

**Graduate Executive Committee
September 9, 2016
Minutes**

Attendees: Don Klingner, Andrea Bingham, Melissa Benton, Crista Hill, Jon Caudill, Margaret Harris, Jeff Ferguson, Brian McAllister, Sandy BerryO'Low, Mandi Elder, Karen Livesey, Linda Button, Sarbarish Chakravarty, Steve Miller, Jose Mora, Ron Koch, Al Schoffstall, Eddie Portillos, David Havlick, Chip Benight, Greg Oman, Christina Jimenez, Cindy Zomchek, Chris Bell, Rory Lewis, Joe Wehrman, Steve Tragesser, Kelli Klebe, KrisAnn McBroom

Welcome

Accelerated Master's Program in Applied Mathematics: The Master of Science in Applied Mathematics would like to bring forward an Accelerated Master's Program that allows students to earn a BS and MS in Applied Mathematics while dual counting up to 9 credits of graduate level work, to be used for both degrees.

Action: The GEC voted to unanimously recommend the Accelerated Master's Program in Applied Mathematics, which would allow a student to use up to 9 credits of graduate level coursework towards their BS and MS in Applied Mathematics.

Business Master of Science in accounting program change request: The program is requesting to remove the comprehensive examination requirement from the Master of Science in Accounting degree program. A comparative analysis shows that most MSA programs do not have a comprehensive examination component and the program would like to be in line with competitor programs. This conversation brought forward much discussion around the pedagogy of comprehensive examinations and whether the program, and programs in general, should require some sort of culminating event (thesis, capstone, comprehensive examination). A future meeting will discuss the policy currently in place stating that "Most master's degree programs require a comprehensive examination or a thesis defense after the other requirements for the degree have been substantially completed."

Action: The GEC voted to recommend approval for the removal of the comprehensive examination from the MSA program. (14 voted *yes*; 4 voted *no*; and 2 *abstained*)

Dean's Report

- **Graduate Enrollments** (need Jason's data on Friday)
 - Overall Graduate Enrollments are up
 - It was reported yesterday at the Regents meeting that there are 1809 graduate students (1449 resident, 360 nonresident) vs. 1681 last year (higher increase in number of nonresident students)
 - Total of 133 international graduate students which is down from 147 last year (and 170 in 2014-15)
 - New enrollments are up nearly 15% at census for Fall 2016 (470 vs. 409)
 - Down (>10%): Business
 - Flat (within 10%): LAS Master's, Beth El, Eng. PhD,

- Up (>10%): Education, Engineering, SPA, LAS PhD, Nondegree
 - Large increases in enrollments by Communication, Mechanical and Aerospace Engineering, Master's of Engineering, Sports Medicine and Public Administration.
- Applications and Admits were down; so are programs doing anything different to get students to enroll? (No one reported anything). The Graduate School staff called admitted students who had not enrolled, which may have had a positive effect. Extended studies courses were also counted under main campus so that may account for enrollment differences.
- **Admission Processes**
 - Student appeal put a department's admission processes under scrutiny. Although the department was found to have acted consistently across applicants, we've learned some things to share with all of you about processes
 - In communications to students, clearly define terms so there is no misunderstanding about use of terms (e.g., acceptance, denied, wait-listed, alternate, provisional admits, etc.)
 - Make sure your website provides accurate and complete information about standards, processes, expectations, and goals of program.
 - If you review people with incomplete files, make sure you do so for all people that meet a standard for review when file is not complete.
 - Ensure that data you are using is accurate (e.g., computation of GPA from multiple transcripts; have all transcripts including UCCS)
 - Treat applicants similarly. If you are going to review incomplete files then make sure you have standards for that and you treat applicants in similar ways. If you have deadlines for applications then be clear about how you review materials and files after they come in after the deadline.
- **Gainful Employment Certificates:** Based on change in CCHE rules, GE certificates now need to be approved by Regents to be put on the CCHE SURDS (Student Unit Record Data System) list. We'll update the certificate policy to add this new step. You'll need to add additional steps (you can continue to follow the existing policy). Thanks to SPA and Nursing faculty for their patience and good will during this process. The Regents approved all certificates September 8, 2016 and the regents' academic affairs subcommittee was very positive about these certificates. These were the first certificates put forward under the new process. Be aware that if you propose a Gainful Employment certificate there will be a few extra steps.
- **Financial Aid Priority and Scholarships**
 - Consider posting on your website the financial priority deadline. When you have late application deadlines (post March 1), your students may not be considered for need-based financial aid. Consider having a financial aid priority application/admission deadline as well as later deadlines if you so want.
 - Students need to complete a FAFSA to estimate need. Consider providing this information to your students.

- Expect to have out-of-state recruitment scholarships, tuition grants, research fellowships, mentored doctoral fellowships, and Colorado Opportunity Grant this year. Although there may be changes in procedures as there were multiple problems this year.
- ***New Degree Proposal Timeline and Procedures:*** Leadership team has approved a new timeline and finalized procedures for new degree programs. We will post this on our website once we get the final okay.
- ***Fall GEC Activities***
 - Policy Changes by GEC
 - Full Graduate Faculty Vote of Policy Changes
 - Leave of Absence Policy
 - Accelerated Master's Program Changes
 - GE Certificate Policy Changes
 - New Electronic Decision Sheet
 - Thesis and Dissertation Review: No longer being done by the library staff—many thanks to Ron Koch for his careful work on this in the past. Graduate School will check most; Education will check their own.
 - Strengthening of recruitment activities
 - Procedures for adding options and tracks

Policy manual

- Appeal Processes: A brief discussion occurred around the current appeal processes written out in the manual. The Committee requested a rewritten version be brought forward in a future meeting. The specific components the committee wishes to address is if appeals should go up to the Graduate Executive Committee after the Dean of the Graduate School level has intervened as well as well as what specific topics should and should not be addressed by an appeals committee (e.g., grades, admissions decisions, dismissals etc.)
 - Action: The Graduate School office will write up a draft revision and bring forward to a future meeting.
- Role of GEC and GEC membership: Due to time, this agenda item will be brought forward at a future meeting

Upcoming Events

Graduation Paperwork Help Walk-In sessions (Cragmor 105):

Thursday September 15th 12:00-3:00

Friday September 16th 9:00-12:00

IRB workshop: October 6, 2016 in the Library EPC Room 239

Session 1 (1:00 pm – 2:30 pm): Purpose, Process, and Review

Session 2 (2:30 pm to 4:00 pm): Working session

Graduate School Fair: October 12, 2016, 11:00 – 2:00 (Berger Hall)

Student Travel Awards: Application opens October 10th. Information and the application can be found on the Graduate School Website under Finance Resources (<http://www.uccs.edu/graduateschool/uccs-finances/finance-resources.html>). Contact Sarah Elsey (selsey@uccs.edu) if you have any questions.

Fall 2016 GEC Meetings (10:00-11:30; Dwire 204)

September 9; October 14; November 11; December 9

Spring 2017 GEC Meetings (10:00-11:30; locations Dwire 204)

February 10; March 10; April 14; May 5 (A week early due to commencement conflict)

Accelerated Master's Program in Mathematics

A 5-6 years program for UCCS mathematics majors who are interested to pursue a Masters degree in mathematics. The main benefit of the program is that it allows **dual credits**.

Dual Credits: 9 credit hours of approved mathematics courses to be used for both BS and MS degrees provided they are (i) taken at the 5000 level, and (ii) completed with a grade of B or above.

Eligibility: Complete BS degree requirements including the following mathematics course requirements with an overall GPA of 3.0 and a GPA of 3.25 in mathematics courses.

Mathematics Course requirements

Course Number	Course Name	Credit Hours
Math 1350	Calculus I	4
Math 1360	Calculus II	4
Math 2350	Calculus III	4
Math 2150	Discrete Math	3
Math 2650	Introduction to Computational Math	1
Math 3130	Introduction to Linear Algebra	3
Math 3130	Introduction to Differential Equations	3
Math 3130	Introduction to Probability and Statistics	3
Math 3410	Introduction to Analysis	3
Math 3110	Theory of Numbers	3
Math 4140	Modern Algebra I	3
Math 4310	Modern Analysis I	3
Math 4040	Senior Math Seminar	1
Math 5xxx	Dual Credit Course	3
Math 5xxx	Dual Credit Course	3
Math 5xxx	Dual Credit Course	3
		total=47

After completing the BS degree requirements including the above mathematics courses, and after a mid-program review, an **eligible** student will be recommended to the Graduate School for admission to the **MS in Applied Mathematics program**. The student will only need **21 credit hours** of graduate courses to complete the MS degree instead of (normal) 30 credit hours. However, all other requirements for the MS in Applied Mathematics degree will apply.

Comparison with current BS and MS degrees: The mathematics course requirements for the BS degree consist of the core courses at the 1000-3000 level listed above + Math 4040 + 5 other 4000-level mathematics courses. The MS (Applied Mathematics) degree requires 30 credit hours at 5000-level or above. The proposed BS-MS degree will fulfill all requirements for the BS and MS degrees via the overlapping **dual credit** mechanism.

A student dropping out of the BS-MS program before the mid-program review, or deemed ineligible at the mid-program review, will be able to complete the BS degree, subject to the normal rules of that program.

Benefits to the program: It is anticipated that the accelerated program will be attractive to a number of our top undergraduate students who would otherwise pursue graduate studies elsewhere. This, in turn, is likely to increase enrollment in the MS in Applied Mathematics program as well as enhance its quality.

Additional Costs: None anticipated.

Mathematics, BS

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The Department of Mathematics offers a curriculum leading to the degree of Bachelor of Science in Mathematics. This degree is well-suited for students aiming toward a variety of mathematical careers in industry or secondary education, or planning for graduate education. Modern industrial and scientific enterprises are so dependent on advanced mathematical concepts that mathematicians are needed today by almost all concerns that are engaged in such work.

Foreign languages are encouraged for students interested in research. A maximum of 8 hours of foreign languages may be taken and applied to the approved electives requirements. German, French and Russian are the approved languages.

Departmental Goal

- Prepare students for employment or graduate study in a subject related to mathematics

Learning Outcomes

- Be able to apply both theoretical and computational techniques to the solution of mathematical problems
- Be able to comprehend, formulate and produce mathematical proofs
- Be able to communicate correct mathematical content in both written and oral form
- Be able to understand a broad array of interconnected concepts within mathematics

General Requirements

- Completion of at least 47 credit hours in Mathematics
- 31 credit hours of Core Mathematics courses
- 46 credit hours for Teaching option
- A minimum 2.0 in each required mathematics course
- A CU minimum GPA of 2.0
- An Exit Interview with the Mathematics department is required prior to graduation.
- All Mathematics majors are required to meet with a faculty advisor in the Mathematics department during their first year as Mathematics majors. Mathematics students should check the Academic Advising Guides for additional information regarding the degree requirements.

Course Requirements

Core Courses (31 Credit Hours)

The Mathematics Core courses allow students to become familiar with the different subfields of mathematics before choosing their focus.

- MATH 1350 - Calculus I
- MATH 1360 - Calculus II
- MATH 2150 - Discrete Math
- MATH 2350 - Calculus III
- MATH 2650 - Introduction to Computational Mathematics
- MATH 3110 - Theory of Numbers
- MATH 3130 - Introduction to Linear Algebra
- MATH 3400 - Introduction to Differential Equations
- MATH 3410 - Introduction to Analysis
- MATH 3810 - Introduction to Probability and Statistics

Options

Each Mathematics major will choose one of the following options to complete in addition to the Core mathematics courses.

Pure Math

- MATH 4040 - Senior Math Seminar
- MATH 4140 - Modern Algebra I
- MATH 4310 - Modern Analysis I
- Complete 9 additional credit hours of elected Mathematics courses numbered 4000 or higher.

4000+ level Course Recommendations

Student interested in pursuing a graduate degree in pure math are advised to take the following courses.

- MATH 4130 - Linear Algebra I
- MATH 4150 - Modern Algebra II
- MATH 4320 - Modern Analysis II

Applied Mathematics

- MATH 4040 - Senior Math Seminar
- MATH 4310 - Modern Analysis I
- MATH 4470 - Methods of Applied Mathematics
- MATH 4650 - Numerical Analysis
- PES 1110 - General Physics I - Calculus Based

- PES 1120 - General Physics II
 - PES 1160 - Advanced Physics Lab I
- Complete one of the following Computer Science course sequences.
- CS 1120 - Computational Thinking with Beginning Programming
 - CS 2060 - Programming with C
- or
- CS 1150 - Principles of Computer Science
 - CS 1450 - Data Structures and Algorithms
- Complete 6 additional credit hours of elected Mathematics courses numbered 4000 or higher.

4000+ level Course Recommendations

Students interested in pursuing a graduate degree in applied mathematics or a career in industry are advised to take at least two of the following courses.

A graduate degree in applied math OR a career in industry:

- MATH 4430 - Ordinary Differential Equations
- MATH 4450 - Complex Variables

A graduate degree in applied science:

- MATH 4130 - Linear Algebra I
- MATH 4320 - Modern Analysis II

A career in industry:

- MATH 3670 - Introduction to Scientific Computation
- MATH 4420 - Optimization
- MATH 4480 - Mathematical Modeling
- MATH 4670 - Scientific Computation I
- MATH 4850 - Stochastic Modeling

Statistics

- MATH 4040 - Senior Math Seminar
- MATH 4810 - Mathematical Statistics I
- MATH 4820 - Mathematical Statistics II
- MATH 4850 - Stochastic Modeling
- Complete 6 additional credit hours of elected Mathematics courses numbered 4000 or higher.

4000+ level Course Recommendations

Students interested in pursuing a graduate degree in statistics are advised to take the following courses.

- MATH 4130 - Linear Algebra I
- MATH 4310 - Modern Analysis I
- MATH 4320 - Modern Analysis II


Secondary Teaching

- MATH 3210 - Introduction to Geometry
 - MATH 3480 - Functions and Modeling
- Complete 9 credit hours of elected Mathematics courses numbered 4000 or higher, including at least one of the following.
- MATH 4140 - Modern Algebra I
 - MATH 4310 - Modern Analysis I
- Complete the courses required for the UCCSTeach program.
- UTED 1010 - Step I: Inquiry Approaches to Teaching
 - UTED 1020 - Step II: Inquiry-Based Lesson Design
 - UTED 2010 - Knowing and Learning in Mathematics and Science
 - UTED 3020 - Classroom Interactions
 - UTED 4710 - Project-Based Instruction
 - UTED 4720 - Reading in the Content Area
 - UTED 4730 - Apprentice Teaching UCCS Teach and Seminar
 - UTLS 3030 - Perspectives on Science and Math
 - PSY 1000 - General Psychology
- Complete one of the following.
- PHIL 1000 - Introduction to Philosophy
 - PHIL 1020 - Introduction to Ethics
 - PHIL 1120 - Critical Thinking

Flexible

- MATH 4040 - Senior Math Seminar
- Complete 15 additional credit hours of elected Mathematics courses numbered 4000 or higher, including at least one of the following.
- MATH 4130 - Linear Algebra I
 - MATH 4140 - Modern Algebra I
 - MATH 4310 - Modern Analysis I

Applied Mathematics, MS

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The Department of Mathematics offers a strong graduate program leading to the Master of Science (MS) in Applied Mathematics. Specific areas of study currently available include probability and statistics, differential equations, applied analysis, algebra, and coding theory.

Student Learning Outcomes

- Students will understand core graduate mathematics material and students must demonstrate substantial comprehension of Linear Algebra and Analysis, the common core subjects required of all students in the program.
- Competence in written and oral communication is essential for most mathematical careers. Such communication skills are also important in many other aspects of life, therefore students will be able to deliver written and oral presentations demonstrating comprehension of complex mathematical content and the ability to communicate that complex mathematical content to a broad audience (general department faculty and graduate students).
- The program prepares students for a variety of mathematical careers. The current program has four identified tracks: computational and applied mathematics, education, business and management, and PhD preparation. Students should be prepared for employment requiring mathematical skill and sophistication at the Master's level.
- Students shall develop a more sophisticated view of mathematics than is achieved in the undergraduate program. The opportunity for sophisticated learning comes both in and outside the classroom. Student exposure to mathematical research and advanced applications is an important aspect of this goal.
- Students successfully completing the PhD preparation track should be able to enter quality doctoral programs with a reasonable probability of success.
- Students should have the opportunity to hear research talks in seminars and colloquia, and participate in research projects (this might come through on campus employment, independent study, or thesis work). Students are strongly encouraged to attend our biweekly colloquium.

Admission Requirements

The admission criteria include but are NOT limited to the following requirements. Any decision regarding admission is made by the Graduate Committee on an individual basis, after taking into consideration the application material and supporting documents.

- Bachelor's degree in mathematics (or a Bachelor's degree in some other field, with extensive coursework in mathematics), including a course in Real Analysis comparable to the UCCS course MATH 4310 Modern Analysis I.
- A minimum grade point average of 3.0. Under special circumstances, students may be admitted with a lower grade point average (or without a course in analysis) as provisional degree students.

Please refer to the Graduate School admissions requirements.

Graduate Teaching Fellowships

A limited number of teaching assistantships are available. For information contact the graduate advisor of the Department of Mathematics. Typically, students requesting assistantships should indicate this three months prior to the application deadline for the intended semester.

Applied Mathematics, MS-Tracks

To respond to the needs of both students and employers, the Mathematics department has organized this degree program into a system of four tracks, which are intended to help students develop their programs of study.

- PhD preparation track
- Applied and computational mathematics track
- Education track
- Business and management track

Detailed information about the tracks may be found on our website. Customized programs of study are also available.

General Requirements

- A 3.0 grade point average in all coursework applied towards the degree.
- All degree courses must be part of an approved plan of study which is developed by the student and approved by the advisor (Chair of the Graduate Committee) within the first semester after being admitted to the program. This plan may be revised at any time with the approval of the advisor. The plan will require students to demonstrate some cohesiveness in the courses chosen, or to demonstrate a clear subject area of concentration.
- Students completing one of the four existing tracks of study will automatically fulfill the requirements for the MS Applied Math degree.
- At least 30 credit hours of approved graduate work, including MATH 5130 Linear Algebra I and MATH 5320 Modern Analysis II. All students must pass the comprehensive examination in Modern Analysis.
- Courses will have graduate rank only they are at the 5000 level or higher and are taught by members of the graduate school faculty.
- A student may complete up to 12 credit hours of appropriate graduate coursework in departments other than the Department of Mathematics, as part of the tracks program. Such courses MUST be PRE-approved by the advisor.
- Students may select a thesis or non-thesis option. Students pursuing the thesis option will replace up to 6 credit hours of courses with a Master's thesis.
- All students must make an oral presentation regarding some aspect of advanced mathematics. For students pursuing the thesis option, the thesis defense will qualify as such a presentation.

The department graduate committee must approve exceptions to these requirements.

Course Requirements

PhD Preparation Track

- MATH 5130 - Linear Algebra I
- MATH 5150 - Modern Algebra II
- MATH 5320 - Modern Analysis II
- MATH 5330 - Real Analysis I
- MATH 5450 - Complex Variables

Complete the following. (Other 5000-level MATH courses may be substituted with the approval of the graduate advisor).

- MATH 5170 - Rings and Modules I
- MATH 5270 - Algebraic Coding Theory
- MATH 5430 - Ordinary Differential Equations
- MATH 5620 - Complex Analysis II
- MATH 5850 - Stochastic Modeling

Applied Computational Mathematics Track

- MATH 5130 - Linear Algebra I
- MATH 5320 - Modern Analysis II
- MATH 5420 - Optimization
- MATH 5430 - Ordinary Differential Equations
- MATH 5470 - Methods of Applied Mathematics
- MATH 5650 - Numerical Analysis
- MATH 5670 - Scientific Computation I
- MATH 5850 - Stochastic Modeling
- MATH 5900 - Graduate Seminar
- Complete elective MATH courses to fulfill total credit hour and thesis/non-thesis requirements as part of a plan of study created in consultation with the Mathematics Graduate Advisor.

Education Track

- MATH 5130 - Linear Algebra I
- MATH 5210 - Differential Geometry
- MATH 5320 - Modern Analysis II
- MATH 5820 - Mathematical Statistics II

Elective Strategies

After successfully passing the core list of courses above, the student must complete 12 additional graduate credit hours in mathematics. It is important to develop some depth in the areas of algebra, analysis, applied mathematics, geometry or probability. To that end, each student should specialize in two of the following areas by taking at least one course in each of the areas. Elective strategy should be decided with the Mathematics Graduate Advisor.

Algebra

- MATH 5150 - Modern Algebra II
- MATH 5170 - Rings and Modules I
- MATH 5270 - Algebraic Coding Theory

Analysis

- MATH 5330 - Real Analysis I
- MATH 5350 - Applied Functional Analysis
- MATH 5420 - Optimization
- MATH 5430 - Ordinary Differential Equations
- MATH 5450 - Complex Variables
- MATH 5620 - Complex Analysis II

Applied Mathematics and Computing

- MATH 5470 - Methods of Applied Mathematics
- MATH 5480 - Mathematical Modeling
- MATH 5520 - Perturbation Theory in Astrodynamics
- MATH 5650 - Numerical Analysis
- MATH 5840 - Computer Vision

Geometry

- MATH 5210 - Differential Geometry
- MATH 5230 - Fractal Geometry
- MATH 5250 - Introduction to Chaotic Dynamical Systems

Probability and Statistics

- MATH 5830 - Linear Statistical Models
- MATH 5850 - Stochastic Modeling
- MATH 5910 - Theory of Probability I

Business and Management Track


- MATH 5130 - Linear Algebra I
- MATH 5320 - Modern Analysis II
- MATH 5810 - Mathematical Statistics I
- MATH 5820 - Mathematical Statistics II
- Complete two of the following Mathematics specialty courses.
- MATH 4480 - Mathematical Modeling
- MATH 5420 - Optimization
- MATH 5430 - Ordinary Differential Equations
- MATH 5650 - Numerical Analysis

Additional required courses for Actuarial or Finance options.

- MATH 5850 - Stochastic Modeling

Complete two of the following.

- ECON 4010 - Advanced Microeconomic Theory
- ECON 4020 - Advanced Macroeconomic Theory
- FNCE 4000 - Advanced Corporate Finance
- FNCE 4100 - Cases and Concepts in Finance

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UCCS Graduate Executive Committee
September 9, 2016

Proposal

The accounting faculty would like to eliminate the comprehensive examination requirement from the Master of Science in Accounting program.

Justifications

- A comprehensive examination is not a UCCS graduate degree requirement
 - **“Most** (emphasis added) master’s degree programs require a comprehensive examination or a thesis defense after the other requirements for the degree have been substantially completed.”
 - UCCS Graduate School Policies and Procedures, Article V, Section E.
- Our UCCS Master of Business Administration program does not have a comprehensive examination (or thesis requirement)
- Most graduate accounting programs at peer universities do not have a comprehensive examination
 - Only 1 out of 31 universities (University of Nebraska-Omaha) has a graduate program comprehensive examination requirement
 - See attachment
- Significant assessment of the MSA program is still required
 - The program is assessed annually for AACSB (Association to Advance Collegiate Schools of Business) purposes (see attachment)
 - Most MSA students are CPA-track, so CPA pass rates are also available for assessment purposes
- Faculty resource constraints

Attachment
Peer School Comparison

School	Comprehensive Examination	Capstone Accounting Course	Neither	Notes:
Bridgewater State University		X		AACSB
California State University-East Bay		X		AACSB
Cleveland State University			X	AACSB
CUNY Bernard Baruch College			X	
CUNY Brooklyn College			X	
CUNY City College				no accounting graduate program
CUNY College of Staten Island		X		AACSB
Florida Atlantic University			X	AACSB
Montclair State University		X		AACSB
New Jersey Institute of Technology				no accounting graduate program
Northern Kentucky University			X	AACSB
Oakland University (Michigan)		X		AACSB
Portland State University				no accounting graduate program
Rowan University				AACSB, MBA w/Accounting only
Rutgers University-Newark			X	AACSB
Salem State University				no accounting graduate program
Sonoma State University				no accounting graduate program
SUNY - Buffalo State				no accounting graduate program
Texas A & M-Corpus Christi			X	AACSB
University of Tennessee - Chattanooga				AACSB
University of Texas at El Paso			X	AACSB
University of Central Oklahoma			X	ACBSP
University of Maryland-Baltimore County		X		AACSB
University of Massachusetts-Boston		X		AACSB
University of Michigan-Dearborn			X	AACSB
University of Missouri-St. Louis			X	AACSB
University of Nebraska-Omaha	X			AACSB
University of North Carolina at Charlotte			X	AACSB
University of North Florida			X	AACSB
West Chester University of Pennsylvania				no accounting graduate program
Wichita State University			X	AACSB

Attachment

MSA Program - Student Learning Goals and Assessment Plan

Our student learning goals are as follows:

- Learning Goal 1: **Technical Competency**. Students will be expected to demonstrate technical competencies and professional knowledge in financial accounting, auditing, and taxation.
- Learning Goal 2: **Critical Thinking**. Students will be expected to demonstrate critical thinking in accounting contexts.
- Learning Goal 3: **Ethics**. Students will be expected to demonstrate the ability to recognize ethical and professional obligations of accountants.
- Learning Goal 4: **Communication Skills**. Students will be expected to demonstrate the ability to communicate both orally and in writing.

The relation between the MSA program learning goals and the required accounting courses is shown in the following table.

MSA Learning Goals	Courses Measured In
Learning Goal 1: Technical Competency :	End of Program Assessment Instrument
Learning Goal 2: Critical Thinking :	Federal Tax Research and Planning (C)
Learning Goal 3: Ethics :	End of Program Assessment Instrument
Learning Goal 4: Communication Skills :	Oral: Federal Tax Research and Planning (C) Written: End of Program Assessment Instrument

C=Course Embedded

Learning goals approved by accounting faculty on March 17, 2016.