

**Minutes of the
Academic Advisory Committee on Mathematical Subjects
February 2-3, 2006**

The Academic Advisory Committee on Mathematical Subjects (ACMS) met on February 2-3 on the campus of Georgia College & State University (GCSU) in Milledgeville, Georgia. The meeting was called to order at 1:00pm by Dr. Lila Roberts, ACMS Chair, who provided some logistical information regarding the meeting and the Thursday evening dinner. Dr. Beth Rushing, Dean of the School of Arts and Sciences, Georgia College & State University, welcomed ACMS members to the GCSU campus and thanked Dr. Roberts and GCSU mathematics faculty for their excellent work.

Representatives introduced themselves to the group, offering announcements from their campuses.

Dr. Roberts introduced Dr. Dorothy Zinsmeister, the Board of Regents Liaison, who addressed the committee regarding the following issues:

+/- Grading Scheme

Dr. Zinsmeister reported the University of Georgia and Georgia State University proposed a pilot project to implement a +/- grading system. While UGA and GSU are leading the pilot and are responsible for gathering data and studying the impact of the grading system, other USG institutions may participate in the pilot. Individual campus GPA's will reflect the +/- system, but HOPE GPA calculations will not be impacted by the change. For example a grade of B+ or B- counts as a B for HOPE. The +/- system applies to grades of A, B, and C, and the pilot is institution-wide rather than in specific classes. Based on feedback from colleges around the country implementing similar schemes, students initially resist the +/- system.

Victor Kane asked about the purpose and rationale of implementing such a grading scheme. Dr. Zinsmeister replied that the +/- system may more accurately reflect how a student performs in a course by creating finer distinctions in official grades. Tim Howard inquired about grading consistency between institutions. Dr. Zinsmeister indicated that grading variability is widespread not only between institutions but within institutions and even within departments. Joel Fowler suggested that the +/- system would increase grade variability within departments due to the wider variety of final grades available for faculty to assign. Dr. Zinsmeister agreed that that could happen and suggested that departments engage in conversations about what specific grades indicate in regards to student performance.

AP Credit

Dr. Zinsmeister led a discussion about AP Credit. Last year the Chancellor asked the advisory committees to examine AP Credit for the disciplines. Across Georgia and the nation, there is renewed interest in AP Credit, and the Georgia Department of Education is increasing AP offerings to students in a variety of subjects. With a growing emphasis on AP courses, the College Board is reviewing and analyzing sites offering AP classes to ensure the quality of the

classes is consistently high. New credentialing procedures are in place for the courses and the teachers.

From a USG prospective, questions have been raised about reasons one institution accepts a certain score while another does not. ACMS is charged with creating a subcommittee to gather data about the success of students who earned AP credit and to make a recommendation to the USG based on data about appropriate system-wide AP scores. Included among the questions Dr. Zinsmeister asked the ACMS subcommittee to consider:

- Why is there variability in approved AP scores between USG institutions?
- What was the rationale for adopting the institutional guidelines currently in place?
- Are students earning AP credit as prepared, less prepared, or better prepared for subsequent courses as their counterparts completing courses within the institutions?
- Should AP credit transfer with a student (if the AP score was accepted at the student's current institution and not the one to which the student is transferring)?
- What are appropriate AP Credit scores for USG schools?
- Are College Board recommendations for Calculus AB and Calculus BC scores relevant to the discussion?
- Should credit be issued for Precalculus based on a Calculus exam? What are the consequences for satisfying mathematics requirements in Area A?

The final report to the USG should include an analysis of retention, progression, and graduation (RPG) rates of students entering a cross-section of institutions with AP mathematics credit.

Jack Morrell indicated that transfer AP credit is treated similarly to transfer credit from outside the USG. Each college reevaluates the credit based on institutional guidelines. Dr. Zinsmeister concurred, stating that problems arise when students earn credit at one institution but lose the credit upon transfer to another institution, especially when the credit is based on the same nationally recognized exam. Joel Fowler and Tim Howard asked if AP requirements could continue to vary among USG institutions if sound, data-driven reasons exist for the variation. Dr. Zinsmeister answered affirmatively, although any variation must be supported by data that certain scores impact student success differently at different institutions based on college mission. USG is focused on RPG data, and AP credit guidelines impact students' ability to progress through the system.

The following institutions agreed to serve on the AP Credit subcommittee:

Georgia College & State University	(Lila Roberts)
Georgia Southern University	(Martha Abell)
Middle Georgia College	(Roberta Yauck)
Georgia Perimeter College	(Don Pearl)
Gainesville College	(Danny Lau)
Armstrong Atlantic State University	(Lorrie Hoffman)
Waycross College	(Lisa Howell)
Columbus State University	(Tim Howard)

Martha Abell has access to an analysis of AP data performed in Fall 1998 at Georgia Southern University. Don Pearl suggested locating sources of public information related to legitimate AP scores.

The finalized AP credit report is due to Dorothy Zinsmeister by May 6, 2006.

Other Testing Issues

Dr. Zinsmeister reported that there have been preliminary discussions about eliminating the Regents' test and replacing it with the essay portion of the SAT, at least for 4-year colleges in the system. USG needs to gather data to support such. Don Pearl noted that some 2-year college students take the Regents' exam multiple times without success, and therefore are not eligible for graduation. Often times those same students successfully complete English and social science courses.

Dr. Zinsmeister queried ACMS members about the use of the quantitative skills test developed several years ago. Members acknowledged that while the test is not in use, designing the test eventually led to the development of the new Area A mathematics course, MATH 1001—Quantitative Skills and Reasoning. Six representatives reported that their institutions are offering MATH 1001. Many of the six reported that MATH 1101 is being phased out on their campuses in conjunction with the change. Dr. Zinsmeister requested additional feedback about MATH 1001 from institutions offering the course.

D, F, W Rates in MATH 1101, MATH 1111, and MATH 1113

Jack Morrell requested that the system provide individual institutions with D, F, W information for MATH 1101, MATH 1111, and MATH 1113. The data was last distributed by Dr. Kathleen Burke in 2003. Dr. Zinsmeister agreed to work on distributing the information to ACMS representatives.

MATH 2007

Dr. Zinsmeister led a discussion about the proposed new Area F course for future P-5 teachers, MATH 2007—Foundations of Numbers and Operations, reviewing the need and development process for the course and asking members how they would like to proceed in regards to the proposal. Since the Area F for future P-5 teachers is not functioning as anticipated, the Educator Preparation Academic Advisory Committee (EPAAC) approved a reformulation of Area F to include three education courses, two science courses, and one mathematics course. During summer 2005 a task force formed by EPAAC and including USG mathematics faculty developed the proposed course, targeted specifically to P-5 education majors. In fall 2005 ACMS members reviewed the course electronically and suggested changes and improvements that led to the latest draft.

Many ACMS members expressed concern about the proposed course and its development process. Tim Howard suggested narrowing the focus of the course and eliminating most of the optional topics. Joe Fu discussed the importance of presenting number theory concepts to future

teachers in depth rather than in a rapid, superficial manner. He questioned the wisdom of implementing a broad, survey-type course and commented that the course, as currently structured, would be counter productive. Jack Morrell stated that he felt a slightly broader course is appropriate for Area F. Tim Howard responded that it is important for future teachers to encounter a certain depth in concepts sooner rather than later. Tony Giovanni questioned whether the topics proposed for the course could be taught in one semester.

Victor Kane asked about the impact on upper division courses, if the proposed course or a similar one was adopted for Area F. Dr. Zinsmeister replied that future P-5 teachers are currently required to complete four mathematics courses to earn their baccalaureate degree. One course is in Area F, and the other three are upper division courses. The required Area F course varies based on institution. Requiring the proposed course in Area F could have an impact on the material covered in upper division courses, depending on how the curriculum is currently structured at individual institutions. Alvina Atkinson asked if any thought had been given as to how to adjust the upper division courses. In particular, she mentioned the need to include statistics in the upper division courses. John Cruthirds expressed concern about statistics no longer being included as a lower division class for P-5 majors. He also expressed concern about how redesigning Area F would impact the P-5 endorsement process. Could 3000-level coursework resulting in credit toward a P-5 baccalaureate degree and toward endorsement credit be transformed into 2000-level coursework? Dr. Zinsmeister suggested cross listing the 2000-level and 3000-level courses.

Jack Morrell suggested that ACMS take an alternate approach and consider requiring statistics in Area F rather than the proposed course. Joel Fowler and Joe Fu agreed. Victor Kane suggested narrowing the focus of the proposed course and implementing it. Zepheyrius Okonkwo expressed concern about student preparation for PRAXIS examinations and feared that requiring statistics in Area F rather than a number theory course would weaken students' preparation further. Don Pearl and Ed Bolton supported moving forward with the proposed course.

Lila Roberts queried members about how they would like to proceed, and Dr. Zinsmeister reminded members that she needed to forward recommendations to the Vice Presidents for Academic Affairs as soon as possible. Members agreed to table further discussion on the topic until tomorrow's business meeting.

Salary Data

Jack Morrell established a WebCT discussion board regarding salaries. Lila Roberts encouraged members to add their institutional information to the discussion. Report salaries based on 10-month contract data.

A lively discussion ensued about workload and compensation for Division Chairs and Mathematics Department Heads. Based on the conversation, compensation varies significantly among institutions, consisting of combinations of 10- and 12-month contracts, reduced teaching loads, and stipends.

Bylaws

Lila Roberts led a discussion of the proposed ACMS Bylaws. Members suggested improvements in the language and considered changes offered by Dorothy Zinsmeister. A revised draft will be created overnight and voted on during the business meeting on February 3.

Subcommittee Meetings

Lila Roberts distributed charges to the subcommittees and reminded the subcommittees to consider any unfinished business from last year. The full committee adjourned at 4:40pm, and subcommittees conducted their discussions.

Business Meeting

Lila Roberts convened the business meeting at 8:30 on February 3.

Representatives/Visitors in Attendance

Abraham Baldwin Agricultural College	Joy Shurley
Albany State University	Zephyrinus Okonkwo
Armstrong Atlantic State University	Lorrie Hoffman
Atlanta Metropolitan College	Jack Morrell
Augusta State University	Sam Robinson
Bainbridge College	William H. Snyder
Clayton State University	Anthony Giovannitti
Coastal Georgia Community College	Robert Balman
Columbus State University	Tim Howard
Dalton State College	Geoff Poor
Darton College	Greg Smith
East Georgia College	Ed Bolton
Fort Valley State University	Alvina Atkinson
Gainesville College	Danny Lau
Georgia College & State University	Lila Roberts
Georgia Highlands College	Brent Griffin
Georgia Perimeter College	Don Pearl
Georgia Southern University	Martha Abell
Georgia Southwestern State University	John Stroyls
Georgia State University	Johannes Hattingh
Gordon College	Allen Fuller
Kennesaw State University	Victor Kane
Macon State College	Wanda Eanes (for Barry Monk)
Middle Georgia College	Cathie Davis
North Georgia College & State University	John Cruthirds
South Georgia College	Timothy Brown
Southern Polytechnic State University	Joel Fowler

University of Georgia	Joe Fu
Valdosta State University	Mylan Redfern
Waycross College	Lisa Howell (for Jim Helms)

Minutes accepted: A motion was made to accept the minutes of the February 2005 meeting of the ACMS as previously distributed. The motion was seconded and approved by voice vote.

Lila Roberts gave the Executive Committee's list of nominees for the Executive Committee. The list was approved by voice vote to create the following 2006-2007 Executive Committee:

Brent Griffin	Chair	Georgia Highlands College
Martha Abell	Chair-elect	Georgia Southern University
Lila Roberts	Past-chair	Georgia College & State University
Tim Howard	At-large	Columbus State University
Joe Fu	At-large	University of Georgia

After some discussion regarding the location of the 2006-2007 ACMS meeting, the following motion was made, seconded and approved by voice vote.

Successful motion: The ACMS will hold its 2006-2007 annual meeting at Georgia Highlands College on a Thursday afternoon and Friday morning to be determined in conjunction with the Georgia Perimeter Mathematics Conference.

Subcommittee Reports

Assessment of the Major: Tim Howard(Chair), Joel Fowler, Martha Abell, William Snyder. The committee plans an email survey to gather specific methods used to assess mathematics programs around the state. The data will be compiled by the subcommittee, and the results will be reported to the ACMS during the 2006-2007 meeting.

Computer Science Liaison: Mylan Redfern (Chair), Robert Balman, Sam Robinson, John Cruthirds. Nothing to report other than the interaction between the subcommittee and the Advisory Committee on Computing Disciplines has been limited

Distance Learning: Danny Lau (Chair), Robert Wynegar, Tony Giovannitti, Timothy Brown. Danny Lau reported that the committee discussed gathering information about how institutions organize distance learning. Is there a balance between e-core courses and courses designed internally? Are higher level courses (e.g., Calculus III) offered via distance learning? Are students testing on-line or on campus?

Jack Morrell will create a WebCT discussion group focused on these issues. The subcommittee will use information from the discussion group to develop a distance learning survey for ACMS members.

Joe Fu informed the group about the web-based Calculus III tools developed by Tom Banchoff, Professor of Mathematics at Brown University. Dr. Banchoff is a visiting professor at the

University of Georgia during spring term. For more information about Dr. Banchoff's work, see <http://www.math.brown.edu/~banchoff/> or <http://www.cptm.us/> .

Faculty Development: Johannes Hattingh (Chair), Alvina Atkinson, Bruce Landman, John Stroyls. Nothing to report.

Mathematical Awareness: Allen Fuller(Chair), Ijaz Awan, Lila Roberts, Joe Fu. Joe Fu suggested expanding the charge of the committee to increase communication between USG faculty members about mathematics-related activities in the system. Joe will create a website based at UGA listing upcoming activities (lecture series, mathematics competitions, etc.) within the state. Tony Giovannitti asked about forwarding information regarding activities on individual campuses, and Lila Roberts suggested that the web site serve as a clearinghouse of events forwarded from ACMS members. Joe agreed to manage the site, and he suggested a competition for naming the site, with prizes to the winner!

Placement/Learning Support Liaison: Joy Shurley (Chair), Victor Kane, Ed Bolton, Zephyrinus Okonkwo. Joy Shurley expressed the subcommittee's concern regarding the state-mandated minimum COMPASS placement score. Is 37 too low? She requested that ACMS members forward her information about success rates in credit-level classes of students completing Learning Support courses versus students placing directly into credit-level courses based on COMPASS. Jack Morrell suggested looking at COMPASS data compiled by ACT. Tim Howard mentioned that changing the score would impact capacity in both Learning Support and credit-level courses, resulting in an increased number of Learning Support mathematics sections and a decrease in Area A mathematics sections.

Danny Lau and Tim Howard asked whether a new policy is in place allowing incoming students to retake COMPASS for placement purposes. Retests are now allowed, but individual institutions may decide specific retesting policies. Don Pearl and Jack Morrell suggested charging students a fee for retesting, since COMPASS charges colleges per test administered. Tim Howard wondered if the COMPASS question bank is robust enough to accommodate multiple tests by the same student. He also questioned the reliability of the exam itself. Zephyrinus Okonkwo noted that the Learning Support and COMPASS issues strongly impact RPG, since many full-time, first-time students may not be taking COMPASS or the Learning Support classes seriously.

Course and Textbook Information: Brent Griffin (Chair), Geoffrey Poor, Barry Monk, James Helms. Brent Griffin reported that everyone who has not done so should take the Textbook Survey on the ACMS WebCT site. The survey should be completed even if no changes have been made to textbooks. Following up on a recommendation from last year, he indicated that a technology survey would be developed to determine which institutions use technology or calculators in mathematics courses. Jack Morrell will establish a WebCT discussion group regarding technology. The comments on the discussion board will be used to guide the development of the survey.

Curriculum & Transfer Credit: Jack Morrell(Chair), Lorrie Hoffman, Cathie Davis, Don Pearl. Jack Morrell reminded the committee that three years ago, GCSU gained approval from ACMS to develop a combined Precalculus/Calculus I course. The idea is to introduce Precalculus concepts just in time for their use in Calculus I. He suggested the following transferability guidelines:

- Students with MATH 1113 from a USG institution would be eligible for Calculus I at GCSU
- Students completing the two course sequence at GCSU would receive credit for MATH 1113 and Calculus I at the receiving institution
- Students completing only the first course in the sequence at GCSU would receive Area A credit at the receiving institution

GCSU would like to move forward implementing the combined course. Dr. Morrell reported that the subcommittee feels that the advantage of offering such a course outweighs potential transferability issues. He offered a motion on behalf of the subcommittee stating that GCSU's original proposal be reaffirmed and forwarded to the Council on General Education for consideration.

A discussion ensued about the merits of seamless transferability versus curriculum creativity within the core. With the introduction of the Georgia Performance Standards in P-12 education, students will be exposed to an integrated approach to mathematical concepts. GCSU's sequence may serve as a model for the future. The following motion was made, seconded and approved by voice vote:

Successful motion: ACMS enthusiastically reaffirms the 2003 motion from GCSU related to the creation of the MATH 1115—MATH 1116 course sequence.

Specifically, the 2003 motion states:

ACMS endorses the proposal of GCSU for the MATH 1115—MATH 1116 course sequence and its placement in Areas A and D of their core curriculum. Students who transfer both courses in the sequence should receive credit for MATH 1113 and Calculus I. Students who transfer MATH 1115 only should be granted Area A credit for any non-math, science major, but are not guaranteed satisfaction of Area A from mathematics or science majors.

Successful Motion: A motion was made, seconded, and approved by voice vote to forward the MATH 1115—MATH 1116 proposal to the Council on General Education for consideration after local approval process at GCSU.

Council on General Education: Jack Morrell (ACMS representative). Dr. Morrell briefly described the structure and role of Council on General Education as it relates to Areas A-E of the core curriculum. The Council is involved with a new task force, studying the impact of the core curriculum on retention, progression, and graduation rates.

At the completion of the committee reports the ACMS considered two information items from Dr. Dorothy Zinsmeister.

Mathematics via E-CORE

Dr. Zinsmeister stated that there has been some discussion of including MATH 1001 as an e-core course. This led to a more general discussion about the success of e-core courses in general. Dr. Zinsmeister suggested that ACMS invite someone to the next ACMS meeting to talk about e-core issues. She also agreed to compile and distribute success rates in e-core mathematics to the committee. Initially students' impressions of e-core courses were not very good. Over time student evaluations improved, and instructional technology improved. Jack Morrell asked about e-core enrollment figures. Dr. Zinsmeister agreed to forward the information.

Retention, Progression, and Graduation

Each institution has an RPG liaison to the USG, as well as an institutional plan for increasing RPG rates in the institution. Most ACMS members were unaware of both the institutional plans and the identified RPG liaison. Dr. Zinsmeister will forward the list of RPG liaisons to the committee.

The business meeting resumed with the committee considering old business.

Old Business

The revised draft of the Bylaws was considered for approval. A motion was made and seconded. The Bylaws were approved by voice vote, subject to editorial changes related to the current name of the computer science advisory committee.

New Business

MATH 2007

Joe Fu offered two changes to the proposed MATH 2007 course. He suggested a narrowed list of topics and a rewording of the problem-solving component, to clarify that problem-solving techniques will be integrated throughout the course. A motion was made and seconded to amend the proposal based on Dr. Fu's suggestions. The motion carried by voice vote.

Brent Griffin will revise the proposal, and Lila Roberts will distribute the revisions to the group. Comments about the revised proposal are due to Dr. Roberts no later than February 14. In the absence of extensive opposition to the proposal, she will forward the proposal to EPAAC for consideration.

Announcements

Johan Hattingh reminded the committee that Georgia State University is moving forward with the implementation of a PhD program in mathematics. Also, Georgia State is deactivating its baccalaureate degree in secondary education. Students interested in teacher certification may seek a graduate degree or participate in alternate certification through the TEAM program.

Zephyrinus Okonkwo questioned how USG institutions could increase the number of students pursuing careers as mathematics teachers. He stated that mathematics departments should be involved in the production and preparation for future mathematics teachers. He suggested that money needed to be reallocated to mathematics departments to fund the costs of preparing future teachers, including the costs associated with implementing MATH 2007. Lorrie Hoffman agreed that the shortage of mathematics teachers is a problem. She supported the model in which a student earns an undergraduate degree in mathematics and enters the classroom while working on certification through a graduate degree program. Johan Hattingh reported that Georgia State received a special allocation to fund additional mathematics sections for the increasing student population at the university. He suggested a similar plan for funding MATH 2007. Tony Giovannitti added that the issue of teacher certification is complicated by the fact the Professional Standards Commission, an entity outside the USG, is responsible for designing and implementing the guidelines for certification.

Jack Morrell requested that members take a look at the online Calculus Inventory and make changes as necessary.

Lila Roberts thanked the committee members for their attendance at the meeting.

The meeting was adjourned at 11:15 am.

Respectfully submitted,

Brent Griffin