Ogden College of Science and Engineering
Western Kentucky University
Office of the Dean
745-6371

REPORT TO THE GRADUATE COUNCIL COMMITTEE

DATE: November 21, 2014

FROM: Ogden College of Science and Engineering

Ogden College of Science and Engineering Committee Members: Dr. Ferhan Atici, Dr. Rajalingam Dakshinamurthy, Dr. Fred DeGraves, Dr. Sanju Gupta, Dr. David Keeling, Dr. John Khouryieh, Dr. Sharon Mutter, Dr. Shane Palmquist, Dr. Michael Smith, Dr. Zhonghang Xia

Chair: Dr. Cathleen Webb

The Ogden College of Science and Engineering submits the following items for consideration at the October meeting:

Consent	**Proposal to Revise Course Prerequisites/Co-requisites** Math 512, Geometry from an Advanced Perspective Contact Person: Hope Marchionda, hope.marchionda@wku.edu, 5-2961
Action	**Proposal to Revise a Program** Math 049, Master of Arts in Mathematics Contact Person: Hope Marchionda, hope.marchionda@wku.edu, 5-2961

MINUTES – OCSE Graduate Curriculum Committee **October 24th, 2014**

Members Present: Dr. David Keeling, Dr. Sanju Gupta, Dr. John Khouryieh, Dr. Sharon Mutter, Dr. Zhonghang Xia, Dr. Shane Palmquist, Dr. Fred DeGraves, Dr. Michael Smith, Dr. Ferhan Atici

Dr. Cathleen Webb was given proxy for Dr. David Keeling

Dr. Cathleen Webb, Chair

This meeting was held via email

OLD BUSINESS
Smith/Mutter moved for approval of minutes from September 2014. Motion approved.

NEW BUSINESS

Consent Agenda
Smith/Mutter moved for approval to bundle and approve the consent items. Motion approved.

Action Agenda
Smith/Mutter moved for approval of BIOL 534. Motion approved.

Meeting was adjourned at 3:55 via email

Proposal Date: 9/5/2014

Ogden College of Science and Engineering
Department of Mathematics
Proposal to Revise Course Prerequisites/Co-requisites
(Consent Item)

Contact Person: Hope Marchionda, hope.marchionda@wku.edu, 5-2961

1. **Identification of course:**
   - 1.1 Course prefix (subject area) and number: MATH 512
   - 1.2 Course title: Geometry from an Advanced Perspective

2. **Current prerequisites/corequisites/special requirements:**
   Admission to the Master of Arts in Mathematics program or permission of instructor.

3. **Proposed prerequisites/corequisites/special requirements:**
   MATH 511with a C or better or permission of instructor.

4. **Rationale for the revision of prerequisites/corequisites/special requirements:**
   Many of the concepts and notation used in MATH 511 are considered prerequisite knowledge for MATH 512. As a result, students will benefit from taking MATH 511 prior to MATH 512.

5. **Effect on completion of major/minor sequence:**
   We offer at least two graduate level mathematics courses that students can choose to take each semester, so the change in the prerequisite should not delay completion of the program.

6. **Proposed term for implementation:**
   Fall 2015

7. **Dates of prior committee approvals:**

Mathematics Department	**10/24/14**
Ogden College Graduate Committee	
Professional Education Council	
Graduate Curriculum Committee	
University Senate	

Proposal Date: 10/13/14

Ogden College of Science & Engineering
Mathematics Department
Proposal to Revise a Program
(Action Item)

Contact Person: Hope Marchionda, hope.marchionda@wku.edu, 5-2961

1. Identification of program:

1.1 Current program reference number: 049
1.2 Current program title: Master of Arts in Mathematics
1.3 Credit hours: 30-34

2. Identification of the proposed program changes:

- Replace TCHL 540 Classroom Instruction: Instructional Strategies (1 hour), TCHL 544 Classroom Instruction: Equitable School and Community Partnerships (1 hour), and TCHL 548 Classroom Instruction: Managing the Learning Environment (1 hour) with TCHL 545: Classroom Instructional Strategies (3 hours).
- Replace TCHL 550 Student Assessment I: Fundamentals of Student Assessment (1 hour), TCHL 554 Student Assessment II: Standardized Testing (1 hour), and TCHL 558 Student Assessment III: Classroom Tests and Instruments (2 hours) with TCHL 555: School and Classroom Assessment (3 hours).
- Add new course TCHL 559 Action Research Design (1 hour)
- Increase the required number of Secondary Education hours from 12-16 to 13-16 and increase the total number of program hours from 30-34 hours to 31-34 hours.
- Reword the statement regarding proficiency evaluations to clarify what exams were now available because of the new course requirements listed above.
- Reword the secondary mid-point assessment requirements to align with a previous revision of the MAE program in 2012 and eliminate confusion for students enrolled in the MA in Mathematics program.

3. Detailed program description:

Current Program	Proposed Program (proposed revision are noted in bold text)
This online program is intended for students who are secondary teachers who already hold teacher certification and are seeking rank change through attainment of a Master's degree. This degree does not give a student initial teacher certification, nor is it intended to prepare a student for doctoral studies in	This online program is intended for students who are secondary teachers who already hold teacher certification and are seeking rank change through attainment of a Master's degree. This degree does not give a student initial teacher certification, nor is it intended to prepare a student for doctoral studies in

mathematics. To be admitted to the M.A. program, students must meet the following criteria: (1) satisfy one of the following conditions: • have a GAP score of at least 600, • have a GRE general score of at least 300, or • if students have graduated from WKU with a degree in mathematics, a GPA of at least 3.3 in their undergraduate major. (2) a bachelor's degree in mathematics, OR the completion of the following undergraduate courses, with at most one deficiency: (a) a calculus sequence through multivariable calculus, (b) linear algebra, (c) discrete mathematics, (d) probability or calculus-based statistics, (e) abstract algebra, and (f) geometry. Applicants must also have or be eligible for a teaching certificate* for Secondary Mathematics (Grades 8-12). A copy of the certificate or statement of eligibility must be submitted with the application. *Kentucky teachers whose certificates have expired may be admitted into the program, but they may enroll in no more than six hours before they must apply to the Kentucky Education Professional Standards Board for re-issued certificates. After completion of six hours, a student admitted with an expired certificate must submit a copy of the re-issued certificate before being allowed to register for any additional courses. Applicants from out-of-state with expired certificates must complete the requirements for their respective states to	mathematics. To be admitted to the M.A. program, students must meet the following criteria: (1) satisfy one of the following conditions: • have a GAP score of at least 600, • have a GRE general score of at least 300, or • if students have graduated from WKU with a degree in mathematics, a GPA of at least 3.3 in their undergraduate major. (2) a bachelor's degree in mathematics, OR the completion of the following undergraduate courses, with at most one deficiency: (a) a calculus sequence through multivariable calculus, (b) linear algebra, (c) discrete mathematics, (d) probability or calculus-based statistics, (e) abstract algebra, and (f) geometry. Applicants must also have or be eligible for a teaching certificate* for Secondary Mathematics (Grades 8-12). A copy of the certificate or statement of eligibility must be submitted with the application. *Kentucky teachers whose certificates have expired may be admitted into the program, but they may enroll in no more than six hours before they must apply to the Kentucky Education Professional Standards Board for re-issued certificates. After completion of six hours, a student admitted with an expired certificate must submit a copy of the re-issued certificate before being allowed to register for any additional courses. Applicants from out-of-state with expired certificates must complete the requirements for their respective states to

renew their certificates and submit a copy of the reissued certificate.	renew their certificates and submit a copy of the reissued certificate.
Mathematics – 18 hours 1. The following courses are required: MATH 501 Introduction to Probability and Statistics I MATH 503 Introduction to Analysis MATH 511 Algebra from an Advanced Perspective MATH 512 Geometry from an Advanced Perspective 2. Six hours of elective mathematics courses from the following list: MATH 405G, 406G, 409G, 415G, 417G, 421G, 423G, 431G, 432G, 435G, 439G, 450G, 470G, 475G, 500, 504, 509, 510, 514, 517, 523, 529, 531, 532, 535, 536, 539, 540, 541, 542, 550, 560, 570, 590, 599, STAT 549. A maximum of 9 hours at the 400G-level may be included in the entire program. Comprehensive exams in mathematics are required. A student who chooses to do a thesis is required to complete 6 hours of MATH 599 Thesis Research and Writing and to give an oral defense of the thesis.	**Mathematics – 18 hours** 1. The following courses are required: MATH 501 Introduction to Probability and Statistics I MATH 503 Introduction to Analysis MATH 511 Algebra from an Advanced Perspective MATH 512 Geometry from an Advanced Perspective 2. Six hours of elective mathematics courses from the following list: MATH 405G, 406G, 409G, 415G, 417G, 421G, 423G, 431G, 432G, 435G, 439G, 450G, 470G, 475G, 500, 504, 509, 510, 514, 517, 523, 529, 531, 532, 535, 536, 539, 540, 541, 542, 550, 560, 570, 590, 599, STAT 549. A maximum of 9 hours at the 400G-level may be included in the entire program. Comprehensive exams in mathematics are required. A student who chooses to do a thesis is required to complete 6 hours of MATH 599 Thesis Research and Writing and to give an oral defense of the thesis.
Secondary Education – 12-16 hours This program is designed to develop Teacher Leaders who can positively impact student learning in their classrooms and schools. Courses and experiences include Professional Learning Communities in which students interact with other graduate students from various content areas and grade levels to discuss and work on real world challenges and promising practices they encounter in schools. An Action Research Project for Teacher Leaders focusing on a classroom, school, or district issue is the capstone for the completion	**Secondary Education – 13-16 hours** This program is designed to develop Teacher Leaders who can positively impact student learning in their classrooms and schools. Courses and experiences include Professional Learning Communities in which students interact with other graduate students from various content areas and grade levels to discuss and work on real world challenges and promising practices they encounter in schools. An Action Research Project for Teacher Leaders focusing on a classroom, school, or district issue is the capstone for the completion

of the Secondary Education portion of the degree. During the first course in the program, TCHL 500 Foundations of Teacher Leadership, students will complete an assessment process that will be used in determining which TCHL core courses they must take (see Important Note below). All students must either complete TCHL 540, 544, 548, 550, 554, and 558 or pass proficiency evaluations for these courses. TCHL 500, 530, and 560 are required for all students, and there are no proficiency evaluations that may be substituted for these courses. Important Note: While enrolled in TCHL 500, master's candidates will use several documents, including their KTIP assessments or in-kind examples, dispositions self-surveys, referrals from school personnel, and their respective School Improvement Plan, to develop with their respective program advisors individualized programs of study of 30-34 hours related to Kentucky Teacher Standards and professional goals. Each student's program of study will include some or all of the TCHL courses, at least one content course specific to their initial teaching certification areas, plus additional education-related or content courses. 1. Professional Education Core – 9-16 hours. Courses denoted with an asterisk are required courses. *TCHL 500 – Foundations of Teacher Leadership (3 hours) *TCHL 530 – Curriculum Development (3 hours) ~~TCHL 540 – Classroom Instruction: Instructional Strategies (1 hour)~~ ~~TCHL 544 – Classroom Instruction: Equitable School and Community Partnerships (1 hour)~~ ~~TCHL 548 – Classroom Instruction: Managing the Learning Environment (1~~	of the Secondary Education portion of the degree. During the first course in the program, TCHL 500 Foundations of Teacher Leadership, students will complete an assessment process that will be used in determining which TCHL core courses they must take (see Important Note below). **All students must complete either TCHL 545 and 555 or pass proficiency evaluations for these courses.** TCHL 500, 530, **559**, and 560 are required for all students, and there are no proficiency evaluations that may be substituted for these courses. Important Note: While enrolled in TCHL 500, master's candidates will use several documents, including their KTIP assessments or in-kind examples, dispositions self-surveys, referrals from school personnel, and their respective School Improvement Plan, to develop with their respective program advisors individualized programs of study of **31-34** hours related to Kentucky Teacher Standards and professional goals. Each student's program of study will include some or all of the TCHL courses, at least one content course specific to their initial teaching certification areas, plus additional education-related or content courses. 1. Professional Education Core – 10-16 hours. Courses denoted with an asterisk are required courses. *TCHL 500 – Foundations of Teacher Leadership (3 hours) *TCHL 530 – Curriculum Development (3 hours) **TCHL 545 Classroom Instructional Strategies and Management (3 hours)** **TCHL 555 School and Classroom Assessment (3 hours)** ***TCHL 559 Action Research Design (1 hour)**

~~hour)~~ ~~TCHL 550 – Student Assessment I: Fundamentals of Student Assessment (1 hour)~~ ~~TCHL 554 – Student Assessment II: Standardized Testing (1 hour)~~ ~~TCHL 558 – Student Assessment III: Classroom Tests and Instruments (2 hours)~~ *TCHL 560 – Action Research Capstone for Teacher Leaders (3 hours) 2. Education Electives – 0-3 hours. Students who successfully complete the proficiency examinations for ~~TCHL 540, TCHL 544, TCHL 548, TCHL 550, TCHL 554, and/or TCHL 558~~ may substitute another education course with advisor approval. TCHL 520 Principles of Action Research for Teacher Leaders is strongly recommended. Secondary Education Mid-Point Assessment Requirements: ~~To ensure that all master's candidates are proficient on Advanced Level Kentucky Teacher Standards, all Critical Performances associated with the above TCHL courses must be completed, even if a candidate's program of studies does not include the courses. Except for TCHL 560, which should be taken toward the end of their program, candidates may only complete 6 hours in their Specialization Component before they have taken all TCHL courses and/or uploaded all Critical Performances and have achieved an average score of 3.0 on all performances and an average score of 3 on dispositions. Additional course work may be required based on the assessment results.~~ Secondary Education Completion Requirements: 1. Successfully complete TCHL 560 (Course grade of C or higher).	*TCHL 560 – Action Research Capstone for Teacher Leaders (3 hours) 2. Education Electives – 0-3 hours. **Students who successfully complete the proficiency examinations for TCHL 545 or TCHL 555 may graduate with 31 hours. However, students who successfully complete the proficiency examinations for TCHL 545 and TCHL 555 must substitute at least one education course with advisor approval to have a minimum of 31 hours to graduate.** Secondary Education Mid-Point Assessment Requirements: **Students are expected to enroll in TCHL 500 at the beginning of their program and in TCHL 560 toward the end. Students should consult with their advisors regarding the optimal sequence of course work to meet their professional goals. Students must achieve an average of 3.0 on all Critical Performances and an average score of 3 on dispositions even though a candidate's program of studies does not include the courses. Additional course work may be required based on the assessment results.** Secondary Education Completion Requirements: 1. Successfully complete TCHL 560 (Course grade of C or higher). 2. Give acceptable presentation of action research in approved venue. 3. Achieve a minimum 3.0 GPA overall and in secondary education course work.

2. Give acceptable presentation of action research in approved venue. 3. Achieve a minimum 3.0 GPA overall and in secondary education course work.	

4. Rationale for the proposed program change:

- Beginning in the fall of 2015, the School of Teacher Education will no longer offer courses that are part of the MA in Mathematics program. As a result, TCHL 540, TCHL 544, and TCHL 548 are being replaced with TCHL 545, and TCHL 550, TCHL 554, and TCHL 558 are being replaced with TCHL 555.
- The School of Teacher Education has created TCHL 559 which will serve as a prerequisite for TCHL 560. TCHL 560 is a required course in the MA in Mathematics program; therefore, TCHL 559 must be added to the program.
- The number of hours required in the secondary education component will increase from 12-16 to 13-16 to reflect the addition of TCHL 559 as a required course that cannot be replaced by taking a proficiency exam. This also increases the total number of hours from 30-34 to 31-34.
- It was also necessary to change the wording regarding proficiency evaluations to clarify what exams were now available because of the new course offerings.
- The last change was a rewording of the secondary mid-point assessment requirements to align with a previous revision of the MAE program in 2012 and eliminate confusion for students enrolled in the MA in Mathematics program.

All of these changes will align the MA in Mathematics program with the changes that have already been implemented in the School of Teacher Education during the last semester.

5. Proposed term for implementation and special provisions (if applicable):
Fall 2015

6. Dates of prior committee approvals:

Mathematics Department	**10/25/14**
Ogden College Graduate Committee	
Professional Education Council	
Graduate Curriculum Committee	
University Senate	