Minutes of the
Academic Advisory Committee on Mathematical Subjects
February 1-2, 2007

The Academic Advisory Committee on Mathematical Subjects (ACMS) met on February 1-2 on the campus of Georgia Highlands College (GHC) in Cartersville, Georgia. The meeting was called to order at 2:00 p.m. by Brent Griffin who welcomed the attendees. Dr. Randy Pierce (President, GHC) and Dr. Virginia Carson (VP for Academic Affairs of GHC) both addressed the group. Both gave a warm welcome to the ACMS.

Brent gave several announcements. He updated the schedule, gave information on registration fees, and announced the dinner location. He also gave information on wireless internet access and thanked several people, Carolyn Hamrick and Glenda Law, GHC Cartersville Campus, Continuing Education and the College Relations Department. He also announced the subcommittee meeting locations for later in the afternoon.

Georgia Performance Standards: Implementation, Teacher Training and Grade Level Tasks: Claire Pierce, Mathematics Program Manager, Georgia Department of Education, presented "Georgia Performance Standards: Implementation, Teacher Training, and Grade Levels. As she set up, she asked members to review the handout she provided. This included:

- Curriculum Update (sample unit from Math 1 Instructional Framework; high school teacher training; the new graduation rule).
- Your students in 2013: what will they know and be able to do?
- What role do we want in this process?

She gave an overview of Math 1 (Families of Functions, Algebraic Investigations, Geometry Gallery, Algebra in Context, The Chance of Winning, Coordinate Geometry). The example she shared was a topic motivated by *Wheel of Fortune*. The group divided into groups of 4-5 to look at the first three lessons provided in the handout. (The assignment included: Give a short description of the lesson. What mathematics is involved in the lesson? How does the depth and rigor of the mathematics compare to your high school experiences or your teaching? Would the lesson engage students? Why or why not?) Claire stressed the importance of the training of teachers, which is the key to the implementation of the new curriculum. She also said that there would be a time when the teacher formalizes what the students have learned through the classroom activities. The concern that teachers will not be prepared to teach the content in the integrated courses was raised. Claire discussed how this was handled for the 6^{th} grade teachers now that algebra is included in the 6^{th} grade math course. The group raised several questions regarding the lessons and assessment measures. Claire pointed out that teachers will need to cover fewer topics to spend the time on activities and discussions. This will mean different expectations for students as they go through this curriculum. Topics will be covered in different ways over a sequence of grades. Claire gave several examples. Much of Algebra 1 and Geometry has been moved into the middle grades. Students will have completed both subjects by the end of the 8^{th} grade. The high school curriculum is integrated with two tracks, Mathematics and Accelerated Mathematics. In the original plan, there was a Core Mathematics Track. However, the Core Mathematics Track has been recommended for elimination because very few students would take it. A math support course for students in the Mathematics track (Mathematics 1-4) will be funded. All students will take four years of mathematics. She also showed the rollout of the new curriculum. The new curriculum means that there will be a need for many more mathematics teachers in the state. At Kennesaw State University, many students work, so they are trying to get scholarship dollars from NSF. Internships were suggested for math majors. Dorothy talked about recruiting more math and science teachers. She discussed

how schools are moving to the MAT degree programs for teacher certification, which is viewed as a disincentive for students to become teachers. Lila Roberts discussed the situation at Georgia College and State University. They are trying to set up service learning to get students in the schools early. Columbus State University still has 4-year certification within their BA in Mathematics program. Some suggested that we could make use of adjunct faculty who may want a full-time job to help build up the corps of mathematics teachers in the state. The ACMS will consider hosting a meeting with an expert on the different forms of teacher preparation and certification. Dorothy discussed the history of alternative forms of certification. Joel Fowler (Southern Polytechnic State University) pointed out that some students appreciated the alternate forms of certification while others wanted a better experience in terms of classroom management and pedagogy. Only three schools present at the meeting indicated that they still have 4-year teacher certification programs within Mathematics degree programs. It was mentioned that two-year institutions play an important role in getting students interested in STEM majors. Tim Howard reported that at Columbus State, the move from the college of education to the content area has increased the motivation of faculty to engage in the recruitment of students. Community involvement may be needed to provide funding to train teachers.
Websites and contact information for the Pierce presentation include:
www.gadoe.org
www.georgiastandards.org
cpierce@doe.k12.ga.us
(Brent Griffin will send out electronic copies of Claire's presentation files.)

MATH 2008: Dorothy Zinsmeister presented information about MATH 2008, a new course required in Area F for Early Childhood (EC) Education. She mentioned the challenges that some schools are having in offering these classes. The course is a mathematics course and is not intended to be a methods course. The Regents Principles show many changes in Area F for EC majors. These courses should be taught by the colleges of arts and sciences faculty so that there would be engagement on the part of these faculty. Therefore, these colleges should not give away these courses and the instructors should be qualified to teach the courses. SACS requirements must be met, and these instructors must have the depth in their coursework to teach these classes. Department chairs should review the syllabi for these courses to make sure that MATH 2008 is being taught appropriately. MATH 2008 has a pre-requisite of MATH 1001, 1101, 1111 or 1113. It is a 3-0-3 course. The course description was modified when it was approved. Now it's appropriate for Middle Grades (MG) and Special Education majors. However, Dorothy and Claire recommended to EPAAC that the course not be approved for MG majors in the program of study. This was approved. A new program for "birth to age 5" education has been approved and MATH 2008 is recommended for this new degree program. We were instructed to visit the BOR Core Curriculum website to see the new Area F for Fall 2007. MATH 2008 models the teaching that new teachers should use when they enter the classroom. Students who change from the EC may use MATH 2008 as a free elective. A workshop for MATH 2008 was held in December. Over sixty faculty members from across the System attended, and the evaluations were positive. Many were interested in a follow-up workshop, and many of the schools present reported they were hiring new faculty to teach MATH 2008 who could benefit from the course. Dorothy Zinsmeister is going to send out electronically to ACMS members the materials.

Middle Grades Math Requirement: Dorothy Zinsmeister also reported on the Middle Grades Math Requirement Recommendation for MATH 1113. EPAAC has approved MATH 1113 or a more advanced course as an Area F requirement for Middle Grades majors (if not taken in Area A or D.) Fall 2007 is the implementation date. This is only for mathematics concentration students. At many institutions, MATH 1113 can be replaced by having the student take MATH 1111 (College Algebra) and MATH 1112 (Trigonometry). Some institutions indicated that they could

not place MATH 1113 in Area A. As an example, if a student takes MATH 1101 in Area A and STAT 2231 in Area D, the student must take MATH 1113 in Area F but they cannot exceed 120 hours in the program of study (if they have to backtrack and take MATH 1111).

Dorothy provided each ACMS member with a copy of the MAA/AMS publication, *The Mathematical Education of Teachers*, from the Conference Board of the Mathematical Sciences.

Subcommittee Meetings: Brent Griffin distributed charges to the subcommittees and reminded the subcommittees to consider unfinished business from last year. The full committee adjourned at 4:45 p.m., and subcommittees conducted their discussions.

Business Meeting

Brent Griffin convened the business meeting on Friday, February 2, 2007 at 8:30 a.m.

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	No representative
Clayton State University	Anthony Giovannitti
Coastal Georgia Community College	Ward Shaffer
Columbus State University	Tim Howard
Dalton State College	Geoff Poor
Darton College	Greg Smith
East Georgia College	John Blackburn
Fort Valley State University	John Dubriel
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	No representative
Georgia State University	Draga Vidakovic (for J. Hattingh)
Gordon College	Allen Fuller
Kennesaw State University	Victor Kane
Macon State College	June Jones (for Barry Monk)
Middle Georgia College	Cathie Davis
North Georgia College & State University	John Cruthirds
South Georgia College	No representative
Southern Polytechnic State University	Joel Fowler
University of Georgia	No representative
Valdosta State University	Mylan Redfern
Waycross College	Lisa Howell
BOR Office	Dorothy Zinsmeister
BOR Office	Leslie Caldwell

Old Business

Placement Tests: Tim Howard opened the discussion. Columbus State University is in its first year of placement using *COMPASS*. They also looked at *Accuplacer* and have investigated *MapleTA*. Some schools had homegrown tests. Some had stopped using placement tests. On-line tests were needed at some institutions. KSU gives a non-proctored on-line test. Clayton uses Accuplacer. Some discussed that placement exams do not appear to be good predictors. Some pointed out that high school GPA is a better predictor. Southern Polytechnic uses the MAA Placement Exam, which works well for the extreme cases. Tony Giovannitti, Clayton State University, showed grades for MATH 1101 based on placement scores. For the most part, grades improved with an increase in placement score. Leslie Caldwell, who has assumed the responsibility for testing in the USG Office, presented some general ideas on placement tests. It has been suggested system-wide that a placement test be developed in-house for Learning Support placement. They are also piloting a study using *Accuplacer* at two institutions in the USG. Victor Kane reported on the philosophy of the Kennesaw State University placement test. There, they focused on the extreme groups of students. They still haven't decided what to do with students who perform poorly on the placement test. Zephyrinus Okonkwo, Albany State University, suggested that we need a better relationship between mathematics and learning support. Some schools give exemption tests. Brent suggested that we continue to look at the issue of placement testing. Dorothy Zinsmeister discussed the handout on DFW rates for core courses in the system. (This data for past years can be found at: www.usg.edu/sra/students/ls/ls-feedback/) It doesn't appear that the DFW rates for MATH 1111 have changed in spite of the efforts made. Of course, the two-year institutions have no SAT requirements, so this could affect the DFW rates comparison over the years. Tim Howard pointed out the importance of advisement in placement to get students in the proper courses. Dorothy Zinsmeister mentioned that the BOR is considering a policy to require a "C" or better for Area A courses system-wide. This is due to transfer problems.

Approved MATH Courses in Area D: Lila Roberts, Georgia College and State University, brought up the issue that some institutions allow MATH 1111 in Area D. This occurred with a transfer student at her institution. She reported that there are four institutions in the USG that allow MATH 1101/1111 in Area D. She suggested that the ACMS make a recommendation to not allow these courses in Area D. It was also mentioned that some schools allow credit for both MATH 1101 and MATH 1111. The group discussed the issue of students taking MATH 1001 in Area A and MATH 1111 in Area D. Because all schools indicated a statistics course in Area D, it was recommended that the student take statistics class in Area D as opposed to MATH 1111. The group discussed the similarities and differences of MATH 1101 and MATH 1111. In most institutions, these two courses have become closer together. The ACMS made the recommendation that MATH 1001/1101/1111 may not be used in Area D. The motion was approved almost unanimously (with one exception). The group then discussed the similarities and differences of the common core courses and looked at the learning outcomes for the courses.

The group took a break in "Old Business" to allow for presentations rescheduled due to the weather concerns on Thursday.

e-Core Presentation: Mike Rogers (michael.rogers@usg.edu, alt website – see link from ACMS website), Advanced Learning Technologies, made a presentation on e-Core. He provided two sets of information (course descriptions of all available on-line courses and retention statistics). The six affiliated USG e-Core institutions are: Valdosta State, Columbus State, Southern Polytechnic, Georgia Highlands College. The e-Core courses should go through the approval process just as all other courses at these institutions. The approval process will be formalized so

that the institutions understand the requirements of the courses and the institutions. All e-Core courses must be approved by the General Education Council. Faculty can visit the ALT website for learning resources. Courses are now linked to a particular textbook, but in the future there will be more flexibility. Faculty can use these courses to build their own courses. The courses do not provide video lectures. There are no required plug-ins because this is a feature of Vista/WebCT. For students not enrolled at an affiliated school, the student must register with the affiliated school (as a transient student) in order to take an e-Core class and should contact the institution's e-Core advisor before signing up for an e-Core course. On average, about 1500 students per semester take e-Core courses. Some schools don't allow first year students to take e-Core courses. Some schools also limit the number of e-Core courses a single student can take. He asked for assistance from the ACMS in the development of an e-Core MATH 1001 course. If there is enough demand for a class, more sections will be added to accommodate the students. He encouraged faculty to teach in e-Core. He gave data for grade distributions for MATH 1101 for the USG and for e-Core. He pointed out that typically 1/3 of the students withdraw from math courses system-wide. At some schools, students who don't show up for a course may be dropped administratively. He also announced that all e-Core courses are being revised. Most testing for these courses occurs in a testing center. He pointed out that the University of Georgia has some independent study courses, but these are separate from e-Core.

Mini-core Project: Dorothy Zinsmeister announced that if students take ENGL and MATH at DTAE (Dept. of Technical and Adult Education) COC (accredited by SACS) approved institutions (35 technical colleges), students may transfer courses to USG institutions. These include the Area A courses, MATH 1101/1111/1113. There are transfer-ombudsmen on each campus. These individuals must know the rules for transferability. Lack there of causes problems for students. Mathematics departments need to make sure that the DTAE courses match the Area A core courses and discuss transferability issues. Dorothy mentioned that a meeting between the USG and DTAE faculty had been proposed for several years after the original proposal, so she will work to set up this meeting.

Guidelines for AP-Credit: Other advisory committees have made recommendations that all USG institutions follow the AP-credit policies adopted at the University of Georgia. Jack Morrell announced that the General Education Council approved that if a student receives AP-credit at one institution, then the credit carries over to other schools. International Baccalaureate (IB) is also another area where a policy should be developed. The Florida System has developed a policy whereby credit is approved as a package, which was done by the legislature. Currently, the USG considers this course-by-course. Using AP and IB credits speeds up the time required to graduate. The subcommittee assigned at the 2006 ACMS meeting will continue to work on these issues through the year. The subcommittee consists of :

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

Course Substitution for LD Students: Leslie Caldwell announced that the USG is considering course substitutions for certain learning disabilities. He gave an example in which a student with a learning disability transferred in from a non-USG school with a substitution for a math course

and now asks that the substitution course transfer. This student took a logic course in philosophy in the place of an Area A course. Under current policy, the student must first attempt the course. If unsuccessful, then there could be a possibility for a substitution. Currently, institutions make this determination for Area D because not all USG institutions require mathematics in Area D. Many levels of review are required for the substitution of courses in the case of a learning disability.

Guidelines for Area A Courses: After a brief lunch break, Jack Morrell showed the guidelines for Area A. He made a motion to remove the ban on courses for liberal arts, statistics, and symbolic logic currently shown in Area A. The only other banned courses in the Core Curriculum were Anatomy and Physiology in Area D. (This is because A&P is not typically taught in terms of scientific discovery.) The motion was initially approved without much discussion. However, Tony Giovannitti (Clayton State University) pointed that this will cause transfer problems. After much discussion, the motion was tabled. A subcommittee will look into this issue.

New Business:
Brent Griffin gave the Executive Committee's list of nominees for the Executive Committee. This list was approved by voice vote to create the following 2007-2008 Executive Committee: Brent Griffin (Past-Chair), Martha Abell (Chair), Tim Howard (Chair-Elect), Lila Roberts (At-large), and Joe Fu (At-large).

After some discussion regarding the location of the 2007-2008 ACMS meeting, the following motion was made.

Successful motion: The ACMS will hold its 2007-2008 annual meeting at Albany State University on a Thursday afternoon and Friday morning. Albany State will provide dinner for the ACMS on Thursday evening. (Exact Dates: TBA.)

Minutes accepted: A motion was made to accept the minutes of the February 2006 meeting of the ACMS as previously distributed. The motion was seconded and approved by voice vote.

Electronic Voting: Brent Griffin pointed out that although we used electronic voting in the fall to make some decisions, the ACMS doesn't have an official policy. It was proposed that a pro-vote equal one half of the membership of the ACMS plus one vote. (Under this motion currently, 18 affirmative votes would be needed for a motion to pass.) The motion was made for a pro-vote to equal one half of the membership of the ACMS plus one vote. It was seconded and approved.

Teacher Prep Workshop: Dorothy Zinsmeister reminded the ACMS that she will try to organize a Teacher Prep Workshop on recruitment of future teachers, strategies for improving DFW's, etc. ACMS members provided ideas for the workshop, including finding alternative pathways for certification, rules of PSC and USG, scholarship options as well as ways to set up funds (for recruitment, salary, moving expenses; pay for students' education, job fairs) and the consideration of HOPE Scholarship money (HOPE teacher/HOPE Promise) for certification.

Reminders of Conferences at USG Institutions:
Valdosta State Math Tech Conference (February 23, 2007)
Georgia Perimeter College Mathematics Conference (February 16-17, 2007)
Mathematical Association of America Southeastern Section Meeting (March 16-17, 2007), Georgia Southern University

Subcommittee Reports:

Assessment of the Major: Tim Howard (Chair), Joel Fowler, John Dubriel, William Snyder. The subcommittee plans to collect data from the institutions on the assessment measures used at USG institutions. Some of these include the Fields test, PRAXIS II, use of essays; exit interviews, surveys of graduates. Will also consider the solutions to the difficulties in getting responses on surveys.

Mathematical Awareness: Lila Roberts (Chair), Joe Fu, Allen Fuller, Ijaz Awan. Because the subcommittee has no budget, no time, and no implementation plan, it was suggested that the subcommittee is either be eliminated or combined with the Faculty Development subcommittees. This proposal was tabled and will be considered at the next ACMS meeting.

CS Liaison: Mylan Redfern (Chair), Sam Robinson, John Cruthirds, Timothy Brown. The subcommittee discussed ideas for interdisciplinary courses. Some institutions have courses or student projects with Math, Biology, Business, Geography, and Chemistry. The subcommittee would like to hear from other institutions with these opportunities

Distance Learning: Danny Lau (Chair), June Jones, John Blackburn, Brent Griffin. The subcommittee referred to the e-Core presentation. They plan to send out a survey on DL courses. They are interested in determining if students can take courses on-line so that students from smaller schools have more opportunities to take upper level mathematics courses.

Faculty Development: Lorrie Hoffman (Chair), Draga Vidakovic, Bruce Landman, Carl Mueller. The group reported that the ACMS needs to clarify the mission of the subcommittee. Is the purpose to put together faculty development activities for ACMS meetings or make schools aware of faculty development opportunities?

Placement/Learning Support Liaison: Joy Shurley (Chair), Victor Kane, Greg Smith, Zephyrinus Okonkwo. The subcommittee reported that the USG may need to raise the minimum placement score on Compass for Learning Support or may need to use another test. The Chair of the subcommittee will attend LS meeting.

Course & Textbook Information: Lisa Howell (Chair), Geoffrey Poor, Ward Shaffer, Tony Giovannitti. The subcommittee presented the website for updating the textbook survey. (With Vista, there have been several problems encountered, which were shown.) We were told to label the response with "1. …", "2. …", etc because Vista scrambles the output. The subcommittee will also do a technology survey (calculator, WebCT, MyMathLab, etc…) They also plan to work with Distance Learning Subcommittee. They also reminded the group to look over the Calculus Inventory for updates.

Curriculum and Transfer Credit: Jack Morrell (Chair), Cathie Davis, Don Pearl, Martha Abell. The subcommittee reported no issues other than what had been discussed by other subcommittees.

Brent Griffin thanked the group for their attendance and cooperation in altering schedules due to the inclement weather on Thursday.

The meeting adjourned at 1:15 p.m.