTA, LMC, and ML educate students about the region's history, politics, political economy, literature, media, and languages. The curriculum will "embrace and support globally engaged students" (Goal 2) and will enable students to "extend and leverage Georgia Tech's impact around the globe" (Goal

Ivan Allen College of Liberal Arts faculty members specializing in East Asian Studies are leading this initiative “for transformative interdisciplinary research” (Goal 2) concerning a key region for U.S. political interests, trade, and research.

There is increasing student interest in Asian studies courses in various IAC units. Many students enroll in exchange programs and/or summer study abroad programs taught by Georgia Tech faculty in East Asia and Southeast Asia that offer related courses. (See Appendix A for a list of programs from the Office of International Education)

In the past five years, 17 students have petitioned for the certificate in Asian Affairs, which is jointly sponsored by HTS and INTA. A certificate is not listed on the transcript, and students have expressed an interest in the development of a minor in East Asian Studies. In addition, several degree programs at Georgia Tech have made their curricula more flexible to allow undergraduate students to take more free electives. The option of concentrating those electives in the EAS minor is something that should be attractive to some of these students. Finally, existing courses in this field often overload, such that we know for a certainty that GT students will be interested in the subjects comprised by the minor.

There is a critical mass of faculty in Ivan Allen College of Liberal Arts who specialize in scholarship of East Asia and who have taught students across majors (see Appendix B). The development of the minor grew out of meetings and discussions among these faculty members. Plans were solidified by a planning group, which included Hanchao Lu (HTS), David Shook (ML), Katja Weber (INTA), Qi Wang (LMC), Ann Laros (Registrar), and Carol Colatrella (IAC/LMC). Carol Colatrella consulted at various stages with IAC school chairs, directors of undergraduate studies, and interested faculty in four schools (ECON, HTS, INTA, and LMC), Jon Gordon (Office of Assessment), Sherri Brown (Library), and other parties.

## **CURRICULUM**

A minor must contain 15 to 18 semester hours of coursework with at least 9 hours of upper-division **coursework. Courses taken to satisfy Core Areas A through E may not be counted as coursework in the minor.** Core Area F courses may be counted as coursework in the minor. *Reference: BOR Academic Affairs Handbook, 2.3.1.*

Each minor must take fifteen hours of INTA, HTS, LMC, ML, and ECON courses (see list below for approved minor courses listed in the Georgia Tech catalog or frequently offered as special topics). All courses must be taken on a letter-grade basis and a grade of C or better must be received in each course. Nine of the



fifteen hours must be at the 3000 level or above. Courses must be taken from at least two schools in IAC. At least one course presented for the minor must be a

Chinese, Japanese, or Korean course offered by the School of Modern Languages from the list provided below or approved by a co-coordinator. With the approval of a co-coordinator, a student may count one course taken outside Ivan Allen College of Liberal Arts toward the minor; if approved by a co-coordinator, this course may be taken at another university. No more than three hours of special topic courses can be counted for the minor, and these courses must be approved by a co-coordinator.

The curriculum will be delivered at the Atlanta campus of the Georgia Institute of Technology. Courses are lecture classes or language classes encouraging significant participation.

**Courses in catalog:**

- HTS 2061 Traditional Asia and Its Legacy
- HTS 2062 Asia in the Modern World
- HTS 3061 Modern China
- HTS 3062 Modern Japan
- HTS 4061 City and Everyday Life in East Asian History  
(with approval of HTS advisor)
- INTA 2100 Great Power Relations
- INTA 2230 Government and Politics of East Asia
- INTA 3101 International Institutions (Asia)<sup>1</sup>
- INTA 3130 Foreign Policy of China
- INTA 3131 Pacific Security Issues
- INTA 3230 Government and Politics of China
- INTA 3231 Government and Politics of Japan
- INTA 3330 Political Economy of China
- INTA 3331 Political Economy of Japan
- INTA 4050 International Affairs and Technology Policy (Asia)
- INTA 4101 Politics of the Vietnam War
- INTA 4308HP (Honors Program: Dissecting the Rise of China)
- INTA 4330R/8823R Chinese Economic Reform - co-taught)
- INTA 4332R/8833R Chinese Institutions & Policy-Making - co-taught)
- INTA 4333 Korean Security Policy
- INTA 4743 Japan Society and Politics
- INTA 4500 Pro-Seminar on Sino-U.S. Relations
- INTA 4876 (East Asian International Relations)
- INTA 4877R (Chinese Institutions - co-taught)
- LMC 3256 Major Filmmakers: East Asian Auteurs<sup>2</sup>

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<sup>1</sup> Only Asia-focused versions of INTA 3101, INTA 3131, and INTA 4050 (i.e. sections taught in the INTA Southeast Asia Study Abroad Program) will count towards the East Asian Studies minor.

- LMC 3257 Global Cinema: Chinese Martial Arts Cinema
- CHIN 3004 Advanced Chinese I
- CHIN 3021 Chinese Society and Culture I
- CHIN 3022 Chinese Society and Culture II
- CHIN 3691 Chinese Current Events
- CHIN 3692 Business Chinese
- CHIN 3696 Economic Development and Sustainability
- CHIN 4003 Advanced Chinese II
- CHIN 4004 Advanced Chinese III
- CHIN 4006 Intercultural Communication
- CHIN 4021 Advanced Language, Music, and Culture
- CHIN 4022: Kungfu Fiction and Pop Culture
- CHIN 4031 Chinese-Language Cinema
- CHIN 4500 Intercultural Seminar
- JAPN 3691 Technical and Scientific Japanese
- JAPN 3692 Business Japanese
- JAPN 3693 Japan Today
- JAPN 4113 Advanced Reading and Listening
- JAPN 4123 Technical and Business Japanese Translation
- JAPN 4163 Japanese Literature and Culture
- JAPN 4165 Critical Readings in Japanese Culture/Arts
- JAPN 4173 Anime: Culture and Society
- JAPN 4183 Japanese Culture and Society through Songs
- JAPN 4500 Intercultural Seminar
- JAPN 4743 Japanese Society and Politics
- JAPN 4750 Japanese Discourse and Grammar
- KOR 3691 Business Korean
- KOR 3691 Issues and Technology in Korea
- KOR 3693 Exploring Modern Korea
- KOR 4001 Contemporary Korean
- KOR 4002 Selected Readings of Modern Korea

NOTE: Although there are no current, relevant ECON courses in the catalog, ECON faculty anticipate occasionally offering courses that focus on East Asian topics.

Demonstrating effectiveness includes the **review and assessment of all educational programs—majors, minors, and certificates**. Georgia Tech's On-line Assessment and Tracking System (OATS) and Academic Program Review are the processes in place to assist with demonstrating assessment.

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<sup>2</sup> Only these versions of LMC 3256 and LMC 3257 (East Asian Auteurs and Chinese Martial Arts) can be presented for minor credit.

## Learning Outcomes

- Students will demonstrate oral proficiency at Intermediate-low or higher on the ACTFL scale in CHIN/JAPN/KOR.
- Students will demonstrate in-depth knowledge of two or more specific aspects of contemporary artistic production, politics, economics, or societal movements in China/Japan/South Korea.
- Students will demonstrate basic understanding of regional politics, economics, history, media, and/or culture of East Asia.

## Program Measures

- Survey: Students will be surveyed via the Georgia Tech exit survey about key topics associated with the learning outcomes listed above. The survey will measure how effective the program is at meeting the second and third learning outcomes.
- Rubrics: in ML language courses students will demonstrate proficiency in language and cultural analysis via their completion of an intermediate-level or higher course in CHIN/JAPN/KOR (first learning outcome).
- Questionnaire for students, which will ask each student completing a minor petition to reflect on dimensions of interdisciplinary study of East Asia. Each student petitioning for the minor will complete a questionnaire asking for reflections on how his/her study of language, history, political science, economics, and/or media in East Asia aligns with the first and second learning outcomes listed above.

## Process

IAC faculty will meet annually to evaluate the curriculum, utilizing surveys, rubrics, and other pertinent reports of student achievement. Assessment will be managed in OATS as part of ML assessment processes.

Members of the Modern Languages faculty teaching CHIN/JAPN/KOR are experienced with particular instructional technologies that enhance the learning experience of students (online instruction, web-development tools, etc.)

a. Complete the Table 1 below:

	1st Year FY __2015	2nd Year FY __2016	3rd Year FY __2017	4 <sup>th</sup> Year FY __2018
<b>ENROLLMENT PROJECTIONS</b>				
<b>Students</b>				
Existing Students in major program				
Students from other major programs	10	15	20	20
<b><i>Total Students Projected for this Minor</i></b>	10	15	20	20
<b>COURSE SECTIONS SATISFYING MINOR REQUIREMENTS</b>				
Existing	55	55	55	55
New (being requested)	0	0	0	0
<b><i>Total Program Course Sections</i></b>	55	55	55	55
<b>CREDIT HOURS GENERATED BY THOSE COURSES</b>				
Existing enrollments	0	5	5	5
New enrollments	10	10	15	15
<b><i>Total Credit Hours</i></b>	300	450	650	650
<b><i>MINORS TO BE AWARDED</i></b>	5	10	15	15

Georgia Tech Study Abroad and Exchange Programs are listed because some (but not all) courses taught within these programs might be counted in the East Asian Studies (EAS) minor. A student petitioning for the minor may include an external course from a semester exchange, as allowed by a co-coordinator. Many students take courses in disciplines other than East Asian Studies when studying abroad, but only a course focusing on East Asia will be eligible for EAS minor credit. All East Asian courses taught by Ivan Allen College faculty on study abroad programs will be eligible for credit; such courses include special topics courses and other electives not listed in Appendix C.

### ***Summer Programs***

#### **China**

[Beijing/Singapore Summer Program](#)

[China Summer Program](#)

[Chinese LBAT](#)

[Hong Kong - HKUST Summer Exchange Program](#)

[International Construction in China](#)

#### **Japan**

[Japan - Tokyo Tech Summer Exchange Program](#)

[Japanese LBAT](#)

#### **Singapore**

[Beijing/Singapore Summer Program](#)

#### **South Korea (Republic of Korea)**

[Korean LBAT](#)

#### **Southeast Asia Study Abroad Program (INTA)**

### ***Semester Exchange Programs***

#### **China**

[China \(Mainland\) - GE3-UM-SJTU Joint Shanghai Exchange Program](#)

[China \(Mainland\) - Hunan Changsha Exchange Program](#)

[China \(Mainland\) - Renmin Beijing Exchange Program](#)

[China \(Mainland\) - SJTU Shanghai Exchange Program](#)

[China \(Mainland\) - Tongji Shanghai Graduate Arch Exchange Program](#)

[China \(Mainland\) - Tsinghua Beijing Exchange Program](#)

[Hong Kong - CUHK Exchange Program](#)

[Hong Kong - HKPU Exchange Program](#)

[Hong Kong - HKUST Exchange Program](#)

## **India**

[India - GE3-Manipal Exchange Program](#)

## **Indonesia**

[Indonesia - GE3-IT Bandung Exchange Program](#)

## **Japan**

[Japan - Fukuoka ModLangs Exchange Program](#)

[Japan - GE3-Tohoku Exchange Program](#)

[Japan - Rikkyo Tokyo Business Exchange Program](#)

[Japan - Ritsumeikan APU Beppu Exchange Program](#)

[Japan - Tokyo Tech Exchange Program](#)

[Japan - Waseda Tokyo Exchange Program](#)

## **Malaysia**

[Malaysia - GE3-UTP Perak Exchange Program](#)

## **Singapore**

[Singapore - NTU Exchange Program](#)

[Singapore - NUS Exchange Program](#)

[Singapore - SMU Exchange Program](#)

## **South Korea (Republic of Korea)**

[South Korea - KAIST Daejeon Exchange Program](#)

[South Korea - KUBS Seoul Business Exchange Program](#)

[South Korea - SKKU Exchange Program](#)

[South Korea - SNU Seoul Exchange Program](#)

[South Korea - Ulsan Exchange Program](#)

[South Korea - Yonsei Seoul Exchange Program](#)

## **FACULTY:**

***History, Technology, and Society:*** Hanchao Lu

***International Affairs:*** John Garver, Margaret Kosal, Katja Weber,  
Brian Woodall, Fei-Ling Wang

***Literature, Media, and Communication:*** Qi Wang

***Modern Languages:***

Chinese: ***Paul Foster, Xiaoliang Li, Jin Liu***

*Full-Time Instructors:* Chao Li, Zhewei Fan

*Visiting Instructors:* Lan Jin, Hsin-Wei Huang

***Japanese:*** Rumiko Shinzato, Masato Kikuchi, Kyoko Masuda

*Full-Time Instructor:* Kimiaki Yamaguchi, Aki Matsushima

***Korean:***

*Full-time Instructors:* Seok Bae Jang, Jong Lee

***Economics:*** Shatakshee Dongde, Haizheng Li, Usha Nair-Reichert

Course descriptions are available in the online Catalog.

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

### **NEW CERTIFICATE - APPROVED**

#### **Biologically Inspired Design**

Biologically Inspired Design (BID) is a newly developing field that integrates biological knowledge with engineering practice in order to solve significant human challenges in a sustainable manner. Our goal is to establish a certificate program for BID for biologists and other scientists, as well as engineers, designers and architects. These groups represent stake holders and participants of BID as currently practiced in research and industry. The program is designed to give students the ability to learn and apply biological principles in engineering and architectural design by working in multidisciplinary teams. This requires content knowledge, the ability to work across disciplines, problem identification skills, research skills, and interdisciplinary critical awareness.

A BID certificate fills a clear need. Graduate programs incorporating BID in robotics, biomechanics, materials etc. exist at many institutions (Berkeley, Harvard, University of Washington, University of Maryland, Duke etc.). Companies routinely hire engineers for their experience working in interdisciplinary teams using biology and hire biologists to participate in this process. BID products are increasingly hitting the market (Sharklet Technologies, Lotusan surface coatings, REGEN swarm intelligence energy management, Pax Scientific, Mirasol display technology etc). A BID certificate would be timely, useful and benefit a broad spectrum of students, as well as increasing the relevance of biology to the campus community. It aligns with Georgia Tech's strategic objectives to give students practical skills that address the needs of the next generation work force, to teach in a creative and interdisciplinary manner, to

address goals related to human and environmental health, and to graduate students who are aware of the world-wide impact of science and technology. It also may contribute to the interdisciplinary minor in design that currently is under development.

**BID certificate curriculum:**

All students must take BIOL/ISyE/MSE/ME 4740-Bio-Inspired Design (prereqs of BIOL 1520 or BIOL 1521 or BIOL 3600 or BMED 3100 or PHYS 2211), a project-based course that requires student teams to apply biological principles to solve human challenges.

As per Certificate Program Guidelines, students need 12 units, and so must take 9 units from the following two lists, in addition to BIOL 4740. Note that all of these courses are currently being taught. No new courses will need to be developed.

**Biology courses:** All the following Biology courses (prerequisites in parentheses) provide students' knowledge regarding biological processes that may be useful or important in an engineering design context, and therefore constitute appropriate courses for the Certificate.

- APPH/BIOL 3753 Anatomy (BIOL 1520 or BIOL 1521 or CHEM 1211K or CHEM 1310)
- APPH/BIOL 3755 Human Physiology (APPH 3753 or BIOL 3753)
- BIOL 4440 Plant Physiology ((BIOL 1510 or 1511) and (BIOL 1520 or 1521))
- BIOL 4464 Developmental Biology ((BIOL 2344 or BIOL 2354) and BIOL 3450)
- BIOL 4478 Biophysics (PHYS 2211 and (BIOL 2344 or BIOL 2354 or BIOL 3450))
- BIOL 4101 Sensory Ecology (BIOL 2335 or 2337)
- BIOL 4446 Animal Physiology (BIOL 3450)
- BIOL 4471 Behavior Biology ((BIOL 1510 or BIOL 1511) and (MATH 1502 or MATH 1512 or MATH 15X2) and PHYS 2211 minimum grade of D))
- BIOL 4752 Introduction to Neuroscience (BIOL 3450 or BMED 3160)
- BIOL 4803 Special Topics: Urban Ecology (BIOL 1520)\*
- BIOL 4803 Special Topics: Vertebrate Biology (BIOL 1520 and BIOL 2335)\*
- BIOL/MSE 4802 Special Topics: Bioinspired materials design (BIOL 1520 or BIOL 3600 or BMED 3160 or BIOL 4740 or PHYS 2211 or MSE 2001)\*

\*It is anticipated that the above Special Topics courses will be converted to permanent offerings



**Non-Biology courses:** The following courses also present biological principles important for human engineering design problems, stress quantitative analysis of biological systems, or present fundamental principles. They thus are appropriate for this certificate.

- ARCH 4411 Introduction to visual arts: Drawing on nature
- BMED 3100 Systems Physiology (CHEM 1315 or CHEM 2311)
- BMED 3110 Quant Engr Physio Lab (BMED 3100 and BMED 3400 and (BMED 2400 or CEE 3770 or ISYE 3770 or MATH 3770))
- BMED 4400 Neuroengineering Fund (BMED 3110 and BMED 4752)
- BMED 4500 Cell and Tissue Engineering Lab (BMED 3610)
- BMED 4752 Introduction to Neuroscience (BMED 3600 or BIOL 3340)
- AE/CHE/ME/BMED 4757 Biofluid Mechanics (BMED 3300)
- AE/CHE/ME/BMED 4758 Biosolid Mechanics (BMED 3400)
- CEE 3040 Fluid Mechanics (CEE 2040 and MATH 2401)
- ME/MSE 4790 Materials Selection and Design (COE 3001)

**Biology non-majors exemption:** For Biology non-majors, additional courses that can count towards the BID certificate are: BIOL 1510/1511, BIOL 1520/1521, BIOL 2335/2337, BIOL 2344/2345, BIOL 3450 (as long as these courses are not required for their major program of study, and only up to 3 credits of courses at the 1xxx-2xxx level can count). For non-majors, at least 9 credits of BIOL coursework are required for the BID certificate.

We estimate at most 10 students per year over a 3 year period. We base this estimate on the students who take BIOL 4740-Biologically Inspired Design (which is cross listed in ME, BME, ISyE, MSE). We know from polling these students for the past 8 years (as long as we have taught this course) that about 25% of them would be interested in a certificate of this kind.

We do not anticipate this to increase enrollment significantly in current courses, or impact the allocation of teaching efforts given the degree of participation. Most of the courses in the certificate do not have laboratory components (except for 1510/1511 and 1520/1521) so we expect no reallocation of resources.

No similar programs exist in the State. In fact, so far as we are aware-this would be a unique program in the country, although several schools in the EU offer programs in Biologically-Inspired Design.

7. A motion was made to approve a request from the School of Literature, Media, and Communication for new courses. The motion was seconded and approved.

### **NEW COURSES – APPROVED**

LMC 3401: Technical Communication Approaches 1-0-1

LMC 3402: Technical Communication Strategies 2-0-2

Note: ENGL 1102 is the only prerequisite for LMC 3401. Students could choose to take the existing course LMC 3403. These new courses will be tailored to the content of the unit wishing to use them in its program. LMC already provides this focus for units that need it, such as AE.

8. A motion was made to approve a request by the School of Mechanical Engineering for a new course. The motion was seconded and approved.

### **NEW COURSE – APPROVED**

ME 4405: Fundamentals of Mechatronics 2-3-3

**Note:** This course replaces ME 4447.

## **Student Petitions**

1. A motion was made to approve a written appeal of a petition requesting a selective withdrawal from a Fall 2013 course. The motion was seconded and approved.

Note: The Committee asked the Registrar to provide very clear and specific information to the student about his request and steps he should take in the future to address course withdrawals.