Graduate Council

Agenda—April 14, 2016
Special Time – 2:00
Academic Affairs Conference RM 239

I. Call to Order: 2:00

II. Consideration of March 17, 2016 minutes

III. Committee Reports

a. Curriculum Committee: Report included, Discussion

b. Student Research Grants Committee:

i. No report included (report to follow)
ii. Discussion regarding April Grants

c. Policy Committee:

i. Graduate Council Elections
ii. No report included, Discussion regarding upcoming committee meeting regarding Faculty Handbook changes.

IV. Report from Dean of the Graduate School

V. Public Comments

VI. Announcements & Adjourn

Graduate Council Program and Curriculum Committee (GCC)

Report to the Graduate Council

Date: April 14, 2016
From: Marge Maxwell, Chair, Program and Curriculum Committee

Consent Agenda Report. The GCC submits the following consent items from its April 5, 2016, meeting for approval by the Graduate Council.

1. Delete a Course
   ENV 410G Water Treatment Processes
   ENV 495G Environmental Measurement

2. Delete a Program
   164 Communication Disorders, Planned Sixth Year/Rank 1 Certification

3. Suspend a Program
   0443 Art Education Teacher Leaders

4. Create a New Course
   CS 555, Data Sciences

5. Revise Course
   EDLD 794, Educational Leadership Seminar
   AMS 510, Emerging Technologies
   AMS 520, Resource Management
   AMS 530, Automated Data Collection Systems
   AMS 535, Workforce Development
   AMS 540, Theory of Constraints
   AMS 571, Research Methods in Technology Management
   AMS 580, Six Sigma Quality
   AMS 588, Product Development
   AMS 590, Operations Leadership
   AMS 594, Lean Systems
   AMS 630, Legal and Ethical Issues in Technology
   AMS 650, Supply Chain Management
   AMS 655, Project Management
   AMS 671, Quality Management
   MATH 403G, Geometry for Elementary and Middle School Teachers
   MATH 405G, Numerical Analysis I
   MATH 406G, Numerical Analysis
   MATH 411G, Problem solving for Elementary and Middle School Teachers
   MATH 413G, Algebra and Technology for Middle Grades Teachers
   MATH 415G, Algebra and Number Theory
   MATH 417G, Algebraic Systems
   MATH 421G, Problem Solving for Secondary Teachers
   MATH 423G, Geometry II
   MATH 429G, Probability/Statistics II
   MATH 431G, Intermediate Analysis I

MATH 435G, Partial Differential Equations
MATH 439G, Topology I
MATH 450G, Complex Variables
MATH 470G – Introduction to Operations Research
MATH 482G, Probability & Statistics II
MATH 501 Introduction to Probability and Statistics I
MATH 502, Introduction to Probability and Statistics II
MATH 503, Introduction to Analysis
MATH 504, Application of Technology to Problems in Mathematics
MATH 508, Number Concepts for Elementary and Middle Grades Teachers
MATH 510, Intermediate Statistics
MATH 511, Algebra from an Advanced Perspective
MATH 512, Geometry from an Advanced Perspective
MATH 514, Application and Modeling for Teachers
MATH 517, Topics from Algebra
MATH 529, Applied Probability
MATH 531, Advanced Differential Equations
MATH 532, Real Analysis
MATH 535, Advanced Applied Mathematics
MATH 539, Topology II
MATH 540, Stochastic Processes
MATH 542, Advanced Topics in Discrete Mathematics
MATH 550, Complex Analysis
MATH 570, Topics in Operations Research

6. Revise Program
   092, Psychology – MA
   121, (Concentrations KDP1 and KDP2)
   131, Director of Pupil Personnel Endorsement (KDP1 and KDP2)
   121, (Concentrations IL V1 and IL V2)
   131, (Concentrations IL V1 and IL V2)
   0410, Master of Arts: Applied Economics
   0447, Engineering Technology Management
   MATH 085, Master of Science: in Mathematics

7. New Certificate Program - NA

Action Item: - NA

Course - Suspend/Delete/Reactivate
(Consent)

Date: 2/17/2016
College: College of Health and Human Services
Department: Public Health
Contact Person: Cecilia Watkins, 745-4796, cecilia.watkins@wku.edu

1. **Identification of course or program:**
   a. Current course prefix (subject area) and number: ENV 410G
   b. Course title: Water Treatment Processes

2. **Action (check one):** ____ suspend ___X__ delete _____ reactivate

3. **Rationale:** A course that replaced ENV 410G at the graduate level was created, PH 510 Watershed Management and Science, and is being taught in the Department of Public Health. Currently, the Department does not offer G courses in graduate programs, including the Master of Public Health, Environmental Health and Environmental and Occupational Health Science, M.S. programs.

4. **Effect on programs or other departments:** This course has not been taught in the past five years in the Department and will have no impact on programs or other departments.

5. **Term of implementation:** Fall 2016

2. **Dates of committee approvals:**

Department of Public Health	2/22/2016
CHHS Graduate Curriculum Committee	3/14/2016
Graduate Curriculum Committee	
Graduate Council	
University Senate	

**Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

Course - Suspend/Delete/Reactivate
(Consent)

Date: 2/17/2016
College: College of Health and Human Services
Department: Public Health
Contact Person: Cecilia Watkins, 745-4796, cecilia.watkins@wku.edu

1. **Identification of course or program:**
   1.1 Current course prefix (subject area) and number: ENV 495 G
   1.2 Course title: Environmental Measurement

2. **Action (check one):** ____ suspend ___X__ delete _____ reactivate

3. **Rationale:** ENV 495 G is not needed at the graduate level as environmental measurements are part of other graduate level environmental health courses taught in the Department of Public Health. Measurement tools, concepts, and procedures are presented in specific environmental courses that include PH 510 Watershed Management and Science, PH 571 Air Quality Management, PH 577 Environmental Toxicology, EOHS 570 Industrial Hygiene, and EOHS 572 Environmental and Occupational Epidemiology.

4. **Effect on programs or other departments:** This will have no effect on programs or other departments, as the course has not been taught in seven years. This course is not required as part of any program.

5. **Term of implementation:** Fall 2016

5. **Dates of committee approvals:**

Department of Public Health	2/22/2016
CHHS Graduate Curriculum Committee	3/14/2016
Graduate Curriculum Committee	04/05/2016
Graduate Council	
University Senate	

**Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

Program - Suspend/Delete/Reactivate
(Consent)

Date: September 19, 2015
College: College of Health and Human Services
Department: Communication Sciences and Disorders
Contact Person: Jean Neils-Strunjas, PhD, jean.neils-strunjas@wku.edu 270-745-8998

1. **Identification of course or program:**
   1.1 Program reference number: 164
   1.2 Program title: "Communication Disorders, Planned sixth year/Rank 1 certification"

2. **Action:** ☐ suspend ☒ delete ☐ reactivate

3. **Rationale:** The master's program in speech-language pathology is no longer preparing students for initial teacher certification. In the only other master's program in the state that includes teacher certification as an option for speech-language pathology, the students obtain sufficient credits in that masters' degree program, and therefore do not need a Rank 1 program. Thus, the demand for the program will be diminished.

4. **Effect on programs or other departments:** All admitted students will be able to complete the program in a timeline specified with the Education Professional Standards Board in Kentucky. There should be no effect on other programs or departments.

5. **Term of implementation:** Fall 2016

5. **Dates of committee approvals:**

Department of Communication Sciences & Disorders	September 19, 2015
CHHS Graduate Curriculum Committee	10/16/2015
Professional Education Council	3/16/2016
Graduate Council	
University Senate	

- LETTER TO DEAN -

Program - Suspend/Delete/Reactivate
(Consent)

E.P.S.B.
WITHDRAWN
AS APPROVED

Date: 1/26/2016
College: PCAL
Department: ART
Contact Person: Brent Oglesee, brent.oglesbee@wku.edu, 5-6566

1. **Identification of course or program:**
   1.1 Program reference number: 0443
   1.2 Program title: Master of Arts in Education: Art Education Teacher Leaders

2. **Action:** X☐ suspend ☐ delete ☐ reactivate

3. **Rationale:**
   The university's arts accrediting body (NASAD) has identified this program as significantly under-funded and under-staffed. Its current percentage of art course work is below accrediting standards. Upcoming additional state regulations for Masters in Education programs will further erode the percentage of art content, pressing our program further from compliance expectations. Finally, the few number of students seeking this degree makes it difficult to provide timely course offerings to matriculate students through the program efficiently.

4. **Effect on programs or other departments:**
   A few students (every few years) who have interest in obtaining their Master's degree in Art Education will need to seek it elsewhere. The department's studio faculty will be less burdened, attempting to absorb Master level students in their usual undergraduate teaching loads.

5. **Term of implementation:** Fall of 2016

5. **Dates of committee approvals:**

Department	1/29/2015
College Curriculum Committee	3/3/16
Professional Education Council (if applicable)	3/16/16
Graduate Council	
University Senate	

Create a New Course
(Action)

Date: 2/23/2016
College: Ogden College of Science & Engineering
Department: Computer Science
Contact Person: Zhonghang Xia, Zhonghang.xia@wku.edu, 5-6459

1. Proposed course:

1.1 Course prefix (subject area) and number: CS 555
1.2 Course title: Data Science
1.3 Abbreviated course title: Data Science
(maximum of 30 characters or spaces)
1.4 Credit hours: 3
1.5 Variable credit : No
1.6 Repeatable: No
1.7 Grade type: Standard Letter Grade
1.8 Prerequisites:
1.9 Corequisites: None
1.10 Course description: An introduction to concepts and methods in the emerging field of data science. Algorithms and tools to support problem-focused data-analytic thinking.
1.11 Course equivalency: None

2. Rationale:

2.1 Reason for developing the proposed course:
Our networked world is generating a flood of data that no human, or group of humans, can process fast enough. This data flood has the potential to transform the way business, government, science, and healthcare are carried out. There is significant and growing demand for experienced professionals in these areas. But too few possess the skills needed to use automated analytical tools and cut through the noise to create knowledge from big data.
This course will serve as a fundamental course in the interdisciplinary and emerging field of data science. Students will learn to combine tools and techniques from statistics, computer science, and data visualization to solve problems using data.

2.2 Relationship of the proposed course to other course at WKU:
Some similar content is covered in CS 565 which focuses on modelling and algorithms. However, this new course focuses on data collection, cleaning, reduction, and preparation for analysis.

2.3 Relationship of the proposed course offered in other departments:
There is currently no similar programming-based course offered by in other departments

2.4 Relationship of the proposed course offered in other institutions:
A number of institutions offer undergraduate and graduate courses with similar topics.
University of North Kentucky offers Bachelor of Science in data science. They offer similar topics at different levels in DSC 194, DSC 199, DSC 311, and DSC 421. New York University offers a master program in data science. The program focuses on the development of new methods for data science. They cover similar topics in course DS-GA-1001.

3. Discussion of proposed course:

3.1 Schedule type: C

3.2 Learning Outcomes:

- Understand fundamental principles of using data to get information about an unknown quantity of interest
- Work with existing software tools to analyze structured and unstructured big data
- Apply computational techniques to real-world problems involving large and complex data sets
- Visualize, present and communicate analytical results

3.3 Content outline:

- Understanding data and data science
  - What is data science—state of art of data science
  - Data product and application
- Learning from data
  - Methods and techniques for data science
  - statistics basics
  - Case studies
- Data manipulation
  - Accessing, subsetting and reshaping
  - Sorting, rearranging, merging, grouping, etc.
  - Case studies
- Data representation
  - Variety of data types: unstructured and structured data
  - Data visualization
- Data analysis and interpretation
  - Methods of describing data
  - Data analytics and modeling
  - Case studies
- Big data
  - Big data technology
  - Manipulation of data using Hadoop and Mapreduce

3.4 Student expectations and requirements: Basic probability and statistics

3.5 Tentative texts and course materials: Doing Data Science: Straight Talk from the Frontline, O'Reilly Media; 1 edition (November 3, 2013), ISBN-10: 144935865

4. Budget implications:

4.1 Proposed method of staffing: Current staffing is sufficient

4.2 Special equipment, materials, or library resources needed: None beyond what is already available

5. Term for implementation: Spring 2017

6. Dates of committee approvals:

Computer Science Department	2-23-2016
College Graduate Curriculum Committee	3-9-2016
Graduate Council	
University Senate	

***New course proposals require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

Revise a Course

(Action)

Date: 2/2/2016
College, Department: College of Education & Behavioral Sciences, EDD Program
Contact Person: Tony Norman, tony.norman@wku.edu, 745-3061

1. **Identification of course**
   - 1.1 Course prefix (subject area) and number: EDLD 794
   - 1.2 Course title: Educational Leadership Seminar

2. **Proposed change(s):**
   - 2.1 course number:
   - 2.2 course title:
   - 2.3 credit hours:
   - 2.4 grade type: Pass/Fail (based on instructor's discretion) or A-F; IP
   - 2.5 prerequisites:
   - 2.6 corequisites:
   - 2.7 course description:
   - 2.8 other:

3. **Rationale for revision of course:** As the original course proposal rationale described, *this seminar course allows the Educational Leadership Doctoral Program the flexibility to offer students opportunities to learn about variable specialized topics and current trends in educational leadership. Also, the course provides opportunities for interested WKU faculty across the campus to share an area of expertise with EdD students that may be of variable interest.* With a course of such broad intent and flexibility, it is likely that various instructors of these special seminars might have differing goals/objectives and, thus, prefer maximum grading options.

4. **Term of implementation:** Winter 2017

5. **Dates of committee approvals:**

EDD Leadership Council	02/03/2016
CEBS College Curriculum Committee	03/02/2016 (electronic vote)
Professional Education Council (if applicable)	NA
Graduate Council	
University Senate	

Revise a Course
(Action)

Date: February 9, 2016
College, Department: Ogden, AMS
Contact Person: Mark Doggett, mark.doggett@wku.edu, 270-745-6951

1. **Identification of course**
   - 1.1 Course prefix (subject area) and number: AMS 510
   - 1.2 Course title: Emerging Technologies

2. **Proposed change(s):**
   - 2.1 course number:
   - 2.2 course title:
   - 2.3 credit hours:
   - 2.4 grade type:
   - 2.5 prerequisites: admitted to 0447 or 0452 AMS programs
   - 2.6 corequisites:
   - 2.7 course description:
   - 2.8 other:

3. **Rationale for revision of course:** Current faculty capacity is not able to support the course demand from other majors and non-degree seeking students (17 FTE). Course enrollment will be restricted to allow majors to register for the course first. Any remaining course slots will be granted on an exception basis one week prior to the start of classes.

4. **Term of implementation:** Spring 2017

5. **Dates of committee approvals:**

AMS	2/19/2016
College Graduate Curriculum Committee	3/9/2016
Graduate Council	
University Senate	

**Course revision proposals require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

Revise a Course
(Action)

Date: February 9, 2016
College, Department: Ogden, AMS
Contact Person: Mark Doggett, mark.doggett@wku.edu, 270-745-6951

1. **Identification of course**
   - 1.1 Course prefix (subject area) and number: AMS 520
   - 1.2 Course title: Resource Management

2. **Proposed change(s):**
   - 2.1 course number:
   - 2.2 course title:
   - 2.3 credit hours:
   - 2.4 grade type:
   - 2.5 prerequisites: admitted to 0447 or 0452 AMS programs
   - 2.6 corequisites:
   - 2.7 course description:
   - 2.8 other:

3. **Rationale for revision of course:** Current faculty capacity is not able to support the course demand from other majors and non-degree seeking students (17 FTE). Course enrollment will be restricted to allow majors to register for the course first. Any remaining course slots will be granted on an exception basis one week prior to the start of classes.

4. **Term of implementation:** Spring 2017

5. **Dates of committee approvals:**

AMS	2/19/2016
College Graduate Curriculum Committee	3/9/2016
Graduate Council	
University Senate	

**Course revision proposals require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

Revise a Course
(Action)

Date: February 9, 2016
College, Department: Ogden, AMS
Contact Person: Mark Doggett, mark.doggett@wku.edu, 270-745-6951

1. **Identification of course**
   - 1.1 Course prefix (subject area) and number: AMS 530
   - 1.2 Course title: Automated Data Collection Systems

2. **Proposed change(s):**
   - 2.1 course number:
   - 2.2 course title:
   - 2.3 credit hours:
   - 2.4 grade type:
   - 2.5 prerequisites: admitted to 0447 or 0452 AMS programs
   - 2.6 corequisites:
   - 2.7 course description:
   - 2.8 other:

3. **Rationale for revision of course:** Current faculty capacity is not able to support the course demand from other majors and non-degree seeking students (17 FTE). Course enrollment will be restricted to allow majors to register for the course first. Any remaining course slots will be granted on an exception basis one week prior to the start of classes.

4. **Term of implementation:** Spring 2017

5. **Dates of committee approvals:**

AMS	2/19/2016
College Graduate Curriculum Committee	3/9/2016
Graduate Council	
University Senate	

**Course revision proposals require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

Revise a Course
(Action)

Date: February 9, 2016
College, Department: Ogden, AMS
Contact Person: Mark Doggett, mark.doggett@wku.edu, 270-745-6951

1. **Identification of course**
   - 1.1 Course prefix (subject area) and number: AMS 535
   - 1.2 Course title: Workforce Development

2. **Proposed change(s):**
   - 2.1 course number:
   - 2.2 course title:
   - 2.3 credit hours:
   - 2.4 grade type:
   - 2.5 prerequisites: admitted to 0447 or 0452 AMS programs
   - 2.6 corequisites:
   - 2.7 course description:
   - 2.8 other:

3. **Rationale for revision of course:** Current faculty capacity is not able to support the course demand from other majors and non-degree seeking students (17 FTE). Course enrollment will be restricted to allow majors to register for the course first. Any remaining course slots will be granted on an exception basis one week prior to the start of classes.

4. **Term of implementation:** Spring 2017

5. **Dates of committee approvals:**

AMS	2/19/2016
College Graduate Curriculum Committee	3/9/2016
Graduate Council	
University Senate	

**Course revision proposals require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

Revise a Course
(Action)

Date: February 9, 2016
College, Department: Ogden, AMS
Contact Person: Mark Doggett, mark.doggett@wku.edu, 270-745-6951

1. **Identification of course**
   - 1.1 Course prefix (subject area) and number: AMS 540
   - 1.2 Course title: Theory of Constraints

2. **Proposed change(s):**
   - 2.1 course number:
   - 2.2 course title:
   - 2.3 credit hours:
   - 2.4 grade type:
   - 2.5 prerequisites: admitted to 0447 or 0452 AMS programs
   - 2.6 corequisites:
   - 2.7 course description:
   - 2.8 other:

3. **Rationale for revision of course:** Current faculty capacity is not able to support the course demand from other majors and non-degree seeking students (17 FTE). Course enrollment will be restricted to allow majors to register for the course first. Any remaining course slots will be granted on an exception basis one week prior to the start of classes.

4. **Term of implementation:** Spring 2017

5. **Dates of committee approvals:**

AMS	2/19/2016
College Graduate Curriculum Committee	3/9/2016
Graduate Council	
University Senate	

**Course revision proposals require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

Revise a Course
(Action)

Date: February 9, 2016
College, Department: Ogden, AMS
Contact Person: Mark Doggett, mark.doggett@wku.edu, 270-745-6951

1. **Identification of course**
   - 1.1 Course prefix (subject area) and number: AMS 571
   - 1.2 Course title: Research Methods in Technology Management

2. **Proposed change(s):**
   - 2.1 course number:
   - 2.2 course title:
   - 2.3 credit hours:
   - 2.4 grade type:
   - 2.5 prerequisites: admitted to 0447 or 0452 AMS programs
   - 2.6 corequisites:
   - 2.7 course description:
   - 2.8 other:

3. **Rationale for revision of course:** Current faculty capacity is not able to support the course demand from other majors and non-degree seeking students (17 FTE). Course enrollment will be restricted to allow majors to register for the course first. Any remaining course slots will be granted on an exception basis one week prior to the start of classes.

4. **Term of implementation:** Spring 2017

5. **Dates of committee approvals:**

AMS	2/19/2016
College Graduate Curriculum Committee	3/9/2016
Graduate Council	
University Senate	

**Course revision proposals require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

Revise a Course
(Action)

Date: February 9, 2016
College, Department: Ogden, AMS
Contact Person: Mark Doggett, mark.doggett@wku.edu, 270-745-6951

1. **Identification of course**
   - 1.1 Course prefix (subject area) and number: AMS 580
   - 1.2 Course title: Six Sigma Quality

2. **Proposed change(s):**
   - 2.1 course number:
   - 2.2 course title:
   - 2.3 credit hours:
   - 2.4 grade type:
   - 2.5 prerequisites: admitted to 0447 or 0452 AMS program and AMS 271
   - 2.6 corequisites:
   - 2.7 course description:
   - 2.8 other:

3. **Rationale for revision of course:** Current faculty capacity is not able to support the course demand from other majors and non-degree seeking students (17 FTE). Course enrollment will be restricted to allow majors to register for the course first. Any remaining course slots will be granted on an exception basis one week prior to the start of classes.

   The instructor previously evaluated each student for completion of an undergraduate statistics course and statistical process control course. While many graduate level students have completed some basic statistics, most have not taken statistical process control, which is fundamental for success in this course. AMS 271 satisfies both of these prerequisites and is a required course for undergraduates in AMS programs.

4. **Term of implementation:** Spring 2017

5. **Dates of committee approvals:**

AMS	2/19/2016
College Graduate Curriculum Committee	3/9/2016
Graduate Council	
University Senate	

**Course revision proposals require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

Revise a Course
(Action)

Date: February 9, 2016
College, Department: Ogden, AMS
Contact Person: Mark Doggett, mark.doggett@wku.edu, 270-745-6951

1. **Identification of course**
   - 1.1 Course prefix (subject area) and number: AMS 588
   - 1.2 Course title: Product Development

2. **Proposed change(s):**
   - 2.1 course number:
   - 2.2 course title:
   - 2.3 credit hours:
   - 2.4 grade type:
   - 2.5 prerequisites: admitted to 0447 or 0452 AMS programs
   - 2.6 corequisites:
   - 2.7 course description:
   - 2.8 other:

3. **Rationale for revision of course:** Current faculty capacity is not able to support the course demand from other majors and non-degree seeking students (17 FTE). Course enrollment will be restricted to allow majors to register for the course first. Any remaining course slots will be granted on an exception basis one week prior to the start of classes.

4. **Term of implementation:** Spring 2017

5. **Dates of committee approvals:**

AMS	2/19/2016
College Graduate Curriculum Committee	3/9/2016
Graduate Council	
University Senate	

**Course revision proposals require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

Revise a Course
(Action)

Date: February 9, 2016
College, Department: Ogden, AMS
Contact Person: Mark Doggett, mark.doggett@wku.edu, 270-745-6951

1. **Identification of course**
   - 1.1 Course prefix (subject area) and number: AMS 590
   - 1.2 Course title: Operations Leadership

2. **Proposed change(s):**
   - 2.1 course number:
   - 2.2 course title:
   - 2.3 credit hours:
   - 2.4 grade type:
   - 2.5 prerequisites: admitted to 0447 or 0452 AMS programs
   - 2.6 corequisites:
   - 2.7 course description:
   - 2.8 other:

3. **Rationale for revision of course:** Current faculty capacity is not able to support the course demand from other majors and non-degree seeking students (17 FTE). Course enrollment will be restricted to allow majors to register for the course first. Any remaining course slots will be granted on an exception basis one week prior to the start of classes.

4. **Term of implementation:** Spring 2017

5. **Dates of committee approvals:**

AMS	2/19/2016
College Graduate Curriculum Committee	3/9/2016
Graduate Council	
University Senate	

**Course revision proposals require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

Revise a Course
(Action)

Date: February 9, 2016
College, Department: Ogden, AMS
Contact Person: Mark Doggett, mark.doggett@wku.edu, 270-745-6951

1. **Identification of course**
   - 1.1 Course prefix (subject area) and number: AMS 594
   - 1.2 Course title: Lean Systems

2. **Proposed change(s):**
   - 2.1 course number:
   - 2.2 course title:
   - 2.3 credit hours:
   - 2.4 grade type:
   - 2.5 prerequisites: admitted to 0447 or 0452 AMS programs
   - 2.6 corequisites:
   - 2.7 course description:
   - 2.8 other:

3. **Rationale for revision of course:** Current faculty capacity is not able to support the course demand from other majors and non-degree seeking students (17 FTE). Course enrollment will be restricted to allow majors to register for the course first. Any remaining course slots will be granted on an exception basis one week prior to the start of classes.

4. **Term of implementation:** Spring 2017

5. **Dates of committee approvals:**

AMS	2/19/2016
College Graduate Curriculum Committee	3/9/2016
Graduate Council	
University Senate	

**Course revision proposals require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

Revise a Course
(Action)

Date: February 9, 2016
College, Department: Ogden, AMS
Contact Person: Mark Doggett, mark.doggett@wku.edu, 270-745-6951

1. **Identification of course**
   - 1.1 Course prefix (subject area) and number: AMS 630
   - 1.2 Course title: Legal and Ethical Issues in Technology

2. **Proposed change(s):**
   - 2.1 course number:
   - 2.2 course title:
   - 2.3 credit hours:
   - 2.4 grade type:
   - 2.5 prerequisites: admitted to 0447 or 0452 AMS programs
   - 2.6 corequisites:
   - 2.7 course description:
   - 2.8 other:

3. **Rationale for revision of course:** Current faculty capacity is not able to support the course demand from other majors and non-degree seeking students (17 FTE). Course enrollment will be restricted to allow majors to register for the course first. Any remaining course slots will be granted on an exception basis one week prior to the start of classes.

4. **Term of implementation:** Spring 2017

5. **Dates of committee approvals:**

AMS	2/19/2016
College Graduate Curriculum Committee	3/9/2016
Graduate Council	
University Senate	

**Course revision proposals require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

Revise a Course
(Action)

Date: February 9, 2016
College, Department: Ogden, AMS
Contact Person: Mark Doggett, mark.doggett@wku.edu, 270-745-6951

1. **Identification of course**
   - 1.1 Course prefix (subject area) and number: AMS 650
   - 1.2 Course title: Supply Chain Management

2. **Proposed change(s):**
   - 2.1 course number:
   - 2.2 course title:
   - 2.3 credit hours:
   - 2.4 grade type:
   - 2.5 prerequisites: admitted to 0447 or 0452 AMS programs
   - 2.6 corequisites:
   - 2.7 course description:
   - 2.8 other:

3. **Rationale for revision of course:** Current faculty capacity is not able to support the course demand from other majors and non-degree seeking students (17 FTE). Course enrollment will be restricted to allow majors to register for the course first. Any remaining course slots will be granted on an exception basis one week prior to the start of classes.

4. **Term of implementation:** Spring 2017

5. **Dates of committee approvals:**

AMS	2/19/2016
College Graduate Curriculum Committee	3/9/2016
Graduate Council	
University Senate	

**Course revision proposals require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

Revise a Course
(Action)

Date: February 9, 2016
College, Department: Ogden, AMS
Contact Person: Mark Doggett, mark.doggett@wku.edu, 270-745-6951

1. **Identification of course**
   - 1.1 Course prefix (subject area) and number: AMS 655
   - 1.2 Course title: Project Management

2. **Proposed change(s):**
   - 2.1 course number:
   - 2.2 course title:
   - 2.3 credit hours:
   - 2.4 grade type:
   - 2.5 prerequisites: admitted to 0447 or 0452 AMS programs
   - 2.6 corequisites:
   - 2.7 course description:
   - 2.8 other:

3. **Rationale for revision of course:** Current faculty capacity is not able to support the course demand from other majors and non-degree seeking students (17 FTE). Course enrollment will be restricted to allow majors to register for the course first. Any remaining course slots will be granted on an exception basis one week prior to the start of classes.

4. **Term of implementation:** Spring 2017

5. **Dates of committee approvals:**

AMS	2/19/2016
College Graduate Curriculum Committee	3/9/2016
Graduate Council	
University Senate	

**Course revision proposals require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

Revise a Course
(Action)

Date: February 9, 2016
College, Department: Ogden, AMS
Contact Person: Mark Doggett, mark.doggett@wku.edu, 270-745-6951

1. **Identification of course**
   - 1.1 Course prefix (subject area) and number: AMS 671
   - 1.2 Course title: Quality Management

2. **Proposed change(s):**
   - 2.1 course number:
   - 2.2 course title:
   - 2.3 credit hours:
   - 2.4 grade type:
   - 2.5 prerequisites: admitted to 0447 or 0452 AMS programs
   - 2.6 corequisites:
   - 2.7 course description:
   - 2.8 other:

3. **Rationale for revision of course:** Current faculty capacity is not able to support the course demand from other majors and non-degree seeking students (17 FTE). Course enrollment will be restricted to allow majors to register for the course first. Any remaining course slots will be granted on an exception basis one week prior to the start of classes.

4. **Term of implementation:** Spring 2017

5. **Dates of committee approvals:**

AMS	2/19/2016
College Graduate Curriculum Committee	3/9/2016
Graduate Council	
University Senate	

**Course revision proposals require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

Revise a Course
(Action)

Date: 11/20/2015
College, Department: Ogden, Mathematics
Contact Person: Natasha Gerstenschlager, natasha.gerstenschlager@wku.edu, 5-7048

1. Identification of course
   1.1. Course prefix (subject area) and number: MATH 403G
   1.2. Course title: Geometry for Elementary and Middle School Teachers
2. Proposed change(s):
   2.1. Course number:
   2.2. Course title:
   2.3. Credit hours:
   2.4. Grade type:
   2.5. Prerequisites: Current: MATH 205 and MATH 206 with a grade of C or better OR permission of instructor based on mathematical background and experience.
   Proposed: None
   2.6. Corequisites:
   2.7. Course description:
   2.8. Other:
3. Rational for revision of course:
   Each academic institution has its own unique course number for a given course. Therefore, WKU undergraduate prerequisite course numbers cannot be required for graduate students matriculating from other universities or colleges. The mathematics graduate committee will evaluate undergraduate transcripts for readiness to take this course.
4. Term of implementation
   Spring 2017
5. Dates of committee approvals:

Math Department	1/21/2016
College Graduate Curriculum Committee	3/9/2016
Professional Education Council	3/16/2016
Graduate Council	
University Senate	

**Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

Revise a Course
(Action)

Date: 11/20/2015
College, Department: Ogden, Mathematics
Contact Person: Natasha Gerstenschlager natasha.gerstenschlager@wku.edu, 5-7048

1. Identification of course
   1.1. Course prefix (subject area) and number: MATH 405G
   1.2. Course title: Numerical Analysis I
2. Proposed change(s):
   2.1. Course number:
   2.2. Course title:
   2.3. Credit hours:
   2.4. Grade type:
   2.5. Prerequisites: Current: MATH 237 or MATH 307 or MATH 310; and CS 180 or CS 146 or permission of instructor.
   Proposed: None.
   2.6. Corequisites:
   2.7. Course description:
   2.8. Other:
3. Rational for revision of course:
   Each academic institution has its own unique course number for a given course. Therefore, WKU undergraduate prerequisite course numbers cannot be required for graduate students matriculating from other universities or colleges. The mathematics graduate committee will evaluate undergraduate transcripts for readiness to take this course.
4. Term of implementation
   Spring 2017
5. Dates of committee approvals:

Math Department	1/21/2016
College Graduate Curriculum Committee	3/9/2016
Professional Education Council	3/16/2016
Graduate Council	
University Senate	

**Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar*

Revise a Course
(Action)

Date: 11/20/2015
College, Department: Ogden, Mathematics
Contact Person: Natasha Gerstenschlager, natasha.gerstenschlager@wku.edu, 5-7048

1. Identification of course
   1.1. Course prefix (subject area) and number: MATH 406G
   1.2. Course title: Numerical Analysis II
2. Proposed change(s):
   2.1. Course number:
   2.2. Course title:
   2.3. Credit hours:
   2.4. Grade type:
   2.5. Prerequisites: Current: MATH 237, MATH 307 and MATH 331; and either MATH 405 or CS 405.
   Proposed: None.
   2.6. Corequisites:
   2.7. Course description:
   2.8. Other:
3. Rational for revision of course:
   Each academic institution has its own unique course number for a given course. Therefore, WKU undergraduate prerequisite course numbers cannot be required for graduate students matriculating from other universities or colleges. The mathematics graduate committee will evaluate undergraduate transcripts for readiness to take this course.
4. Term of implementation
   Spring 2017
5. Dates of committee approvals:

Math Department	1/21/2016
College Graduate Curriculum Committee	3/9/2016
Professional Education Council	3/16/2016
Graduate Council	
University Senate	

**Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar*

Revise a Course
(Action)

Date: 11/20/2015
College, Department: Ogden, Mathematics
Contact Person: Natasha Gerstenschlager, natasha.gerstenschlager@wku.edu, 5-7048

1. Identification of course
   1.1. Course prefix (subject area) and number: MATH 411G
   1.2. Course title: Problem solving for Elementary and Middle School Teachers
2. Proposed change(s):
   2.1. Course number:
   2.2. Course title:
   2.3. Credit hours:
   2.4. Grade type:
   2.5. Prerequisites: Current: MATH 205, MATH 206, and MATH 308 with a grade of C or better, OR permission of instructor based on mathematical background and experience.
   Proposed: None.
   2.6. Corequisites:
   2.7. Course description:
   2.8. Other:
3. Rational for revision of course:
   Each academic institution has its own unique course number for a given course. Therefore, WKU undergraduate prerequisite course numbers cannot be required for graduate students matriculating from other universities or colleges. The mathematics graduate committee will evaluate undergraduate transcripts for readiness to take this course.
4. Term of implementation
   Spring 2017
5. Dates of committee approval

Math Department	1/21/2016
College Graduate Curriculum Committee	3/9/2016
Professional Education Council	3/16/2016
Graduate Council	
University Senate	

**Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

Revise a Course
(Action)

Date: 11/20/2015
College, Department: Ogden, Mathematics
Contact Person: Natasha Gerstenschlager, natasha.gerstenschlager@wku.edu, 5-7048

1. Identification of course
   1.1. Course prefix (subject area) and number: MATH 413G
   1.2. Course title: Algebra and Technology for Middle Grades Teachers
2. Proposed change(s):
   2.1. Course number:
   2.2. Course title:
   2.3. Credit hours:
   2.4. Grade type:
   2.5. Prerequisites: Current: MATH 117 or MATH 136 with a grade of C or better OR permission of instructor based on mathematical background and experience.
   Proposed: None.
   2.6. Corequisites:
   2.7. Course description:
   2.8. Other:
3. Rational for revision of course:
   Each academic institution has its own unique course number for a given course. Therefore, WKU undergraduate prerequisite course numbers cannot be required for graduate students matriculating from other universities or colleges. The mathematics graduate committee will evaluate undergraduate transcripts for readiness to take this course.
4. Term of implementation
   Spring 2017
5. Dates of committee approvals:

Math Department	1/21/2016
College Graduate Curriculum Committee	3/9/2016
Professional Education Council	3/16/2016
Graduate Council	
University Senate	

**Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

Revise a Course
(Action)

Date: 11/20/2015
College, Department: Ogden, Mathematics
Contact Person: Natasha Gerstenschlager, natasha.gerstenschlager@wku.edu, 5-7048

1. Identification of course
   1.1. Course prefix (subject area) and number: MATH 415G
   1.2. Course title: Algebra and Number Theory
2. Proposed change(s):
   2.1. Course number:
   2.2. Course title:
   2.3. Credit hours:
   2.4. Grade type:
   2.5. Prerequisites: Current: MATH 315 or MATH 317.
   Proposed: None.
   2.6. Corequisites:
   2.7. Course description:
   2.8. Other:
3. Rational for revision of course:
   Each academic institution has its own unique course number for a given course. Therefore, WKU undergraduate prerequisite course numbers cannot be required for graduate students matriculating from other universities or colleges. The mathematics graduate committee will evaluate undergraduate transcripts for readiness to take this course.
4. Term of implementation
   Spring 2017
5. Dates of committee approvals:

Math Department	1/21/2016
College Graduate Curriculum Committee	3/9/2016
Professional Education Council	3/16/2016
Graduate Council	
University Senate	

**Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar*

Revise a Course
(Action)

Date: 11/20/2015
College, Department: Ogden, Mathematics
Contact Person: Natasha Gerstenschlager, natasha.gerstenschlager@wku.edu, 5-7048

1. Identification of course
   1.1. Course prefix (subject area) and number: MATH 417G
   1.2. Course title: Algebraic Systems
2. Proposed change(s):
   2.1. Course number:
   2.2. Course title:
   2.3. Credit hours:
   2.4. Grade type:
   2.5. Prerequisites: Current: MATH 317.
   Proposed: None.
   2.6. Corequisites:
   2.7. Course description:
   2.8. Other:
3. Rational for revision of course:
   Each academic institution has its own unique course number for a given course. Therefore, WKU undergraduate prerequisite course numbers cannot be required for graduate students matriculating from other universities or colleges. The mathematics graduate committee will evaluate undergraduate transcripts for readiness to take this course.
4. Term of implementation
   Spring 2017
5. Dates of committee approvals:

Math Department	1/21/2016
College Graduate Curriculum Committee	3/9/2016
Professional Education Council	3/16/2016
Graduate Council	
University Senate	

**Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar*

Revise a Course
(Action)

Date: 11/20/2015
College, Department: Ogden, Mathematics
Contact Person: Natasha Gerstenschlager, natasha.gerstenschlager@wku.edu, 5-7048

1. Identification of course
   1.1. Course prefix (subject area) and number: MATH 421G
   1.2. Course title: Problem Solving for Secondary Teachers
2. Proposed change(s):
   2.1. Course number:
   2.2. Course title:
   2.3. Credit hours:
   2.4. Grade type:
   2.5. Prerequisites: Current: MATH 307 and MATH 310; MATH 382 and MATH 323, or permission of instructor.
   Proposed: None.
   2.6. Corequisites:
   2.7. Course description:
   2.8. Other:
3. Rational for revision of course:
   Each academic institution has its own unique course number for a given course. Therefore, WKU undergraduate prerequisite course numbers cannot be required for graduate students matriculating from other universities or colleges. The mathematics graduate committee will evaluate undergraduate transcripts for readiness to take this course.
4. Term of implementation
   Spring 2017
5. Dates of committee approvals:

Math Department	1/21/2016
College Graduate Curriculum Committee	3/9/2016
Professional Education Council	3/16/2016
Graduate Council	
University Senate	

**Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

Revise a Course
(Action)

Date: 11/20/2015
College, Department: Ogden, Mathematics
Contact Person: Natasha Gerstenschlager, natasha.gerstenschlager@wku.edu, 5-7048

1. Identification of course
   1.1. Course prefix (subject area) and number: MATH 423G
   1.2. Course title: Geometry II
2. Proposed change(s):
   2.1. Course number:
   2.2. Course title:
   2.3. Credit hours:
   2.4. Grade type:
   2.5. Prerequisites: Current: MATH 323.
   Proposed: None.
   2.6. Corequisites:
   2.7. Course description:
   2.8. Other:
3. Rational for revision of course:
   Each academic institution has its own unique course number for a given course. Therefore, WKU undergraduate prerequisite course numbers cannot be required for graduate students matriculating from other universities or colleges. The mathematics graduate committee will evaluate undergraduate transcripts for readiness to take this course.
4. Term of implementation
   Spring 2017
5. Dates of committee approvals:

Math Department	1/21/2016
College Graduate Curriculum Committee	3/9/2016
Professional Education Council	3/23/2016
Graduate Council	
University Senate	

**Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar*

Revise a Course
(Action)

Date: 11/20/2015
College, Department: Ogden, Mathematics
Contact Person: Natasha Gerstenschlager, natasha.gerstenschlager@wku.edu, 5-7048

1. Identification of course
   1.1. Course prefix (subject area) and number: MATH 429G
   1.2. Course title: Probability/Statistics II
2. Proposed change(s):
   2.1. Course number:
   2.2. Course title:
   2.3. Credit hours:
   2.4. Grade type:
   2.5. Prerequisites: Current: MATH 237, MATH 382.
   Proposed: None.
   2.6. Corequisites:
   2.7. Course description:
   2.8. Other:
3. Rational for revision of course:
   Each academic institution has its own unique course number for a given course. Therefore, WKU undergraduate prerequisite course numbers cannot be required for graduate students matriculating from other universities or colleges. The mathematics graduate committee will evaluate undergraduate transcripts for readiness to take this course.
4. Term of implementation
   Spring 2017
5. Dates of committee approvals:

Math Department	1/21/2016
College Graduate Curriculum Committee	3/9/2016
Professional Education Council	3/16/2016
Graduate Council	
University Senate	

**Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar*

Revise a Course
(Action)

Date: 11/20/2015
College, Department: Ogden, Mathematics
Contact Person: Natasha Gerstenschlager, natasha.gerstenschlager@wku.edu, 5-7048

1. Identification of course
   1.1. Course prefix (subject area) and number: MATH 431G
   1.2. Course title: Intermediate Analysis I
2. Proposed change(s):
   2.1. Course number:
   2.2. Course title:
   2.3. Credit hours:
   2.4. Grade type:
   2.5. Prerequisites: Current: MATH 337 with a grade of C or better.
   Proposed: None.
   2.6. Corequisites:
   2.7. Course description:
   2.8. Other:
3. Rational for revision of course:
   Each academic institution has its own unique course number for a given course. Therefore, WKU undergraduate prerequisite course numbers cannot be required for graduate students matriculating from other universities or colleges. The mathematics graduate committee will evaluate undergraduate transcripts for readiness to take this course.
4. Term of implementation
   Spring 2017
5. Dates of committee approvals:

Math Department	1/21/2016
College Graduate Curriculum Committee	3/9/2016
Professional Education Council	3/16/2016
Graduate Council	
University Senate	

**Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar*

Revise a Course
(Action)

Date: 11/20/2015
College, Department: Ogden, Mathematics
Contact Person: Natasha Gerstenschlager, natasha.gerstenschlager@wku.edu, 5-7048

1. Identification of course
   1.1. Course prefix (subject area) and number: MATH 435G
   1.2. Course title: Partial Differential Equations
2. Proposed change(s):
   2.1. Course number:
   2.2. Course title:
   2.3. Credit hours:
   2.4. Grade type:
   2.5. Prerequisites: Current: MATH 237, MATH 307, and MATH 331.
   Proposed: None.
   2.6. Corequisites:
   2.7. Course description:
   2.8. Other:
3. Rational for revision of course:
   Each academic institution has its own unique course number for a given course. Therefore, WKU undergraduate prerequisite course numbers cannot be required for graduate students matriculating from other universities or colleges. The mathematics graduate committee will evaluate undergraduate transcripts for readiness to take this course.
4. Term of implementation
   Spring 2017
5. Dates of committee approvals:

Math Department	1/21/2016
College Graduate Curriculum Committee	3/9/2016
Professional Education Council	3/16/2016
Graduate Council	
University Senate	

**Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar*

Revise a Course
(Action)

Date: 11/20/2015
College, Department: Ogden, Mathematics
Contact Person: Natasha Gerstenschlager, natasha.gerstenschlager@wku.edu, 5-7048

1. Identification of course
   1.1. Course prefix (subject area) and number: MATH 439G
   1.2. Course title: Topology I
2. Proposed change(s):
   2.1. Course number:
   2.2. Course title:
   2.3. Credit hours:
   2.4. Grade type:
   2.5. Prerequisites: Current: MATH 317 or permission of instructor.
   Proposed: None.
   2.6. Corequisites:
   2.7. Course description:
   2.8. Other:
3. Rational for revision of course:
   Each academic institution has its own unique course number for a given course. Therefore, WKU undergraduate prerequisite course numbers cannot be required for graduate students matriculating from other universities or colleges. The mathematics graduate committee will evaluate undergraduate transcripts for readiness to take this course.
4. Term of implementation
   Spring 2017
5. Dates of committee approvals:

Math Department	1/21/2016
College Graduate Curriculum Committee	3/9/2016
Professional Education Council	3/16/2016
Graduate Council	
University Senate	

**Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar*

Revise a Course
(Action)

Date: 11/20/2015
College, Department: Ogden, Mathematics
Contact Person: Natasha Gerstenschlager, natasha.gerstenschlager@wku.edu, 5-7048

1. Identification of course
   1.1. Course prefix (subject area) and number: MATH 450G
   1.2. Course title: Complex Variables
2. Proposed change(s):
   2.1. Course number:
   2.2. Course title:
   2.3. Credit hours:
   2.4. Grade type:
   2.5. Prerequisites: Current: MATH 237.
   Proposed: None.
   2.6. Corequisites:
   2.7. Course description:
   2.8. Other:
3. Rational for revision of course:
   Each academic institution has its own unique course number for a given course. Therefore, WKU undergraduate prerequisite course numbers cannot be required for graduate students matriculating from other universities or colleges. The mathematics graduate committee will evaluate undergraduate transcripts for readiness to take this course.
4. Term of implementation
   Spring 2017
5. Dates of committee approvals:

Math Department	1/21/2016
College Graduate Curriculum Committee	3/9/2016
Professional Education Council	3/16/2016
Graduate Council	
University Senate	

**Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar*

Revise a Course
(Action)

Date: 11/20/2015
College, Department: Ogden, Mathematics
Contact Person: Natasha Gerstenschlager, natasha.gerstenschlager@wku.edu, 5-7048

1. Identification of course
   1.1. Course prefix (subject area) and number: MATH 470G
   1.2. Course title: Introduction to Operations Research
2. Proposed change(s):
   2.1. Course number:
   2.2. Course title:
   2.3. Credit hours:
   2.4. Grade type:
   2.5. Prerequisites: Current: MATH 237 and MATH 307.
   Proposed: None.
   2.6. Corequisites:
   2.7. Course description:
   2.8. Other:
3. Rational for revision of course:
   Each academic institution has its own unique course number for a given course. Therefore, WKU undergraduate prerequisite course numbers cannot be required for graduate students matriculating from other universities or colleges. The mathematics graduate committee will evaluate undergraduate transcripts for readiness to take this course.
4. Term of implementation
   Spring 2017
5. Dates of committee approvals:

Math Department	1/21/2016
College Graduate Curriculum Committee	3/9/2016
Professional Education Council	3/16/2016
Graduate Council	
University Senate	

Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar

Revise a Course
(Action)

Date: 11/20/2015
College, Department: Ogden, Mathematics
Contact Person: Natasha Gerstenschlager, natasha.gerstenschlager@wku.edu, 5-7048

1. Identification of course
   1.1. Course prefix (subject area) and number: MATH 482G
   1.2. Course title: Probability & Statistics II
2. Proposed change(s):
   2.1. Course number:
   2.2. Course title:
   2.3. Credit hours:
   2.4. Grade type:
   2.5. Prerequisites: Current: MATH 237, MATH 382.
   Proposed: None.
   2.6. Corequisites:
   2.7. Course description:
   2.8. Other:

3. Rational for revision of course:
   Each academic institution has its own unique course number for a given course. Therefore, WKU undergraduate prerequisite course numbers cannot be required for graduate students matriculating from other universities or colleges. The mathematics graduate committee will evaluate undergraduate transcripts for readiness to take this course.
4. Term of implementation
   Spring 2017
5. Dates of committee approvals:

Math Department	1/21/2016
College Graduate Curriculum Committee	3/9/2016
Professional Education Council	3/16/2016
Graduate Council	
University Senate	

Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar

Revise a Course
(Action)

Date: 1-11-16
College, Department: Ogden, Mathematics
Contact Person: Hope Marchionda, hope.marchionda@wku.edu, 5-2961

1 Identification of course

1.1 Course prefix (subject area) and number: MATH 501
1.2 Course title: Introduction to Probability and Statistics I

2 Proposed change(s):

2.1 course number:
2.2 course title:
2.3 credit hours:
2.4 grade type:
2.5 prerequisites:
2.6 corequisites:
2.7 course description:

Previous: Interpreting and analyzing univariate and bivariate data; probability and sampling distributions; simulation. (Not applicable to the M.S. degree in Mathematics.)

Proposed: Interpreting, analyzing, and simulating univariate and bivariate data; probability and sampling distributions; regression and chi-squared procedures from traditional and randomization approaches.

2.8 other:

3 Rationale for revision of course: The course description is being reworded to more accurately convey what is being emphasized in the class.

4 **Term of implementation:** Spring 2017

5 Dates of committee approvals:

Department	1-21-16
College Curriculum Committee	2-10-2016
Professional Education Council	3-16-2016
Graduate Council	
University Senate	

**Course revision proposals require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

Revise a Course
(Action)

Date: 11/20/2015
College, Department: Ogden, Mathematics
Contact Person: Natasha Gerstenschlager, natasha.gerstenschlager@wku.edu, 5-7048

1. **Identification of course**
   1.1. Course prefix (subject area) and number: MATH 502
   1.2. Course title: Introduction to Probability and Statistics II
2. **Proposed change(s):**
   2.1. Course number:
   2.2. Course title:
   2.3. Credit hours:
   2.4. Grade type:
   2.5. Prerequisites: Current: MATH 183 or MATH 382 or MATH 501 or permission of instructor.
   Proposed: None.
   2.6. Corequisites:
   2.7. Course description:
   2.8. Other:

3. **Rational for revision of course**:
   Each academic institution has its own unique course number for a given course. Therefore, WKU undergraduate prerequisite course numbers cannot be required for graduate students matriculating from other universities or colleges. The mathematics graduate committee will evaluate undergraduate transcripts for readiness to take this course.
4. **Term of implementation**
   Spring 2017
5. **Dates of committee approvals**:

Math Department	1/21/2016
College Graduate Curriculum Committee	3/9/2016
Professional Education Council	3/16/2016
Graduate Council	
University Senate	

Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar

Revise a Course
(Action)

Date: 1-11-16
College, Department: Ogden, Mathematics
Contact Person: Hope Marchionda, hope.marchionda@wku.edu, 5-2961

1 Identification of course

1.1 Course prefix (subject area) and number: MATH 503
1.2 Course title: Introduction to Analysis

2 Proposed change(s):

2.1 course number:
2.2 course title:
2.3 credit hours:
2.4 grade type:
2.5 prerequisites:
2.6 corequisites:
2.7 course description:

Previous: Examination of selected topics in elementary calculus including sequences, series, limits, continuity, the derivative, and the Riemann integral. Introductory material includes logic, set theory, and functions.
Proposed: Theoretical examination of selected topics in real analysis including sequences, series, limits, continuity, derivatives, and integration.

2.8 other:

3 Rationale for revision of course: The course description is being reworded to more accurately convey what is being emphasized in the class.

4 **Term of implementation:** Spring 2017

5 Dates of committee approvals:

Department	1-21-16
College Curriculum Committee	2-20-2016
Professional Education Council	3-16-2016
Graduate Council	
University Senate	

**Course revision proposals require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

Revise a Course
(Action)

Date: 1-11-16
College, Department: Ogden, Mathematics
Contact Person: Hope Marchionda, hope.marchionda@wku.edu, 5-2961

1 Identification of course

1.1 Course prefix (subject area) and number: MATH 504

1.2 Course title: Application of Technology to Problems in Mathematics

2 Proposed change(s):

2.1 course number:

2.2 course title:

2.3 credit hours:

2.4 grade type:

2.5 prerequisites:

2.6 corequisites:

2.7 course description:

Previous: Integration of technology to solve problems in areas of mathematics including calculus, applied statistics, probability, geometry, and algebra. (Not applicable to the M.S. degree in Mathematics.)

Proposed: Integration of technology to solve problems in areas of mathematics including calculus, applied statistics, probability, geometry, and algebra.

3 Rationale for revision of course: The course description is being reworded to more accurately convey what is being emphasized in the class.

4 **Term of implementation:** Spring 2017

5 Dates of committee approvals:

Department	1-21-16
College Curriculum Committee	2-10-2016
Professional Education Council	3-16-2016
Graduate Council	
University Senate	

**Course revision proposals require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

Revise a Course
(Action)

Date: 11/20/2015
College, Department: Ogden, Mathematics
Contact Person: Natasha Gerstenschlager, natasha.gerstenschlager@wku.edu, 5-7048

1. Identification of course
   1.1. Course prefix (subject area) and number: MATH 508
   1.2. Course title: Number Concepts for Elementary and Middle Grades Teachers
2. Proposed change(s):
   2.1. Course number:
   2.2. Course title:
   2.3. Credit hours:
   2.4. Grade type:
   2.5. Prerequisites: Current: MATH 205, MATH 206 and MATH 308 or permission of instructor.
   Proposed: None.
   2.6. Corequisites:
   2.7. Course description:
   2.8. Other:

3. Rational for revision of course:
   Each academic institution has its own unique course number for a given course. Therefore, WKU undergraduate prerequisite course numbers cannot be required for graduate students matriculating from other universities or colleges. The mathematics graduate committee will evaluate undergraduate transcripts for readiness to take this course.
4. Term of implementation
   Spring 2017
5. Dates of committee approvals:

Math Department	1/21/2016
College Graduate Curriculum Committee	3/9/2016
Professional Education Council	3/16/2016
Graduate Council	
University Senate	

Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar

Revise a Course
(Action)

Date: 1-11-16
College, Department: Ogden, Mathematics
Contact Person: Hope Marchionda, hope.marchionda@wku.edu, 5-2961

1 Identification of course

1.1 Course prefix (subject area) and number: MATH 510
1.2 Course title: Intermediate Statistics

2 Proposed change(s):

2.1 course number:
2.2 course title:
2.3 credit hours:
2.4 grade type:
2.5 prerequisites:
2.6 corequisites:
2.7 course description:

Previous: Statistical inference including confidence intervals, estimation, tests of significance, comparison of population parameters, and chi-square procedures. (Not applicable to the M.S. degree in Mathematics.)
Proposed: Extended coverage of experimental design and data collection, statistical inference including confidence intervals, estimation, tests of significance, comparison of population parameters, and multiple regression.

2.8 other:

3 Rationale for revision of course: The course description is being reworded to more accurately convey what is being emphasized in the class.

4 **Term of implementation:** Spring 2017

5 Dates of committee approvals:

Department	1-21-16
College Curriculum Committee	02-10-2016
Professional Education Council	03-16-2016
Graduate Council	
University Senate	

**Course revision proposals require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

Revise a Course
(Action)

Date: 1-11-16
College, Department: Ogden, Mathematics
Contact Person: Hope Marchionda, hope.marchionda@wku.edu, 5-2961

1 Identification of course

1.1 Course prefix (subject area) and number: MATH 511
1.2 Course title: Algebra from an Advanced Perspective

2 Proposed change(s):

2.1 course number:
2.2 course title:
2.3 credit hours:
2.4 grade type:
2.5 prerequisites:
2.6 corequisites:
2.7 course description:

Previous: Intended for teachers wishing to develop a deeper understanding of high school algebra and calculus. Examines links among different fields of mathematics and connections among high school, mathematics, college mathematics and higher mathematics. (Not applicable to the M.S. degree in Mathematics.)

Proposed: Topics in algebra from an advanced perspective including analysis of functions and polynomials, number theory, and fields.

2.8 other:

3 Rationale for revision of course: The course description is being reworded to more accurately convey what is being emphasized in the class.

4 **Term of implementation:** Spring 2017

5 Dates of committee approvals:

Department	1-21-16
College Curriculum Committee	02-10-2016
Professional Education Council	3-16-2016
Graduate Council	
University Senate	

**Course revision proposals require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

Revise a Course
(Action)

Date: 1-11-16
College, Department: Ogden, Mathematics
Contact Person: Hope Marchionda, hope.marchionda@wku.edu, 5-2961

1. **Identification of course**
   a. Course prefix (subject area) and number: MATH 512
   b. Course title: Geometry from an Advanced Perspective
2. **Proposed change(s):**
   2.1 course number:
   2.2 course title:
   2.3 credit hours:
   2.4 grade type:
   2.5 prerequisites:
   2.6 corequisites:
   2.7 course description:
   Previous: Intended for teachers wishing to develop a deeper understanding of underlying concepts of geometry. Examines relationships among different fields of mathematics and connections among high school mathematics, college mathematics and higher mathematics. (Not applicable to the M.S. degree in Mathematics).
   Proposed: Topics in geometry from an advanced perspective including a theoretical examination of transformations in real and complex plane; distance congruence, and similarity in a variety of contexts; connections and applications between geometry, trigonometry, and calculus.
   2.8 other:

3. **Rationale for revision of course:** The course description is being reworded to more accurately convey what is being emphasized in the class.

4. **Term of implementation:** Spring 2017

5. **Dates of committee approvals:**

Department	1-21-16
College Curriculum Committee	02-10-2016
Professional Education Council	3-16-2016
Graduate Council	
University Senate	

**Course revision proposals require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

Revise a Course
(Action)

Date: 1-11-16
College, Department: Ogden, Mathematics
Contact Person: Hope Marchionda, hope.marchionda@wku.edu, 5-2961

1. **Identification of course**
   a. Course prefix (subject area) and number: MATH 514
   b. Course title: Application and Modeling for Teachers
2. **Proposed change(s):**
   2.1 course number:
   2.2 course title: Mathematical Modeling and Applications
   2.3 credit hours:
   2.4 grade type:
   2.5 prerequisites:
   Previous: Mathematics major, mathematics minor, or permission of the instructor.
   Proposed: Admission to the Master of Arts in Mathematics program or permission of instructor.
   2.6 corequisites:
   2.7 course description:
   Previous: Utilizes concepts from many fields of mathematics to explore how high school and college mathematics are used in real world settings. Intended for secondary teachers. (Not applicable to the M.S. degree in Mathematics.)
   Proposed: Uses mathematical modeling to describe and explore real world problems using algebraic, geometric, and statistical approaches.
   2.8 other:

3. **Rationale for revision of course:** MATH 514 is an elective in the MA in Mathematics program. Since this program is designed for teachers, listing the word "teachers" in the course's title is redundant and is not needed. The prerequisite for MATH 514 is being revised to align with other courses that are part of the MA in Mathematics program. The course description is being reworded to more accurately convey what is being emphasized in the course.

4. **Term of implementation:** Spring 2017

5. **Dates of committee approvals:**

Department	1-21-16
College Curriculum Committee	02-10-2016
Professional Education Council	3-16-2016
Graduate Council	
University Senate	

**Course revision proposals require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar.*

Revise a Course
(Action)

Date: 11/20/2015
College, Department: Ogden, Mathematics
Contact Person: Natasha Gerstenschlager, natasha.gerstenschlager@wku.edu, 5-7048

1. Identification of course
   1.1. Course prefix (subject area) and number: MATH 517
   1.2. Course title: Topics from Algebra
2. Proposed change(s):
   2.1. Course number:
   2.2. Course title:
   2.3. Credit hours:
   2.4. Grade type:
   2.5. Prerequisites: Current: MATH 417.
   Proposed: None.
   2.6. Corequisites:
   2.7. Course description:
   2.8. Other:

3. Rational for revision of course:
   Each academic institution has its own unique course number for a given course. Therefore, WKU undergraduate prerequisite course numbers cannot be required for graduate students matriculating from other universities or colleges. The mathematics graduate committee will evaluate undergraduate transcripts for readiness to take this course.
4. Term of implementation
   Spring 2017
5. Dates of committee approvals:

Math Department	1/21/2016
College Graduate Curriculum Committee	3/9/2016
Professional Education Council	3/16/2016
Graduate Council	
University Senate	

Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar

Revise a Course
(Action)

Date: 11/20/2015
College, Department: Ogden, Mathematics
Contact Person: Natasha Gerstenschlager, natasha.gerstenschlager@wku.edu, 5-7048

1. Identification of course
   1.1. Course prefix (subject area) and number: MATH 529
   1.2. Course title: Applied Probability
2. Proposed change(s):
   2.1. Course number:
   2.2. Course title:
   2.3. Credit hours:
   2.4. Grade type:
   2.5. Prerequisites: Current: MATH 431 or MATH 237.
   Proposed: None.
   2.6. Corequisites:
   2.7. Course description:
   2.8. Other:

3. Rational for revision of course:
   Each academic institution has its own unique course number for a given course. Therefore, WKU undergraduate prerequisite course numbers cannot be required for graduate students matriculating from other universities or colleges. The mathematics graduate committee will evaluate undergraduate transcripts for readiness to take this course.
4. Term of implementation
   Spring 2017
5. Dates of committee approvals:

Math Department	1/21/2016
College Graduate Curriculum Committee	3/9/2016
Professional Education Council	3/16/2016
Graduate Council	
University Senate	

Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar

Revise a Course
(Action)

Date: 11/20/2015
College, Department: Ogden, Mathematics
Contact Person: Natasha Gerstenschlager, natasha.gerstenschlager@wku.edu, 5-7048

1. Identification of course
   1.1. Course prefix (subject area) and number: MATH 531
   1.2. Course title: Advanced Differential Equations
2. Proposed change(s):
   2.1. Course number:
   2.2. Course title:
   2.3. Credit hours:
   2.4. Grade type:
   2.5. Prerequisites: Current: MATH 331, MATH 431.
   Proposed: None.
   2.6. Corequisites:
   2.7. Course description:
   2.8. Other:

3. Rational for revision of course:
   Each academic institution has its own unique course number for a given course. Therefore, WKU undergraduate prerequisite course numbers cannot be required for graduate students matriculating from other universities or colleges. The mathematics graduate committee will evaluate undergraduate transcripts for readiness to take this course.
4. Term of implementation
   Spring 2017
5. Dates of committee approvals:

Math Department	1/21/2016
College Graduate Curriculum Committee	3/9/2016
Professional Education Council	3/16/2016
Graduate Council	
University Senate	

Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar

Revise a Course
(Action)

Date: 11/20/2015
College, Department: Ogden, Mathematics
Contact Person: Natasha Gerstenschlager, natasha.gerstenschlager@wku.edu, 5-7048

1. Identification of course
   1.1. Course prefix (subject area) and number: MATH 532
   1.2. Course title: Real Analysis
2. Proposed change(s):
   2.1. Course number:
   2.2. Course title:
   2.3. Credit hours:
   2.4. Grade type:
   2.5. Prerequisites: Current: MATH 431.
   Proposed: None.
   2.6. Corequisites:
   2.7. Course description:
   2.8. Other:

3. Rational for revision of course:
   Each academic institution has its own unique course number for a given course. Therefore, WKU undergraduate prerequisite course numbers cannot be required for graduate students matriculating from other universities or colleges. The mathematics graduate committee will evaluate undergraduate transcripts for readiness to take this course.
4. Term of implementation
   Spring 2017
5. Dates of committee approvals:

Math Department	1/21/2016
College Graduate Curriculum Committee	3/9/2016
Professional Education Council	3/16/2016
Graduate Council	
University Senate	

Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar

Revise a Course
(Action)

Date: 11/20/2015
College, Department: Ogden, Mathematics
Contact Person: Natasha Gerstenschlager, natasha.gerstenschlager@wku.edu, 5-7048

1. Identification of course
   1.1. Course prefix (subject area) and number: MATH 535
   1.2. Course title: Advanced Applied Mathematics
2. Proposed change(s):
   2.1. Course number:
   2.2. Course title:
   2.3. Credit hours:
   2.4. Grade type:
   2.5. Prerequisites: Current: MATH 331, MATH 431.
   Proposed: None.
   2.6. Corequisites:
   2.7. Course description:
   2.8. Other:

3. Rational for revision of course:
   Each academic institution has its own unique course number for a given course. Therefore, WKU undergraduate prerequisite course numbers cannot be required for graduate students matriculating from other universities or colleges. The mathematics graduate committee will evaluate undergraduate transcripts for readiness to take this course.
4. Term of implementation
   Spring 2017
5. Dates of committee approvals:

Math Department	1/21/2016
College Graduate Curriculum Committee	3/9/2016
Professional Education Council	3/16/2016
Graduate Council	
University Senate	

Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar

Revise a Course
(Action)

Date: 11/20/2015
College, Department: Ogden, Mathematics
Contact Person: Natasha Gerstenschlager, natasha.gerstenschlager@wku.edu, 5-7048

1. Identification of course
   1.1. Course prefix (subject area) and number: MATH 539
   1.2. Course title: Topology II
2. Proposed change(s):
   2.1. Course number:
   2.2. Course title:
   2.3. Credit hours:
   2.4. Grade type:
   2.5. Prerequisites: Current: MATH 439.
   Proposed: None.
   2.6. Corequisites:
   2.7. Course description:
   2.8. Other:

3. Rational for revision of course:
   Each academic institution has its own unique course number for a given course. Therefore, WKU undergraduate prerequisite course numbers cannot be required for graduate students matriculating from other universities or colleges. The mathematics graduate committee will evaluate undergraduate transcripts for readiness to take this course.
4. Term of implementation
   Spring 2017
5. Dates of committee approvals:

Math Department	1/21/2016
College Graduate Curriculum Committee	3/9/2016
Professional Education Council	3/16/2016
Graduate Council	
University Senate	

Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar

Revise a Course
(Action)

Date: 11/20/2015
College, Department: Ogden, Mathematics
Contact Person: Natasha Gerstenschlager, natasha.gerstenschlager@wku.edu, 5-7048

1. Identification of course
   1.1. Course prefix (subject area) and number: MATH 540
   1.2. Course title: Stochastic Processes
2. Proposed change(s):
   2.1. Course number:
   2.2. Course title:
   2.3. Credit hours:
   2.4. Grade type:
   2.5. Prerequisites: Current: MATH 529 or MATH 382 with a grade of C or better, or consent of instructor.
   Proposed: None.
   2.6. Corequisites:
   2.7. Course description:
   2.8. Other:

3. Rational for revision of course:
   Each academic institution has its own unique course number for a given course. Therefore, WKU undergraduate prerequisite course numbers cannot be required for graduate students matriculating from other universities or colleges. The mathematics graduate committee will evaluate undergraduate transcripts for readiness to take this course.
4. Term of implementation
   Spring 2017
5. Dates of committee approvals:

Math Department	1/21/2016
College Graduate Curriculum Committee	3/9/2016
Professional Education Council	3/16/2016
Graduate Council	
University Senate	

Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar

Revise a Course
(Action)

Date: 11/20/2015
College, Department: Ogden, Mathematics
Contact Person: Natasha Gerstenschlager, natasha.gerstenschlager@wku.edu, 5-7048

1. Identification of course
   1.1. Course prefix (subject area) and number: MATH 542
   1.2. Course title: Advanced Topics in Discrete Mathematics
2. Proposed change(s):
   2.1. Course number:
   2.2. Course title:
   2.3. Credit hours:
   2.4. Grade type:
   2.5. Prerequisites: Current: MATH 310 and MATH 317.
   Proposed: None.
   2.6. Corequisites:
   2.7. Course description:
   2.8. Other:

3. Rational for revision of course:
   Each academic institution has its own unique course number for a given course. Therefore, WKU undergraduate prerequisite course numbers cannot be required for graduate students matriculating from other universities or colleges. The mathematics graduate committee will evaluate undergraduate transcripts for readiness to take this course.
4. Term of implementation
   Spring 2017
5. Dates of committee approvals:

Math Department	1/21/2016
College Graduate Curriculum Committee	3/9/2016
Professional Education Council	3/16/2016
Graduate Council	
University Senate	

Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar

Revise a Course
(Action)

Date: 11/20/2015
College, Department: Ogden, Mathematics
Contact Person: Natasha Gerstenschlager, natasha.gerstenschlager@wku.edu, 5-7048

1. Identification of course
   1.1. Course prefix (subject area) and number: MATH 550
   1.2. Course title: Complex Analysis
2. Proposed change(s):
   2.1. Course number:
   2.2. Course title:
   2.3. Credit hours:
   2.4. Grade type:
   2.5. Prerequisites: Current: MATH 450.
   Proposed: None.
   2.6. Corequisites:
   2.7. Course description:
   2.8. Other:

3. Rational for revision of course:
   Each academic institution has its own unique course number for a given course. Therefore, WKU undergraduate prerequisite course numbers cannot be required for graduate students matriculating from other universities or colleges. The mathematics graduate committee will evaluate undergraduate transcripts for readiness to take this course.
4. Term of implementation
   Spring 2017
5. Dates of committee approvals:

Math Department	1/21/2016
College Graduate Curriculum Committee	3/9/2016
Professional Education Council	3/16/2016
Graduate Council	
University Senate	

Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar

Revise a Course
(Action)

Date: 11/20/2015
College, Department: Ogden, Mathematics
Contact Person: Natasha Gerstenschlager, natasha.gerstenschlager@wku.edu, 5-7048

1. Identification of course
   1.1. Course prefix (subject area) and number: MATH 570
   1.2. Course title: Topics in Operations Research
2. Proposed change(s):
   2.1. Course number:
   2.2. Course title:
   2.3. Credit hours:
   2.4. Grade type:
   2.5. Prerequisites: Current: MATH 470.
   Proposed: None.
   2.6. Corequisites:
   2.7. Course description:
   2.8. Other:

3. Rational for revision of course:
   Each academic institution has its own unique course number for a given course. Therefore, WKU undergraduate prerequisite course numbers cannot be required for graduate students matriculating from other universities or colleges. The mathematics graduate committee will evaluate undergraduate transcripts for readiness to take this course.
4. Term of implementation
   Spring 2017
5. Dates of committee approvals:

Math Department	1/21/2016
College Graduate Curriculum Committee	3/9/2016
Professional Education Council	3/16/2016
Graduate Council	
University Senate	

Proposals to suspend, delete or reactivate a course require a Course Inventory Form be submitted by the College Dean's office to the Office of the Registrar

Revise a Program
(Action)

Date: 2/10/2016
College: College of Education and Behavioral Sciences
Department: Psychology
Contact Person: Sally Kuhlenschmidt, sally.kuhlenschmidt@wku.edu, 270-745-2114

1. Identification of program:

1.1 Reference number: 092
1.2 Program title: Psychology, Master of Arts

2. Proposed change(s):

2.1 ☐ title:
2.2 ☐ admission criteria:
2.3 ☒ curriculum:
2.4 ☐ other:

3. Detailed program description:

Existing Program	Revised Program
Program Requirements (48 hours) The clinical psychology concentration follows the scientist-practitioner model of training and prepares students to be successful performing both research and therapy. The degree offers a broad foundation for the professional who will render a wide variety of psychological services at the MA level and/or prepare students to pursue further education at the doctoral level. Clinical psychology graduates have the credentials necessary to pursue licensure in the state of Kentucky. Practicum and internship (9 hours) are required. A thesis is required. A criminal background check will be required of successful applicants during the first semester of graduate study at the applicant's expense. Grades lower than B may not be used to satisfy requirements for courses in the clinical training sequence (PSY 560, PSY 640, PSY 641, and PSY 660), or practicum and internship (PSY 562, PSY 592, and PSY 662). Practicum/internship sites may have additional requirements before allowing students to complete placements; these might include, but are not limited to, vaccinations, additional background checks, and health screenings.	**Program Requirements (48 hours)** The clinical psychology concentration follows the scientist-practitioner model of training and prepares students to be successful performing both research and therapy. The degree offers a broad foundation for the professional who will render a wide variety of psychological services at the MA level and/or prepare students to pursue further education at the doctoral level. Clinical psychology graduates have the credentials necessary to pursue licensure in the state of Kentucky. Practicum and internship (9 hours) are required. A thesis is required. A criminal background check will be required of successful applicants during the first semester of graduate study at the applicant's expense. Grades lower than B may not be used to satisfy requirements for courses in the clinical training sequence (PSY 560, PSY 640, PSY 641, and PSY 660), or practicum and internship (PSY 562, PSY 592, and PSY 662). Practicum/internship sites may have additional requirements before allowing students to complete placements; these might include, but are not limited to, vaccinations, additional background checks, and health screenings.

Methods and Statistics		
PSYS 510	Advanced Research Methods in Psychology	3
or EDFN 500	Research Methods	
PSYS 518	Statistics and Psychometric Theory	3
or EDFN 501	Educational Statistics	
Science of Behavior		
PSY 511	Psychology of Learning	3
or PSYS 533	Advanced Topics in Cognition	
PSY 646	Social Psychology for Applied Practice	3
or PSYS 552	Advanced Social Psychology	
PSYS 567	Advanced Physiological Psychology	3
Scientific Writing		
PSY 599	Thesis Research	6
Ethics		
PSY 541	Professional Issues and Ethics in Psychology	3
Practicum and Internship		
PSY 662	Practicum in Psychology	3
PSY 562	Practicum in Psychological Assessment	3
PSY 592	Psychology Internship	3
Clinical Courses		
PSY 560	Assessment of Individual Intellectual Functioning:Theories and Issues	3
PSY 640	Psychopathology	3
PSY 641	Theories of Psychotherapy	3
PSY 660	Assessment of Personality and Socio-Emotional Functioning	3
PSY 520	Individual Differences and Human Diversity	3
Total Hours		48

Methods and Statistics		
PSYS 510	Advanced Research Methods in Psychology	3
or EDFN 500	Research Methods	
PSYS 518	Statistics and Psychometric Theory	3
or EDFN 501	Educational Statistics	
Science of Behavior		
PSY 511	Psychology of Learning	3
or PSYS 533	Advanced Topics in Cognition	
PSY 646	Social Psychology for Applied Practice	3
or PSYS 552	Social Psychology	
PSY 651	**Clinical Neuropsychology for the Applied Psychologist**	3
or PSYS 567	Advanced Physiological Psychology	
Scientific Writing		
PSY 599	Thesis Research	6
Ethics		
PSY 541	Professional Issues and Ethics in Psychology	3
Practicum and Internship		
PSY 662	Practicum in Psychology	3
PSY 562	Practicum in Psychological Assessment	3
PSY 592	Psychology Internship	3
Clinical Courses		
PSY 560	Assessment of Individual Intellectual Functioning:Theories and Issues	3
PSY 640	Psychopathology	3
PSY 641	Theories of Psychotherapy	3
PSY 660	Assessment of Personality and Socio-Emotional Functioning	3
PSY 520	Individual Differences and Human Diversity	3
Total Hours		48

4. **Rationale: The focus of our program is applied practice and students will benefit professionally from learning about applications of Clinical Neuropsychology. The new course is customized to focus on the needs of practitioners. We are leaving the PsyS course as an option for the occasional student with scheduling issues.**

5. **Proposed term for implementation: Fall 2016**

6. **Dates of committee approvals:**

Department	**2/19/16**
College Curriculum Committee	**3/01/16**
Professional Education Council (if applicable)	**n/a**
Graduate Council	
University Senate	

Revise a Program
(Action)

Date: January 19, 2016
College: College of Education and Behavioral Sciences
Department: Educational Administration, Leadership, and Research
Contact Person: Gary Houchens, gary.houchens@wku.edu, 5-4890

1. Identification of program:

1.1 Reference number: 121 (Concentrations KDP1 and KDP2)
1.2 Program title: Director of Pupil Personnel Services, Rank I (121, Concentrations KDP1 and KDP2)

2. Proposed change(s):

2.1 ☐ title:
2.2 ☒ admission criteria: Moving pre-requisite courses to Level I course requirements
2.3 ☒ curriculum: Making numerous changes to reflect recent revisions in other overlapping programs
2.4 ☒ other: Program hours are revised from 45 hours to 30 hours.

3. Detailed program description:

Existing Program	Revised Program
Overview The Director of Pupil Personnel (DPP) is one of the two legally mandated positions for a school district. The DPP usually deals with such issues as student attendance, student conduct codes, school calendars, and student services. *Program Admission* Applicants for the Director of Pupil Personnel must meet the following requirements: • Completion of at least three years full-time appropriate teaching experience; • Master's degree from an accredited institution; • 3.2 GPA or above for all graduate course work; and • ~~Completion of appropriate prerequisite courses.~~ • ~~Has completed a minimum of 60 semester hours of graduate credit including the master's degree. Within these total hours the student must complete the required professional courses as outlined in a~~	*Overview* The Director of Pupil Personnel (DPP) is one of the two legally mandated positions for a school district. The DPP usually deals with such issues as student attendance, student conduct codes, school calendars, and student services. *Program Admission* Applicants for the Director of Pupil Personnel **program** must meet the following requirements: • Completion of at least three years full-time appropriate teaching experience; • Master's degree from an accredited institution; • 3.2 GPA or above for all graduate course work

~~planned program designed to provide the student with appropriate administrative competencies and courses required for certification.~~ ~~*Pre-requisite Courses (9 Hrs):*~~ EDFN 500 -- Research Methods (3 Hrs) PSY 510 -- Advanced Educational Psychology ~~& PSY 511 – Psychology of Learning (6 Hrs)~~ EDFN 576 – Issues & Trends in Education (3 Hrs~~)~~ ~~Select one of the following (6 Hrs):~~ ~~SEC 580 – Curriculum (3 Hrs)~~ ~~MGE 571 – Middle Grades Curriculum (3 Hrs)~~ EDAD 683 – Leading Teaching and Learning (3 Hrs) ~~ELED 503 – Organization of Elementary School Curriculum (3 Hrs)~~ ~~CNS 551 – Classroom Guidance (3 Hrs)~~ *Program Requirements* Level I EDAD 583 – Accounting for Pupil Personnel ~~EDAD 585 – Fundamentals of School Administration (3 hrs)~~ EDAD 677 – Legal Issues for Educators (3 hrs) ~~EDAD 588 – Allocation and Use of Resources (3 Hrs)~~ ~~EDAD 649 – School System Administration (3 Hrs)~~ ~~EXED 516 – The Exceptional Child~~ ~~EDAD 684 – Leading Teaching and Learning (3 Hrs)~~ Level II: EDAD 594 – Seminar in Leadership: Auxiliary Programs (3 Hrs) ~~EDAD 682 – School-Community Relations (3 Hrs)~~	*Program Requirements (30 Hours)* **Level I (24 Hrs) –** **Complete all of the following required core courses:** EDFN 500 -- Research Methods (3 Hrs) PSY 510 – Advanced Educational Psychology (3 Hrs) EDFN 576 – Issues & Trends in Education (3 Hrs) **EDAD 640 – Introduction to School Leadership (3 hrs)** EDAD 583 – Accounting for Pupil Personnel (3 hrs) EDAD 677 – Legal Issues for Professional Educators (3 Hrs) **CNS 660 – Organization and Administration of Guidance Services (3 hrs)** **Complete one of the following elective curriculum courses:** **TCHL 530 – Curriculum Development (3 hrs)** **SPED 533 – Seminar: Curriculum for Learning and Behavior Disorders (3 hrs)** **SPED 535 – Curriculum for Individuals with Moderate to Severe Disabilities (3 hrs)** EDAD 683 – Leading Teaching and Learning (3 Hrs) **GTE 537 – Curriculum, Strategies, and Materials for Gifted Students (3 Hrs)** **IECE 530 – Advanced IECE Curriculum Development (3 Hrs)** **Level II (6 Hrs) –** Complete the following required courses: EDAD 594 – Seminar in Leadership: Auxiliary Programs in Education (3 hrs) **EDAD 642 – Leveraging Community Systems and Resources (3 hrs)**

- ***Completion of a planned fifth/sixth year program may not be counted by states other than Kentucky in determining pay status. The Director of Pupil Personnel Services Position is unique to Kentucky, and Kentucky's manifestation is not found in other places. Other states seek a counseling or social work type background for student services, not a Director of Pupil Personnel Services with attendance duties in Kentucky.***
- ***Filing a TC-1 requesting Rank I requires completion of a minimum of 60 semester hours of graduate credit including the master's degree. Within these total hours the student must complete the required professional courses as outlined in a planned program designed to provide the student with appropriate administrative competencies and courses required for certification.***

4. Rationale: These proposed revisions reflect recent changes in the school principal certification program and other related programs in the School of Teacher Education, a need to make pre-requisite courses program requirements so students may count those courses toward Rank I requirements, and to correct errors in the current Graduate Catalog. However, the learning outcomes of the program have not changed.

The vast majority of DPP students first complete the school principal certification program. New courses in the principal program have effectively replaced courses in the existing supervisor of instruction program. Specifically, EDAD 640 (Introduction to School Leadership) offers the same content as EDAD 585 (Fundamentals of School Administration) and EDAD 682 (School-Community Relations) has been replaced by EDAD 642 (Leveraging Community Systems and Resources) EDAD 585 and EDAD 682 are no longer being offered and proposals to eliminate these courses will be forthcoming. To avoid requiring regular course substitution forms for students in the supervisor of instruction program, we propose permanently replacing these courses in the program since the new courses address the same learning objectives as the courses they are replacing.

The DPP program currently requires six credit hours of curriculum content, but includes as options courses provided through the School of Teacher Education that are no longer being offered (SEC 580, MGE 571, and ELED 503) due to the introduction of the Master's in Teacher Leadership Course and replaced with TCHL 530, Curriculum Development. We propose stipulating that these three curriculum hours come from the following options: TCHL 530, GTE 537 (Curriculum, Strategies, and Materials for Gifted Students), SPED 534 (Seminar: Curriculum for Learning and Behavior Disorders), SPED 535 (Curriculum for Moderate to Severe Disabilities), and EDAD 683 (Leading Teaching and Learning) – currently an option for this curriculum component. GTE 537 is already a frequent course substitution in this component.

The current pre-requisite component of the program provides an obstacle to students seeking Rank I since Education Professional Standards Board guidelines stipulate courses designated as "pre-requisites" may not be counted toward the 60 post-baccalaureate hours in a planned program required for rank change. By designating these courses as Level I requirements, all courses in the program may count toward rank change.

The current DPP certificate only endorsement only requires 33 credit hours (including pre-requisites), whereas the DPP Rank I program requires 45 (including pre-requisites). We are proposing to eliminate certain courses, which will not substantially alter program objectives, to make the Rank I and certification only programs of study the same.

The current curriculum contract with EPSB includes a requirement that students complete either CNS 551 (Classroom Guidance) or CNS 660 (Organization and Administration of Guidance Services). We propose that CNS 660 is a better course for aspiring administrator students and would designate that class as the only option. This will also correct a mistake in the current Graduate Catalog that lists CNS 551 as an elective and makes no mention of CNS 660.

The current graduate catalogue includes among its admissions requirements that students must have 60 graduate hours of credit. This is an error and is not a part of the current curriculum contract with EPSB nor is this requirement observed by the program.

All of these changes, upon approval by the Professional Education Council, will be offered as a proposed curriculum contract change to the EPSB.

5. Proposed term for implementation: Fall 2016

6. Dates of committee approvals:

Department	January 19, 2016
College Curriculum Committee	February 2, 2016
Professional Education Council (if applicable)	February 10, 2016
Graduate Council	
University Senate	

Revise a Program
(Action)

Date: January 19, 2016
College: College of Education and Behavioral Sciences
Department: Educational Administration, Leadership, and Research
Contact Person: Gary Houchens, gary.houchens@wku.edu, 5-4890

1. Identification of program:

1.1 Reference number: 131
1.2 Program title: Director of Pupil Personnel Endorsement (KDP1 and KDP2)

2. Proposed change(s):

2.1 ☐ title:
2.2 ☒ admission criteria: Moving pre-requisite courses to Level I course requirements
2.3 ☒ curriculum: Making numerous changes to reflect recent revisions in other overlapping programs:

- Deleting prerequisite requirements and merging prerequisite courses in to the Core Required courses.
- Deleting curriculum courses no longer offered and replacing with curriculum courses that are updated and more relevant to our students.
- Replacing two EDAD courses which are no longer offered with the new replacement EDAD courses.
- Corrected course number on CNS course.

2.4 ☐ other:

3. Detailed program description:

Existing Program	Revised Program
Overview The Director of Pupil Personnel (DPP) is one of the two legally mandated positions for a school district. The DPP usually deals with such issues as student attendance, student conduct codes, school calendars, and student services.	*Overview* The Director of Pupil Personnel (DPP) is one of the two legally mandated positions for a school district. The DPP usually deals with such issues as student attendance, student conduct codes, school calendars, and student services. ***Completion of a planned fifth/sixth year program may not be counted by states other than Kentucky in determining pay status. The Director of Pupil Personnel Services Position is unique to Kentucky, and Kentucky's manifestation is not found in other places. Other states seek a counseling or social work type background for student services, not a Director of Pupil Personnel Services with attendance duties in Kentucky.***
Program Admission	*Program Admission*

Applicants for the Director of Pupil Personnel must meet the following requirements: • Completion of at least three years full-time appropriate teaching experience; • Master's degree from an accredited institution; • 3.2 GPA or above for all graduate course work; and • ~~Completion of appropriate prerequisite courses.~~ • ~~Has completed a minimum of 60 semester hours of graduate credit including the master's degree. Within these total hours the student must complete the required professional courses as outlined in a planned program designed to provide the student with appropriate administrative competencies and courses required for certification.~~ ~~*Pre-requisite Courses (18 Hrs):*~~ EDFN 500 -- Research Methods (3 Hrs) PSY 510 -- Advanced Educational Psychology ~~& PSY 511 – Psychology of Learning (6 Hrs)~~ ~~SPED 516 – The Exceptional Child: Perspectives and Issues~~ EDFN 576 – Issues & Trends in Education (3 Hrs) ~~Select one of the following (6 Hrs):~~ ~~SEC 580 – Curriculum (3 Hrs)~~ ~~MGE 571 – Middle Grades Curriculum (3 Hrs)~~ EDAD 683 – Leading Teaching and Learning (3 Hrs) ~~ELED 503 – Organization of Elementary School Curriculum (3 Hrs)~~ ~~CNS 551 – Classroom Guidance (3 Hrs)~~ *Program Requirements*	Applicants for the Director of Pupil Personnel Endorsement must meet the following requirements:: • Completion of at least three years full-time appropriate teaching experience; • Master's degree from an accredited institution; • 3.2 GPA or above for all graduate course work *Program Requirements (30 Hours)* **Level I (24 Hrs) –** **Complete all of the following core courses:** EDFN 500 -- Research Methods (3 Hrs) PSY 510 – Advanced Educational Psychology (3 Hrs) EDFN 576 – Issues & Trends in Education (3 Hrs) **EDAD 640 – Introduction to School Leadership (3 hrs)** EDAD 583 – Accounting for Pupil Personnel (3 hrs) EDAD 677 – Legal Issues for Educators (3 Hrs) **CNS 660 – Organization and Administration of Guidance Services (3 hrs)** **Complete one of the following elective curriculum courses:** **TCHL 530 – Curriculum Development (3 hrs)**

Level I EDAD 583 – Accounting for Pupil Personnel ~~EDAD 585 – Fundamentals of School Administration (3 hrs)~~ EDAD 677 – Legal Issues for Educators (3 hrs)	**SPED 533 – Seminar: Curriculum for Learning and Behavior Disorders (3 hrs)** **SPED 535 – Curriculum for Individuals with Moderate to Severe Disabilities (3 hrs)** EDAD 683 – Leading Teaching and Learning (3 Hrs) **GTE 537 – Curriculum, Strategies, and Materials for Gifted Students (3 Hrs)** **IECE 530 – Advanced IECE Curriculum Development (3 Hrs)**
Level II: EDAD 594 – Seminar in Leadership: Auxiliary Programs (3 Hrs) ~~EDAD 682 – School-Community Relations (3 Hrs)~~	**Level II (6 Hrs) –** Complete the following required courses: EDAD 594 – Seminar in Leadership: Auxiliary Programs in Education (3 hrs) **EDAD 642 – Leveraging Community Systems and Resources (3 hrs)**

4. **Rationale:** These proposed revisions reflect recent changes in the school principal certification program and other related programs in the School of Teacher Education, a need to make pre-requisite courses program requirements so students may count those courses toward Rank I requirements, and to correct errors in the current Graduate Catalog. However, the learning outcomes of the program have not changed.

1. The vast majority of DPP students first complete the school principal certification program. New courses in the principal program have effectively replaced courses in the existing supervisor of instruction program. Specifically, EDAD 640 (Introduction to School Leadership) offers the same content as EDAD 585 (Fundamentals of School Administration) and EDAD 682 (School-Community Relations) has been replaced by EDAD 642 (Leveraging Community Systems and Resources) EDAD 585 and EDAD 682 are no longer being offered and proposals to eliminate these courses will be forthcoming. To avoid requiring regular course substitution forms for students in the supervisor of instruction program, we propose permanently replacing these courses in the program since the new classes addresses the same learning objectives as the courses they are replacing.
2. The DPP program currently requires six credit hours of curriculum content, but includes as options courses provided through the School of Teacher Education that are no longer being offered (SEC 580, MGE 571, and ELED 503) due to the introduction of the Master's in Teacher Leadership Course and replaced with TCHL 530, Curriculum Development. We propose stipulating that these three curriculum hours come from the following options: TCHL 530, GTE 537 (Curriculum, Strategies, and Materials for Gifted Students), SPED 534 (Seminar: Curriculum for Learning and Behavior Disorders), SPED 535 (Curriculum for Moderate to Severe Disabilities), and EDAD 683 (Leading Teaching and Learning) – currently an option for this curriculum component. GTE 537 is already a frequent course substitution in this component.
3. The current pre-requisite component of the program provides an obstacle to students seeking Rank I since Education Professional Standards Board guidelines stipulate courses designated as "pre-requisites" may not be counted toward the 60 post-baccalaureate hours

in a planned program required for rank change. By designating these courses as Level I requirements, all courses in the program may count toward rank change.

4. The current curriculum contract with EPSB includes a requirement that students complete either CNS 551 (Classroom Guidance) or CNS 660 (Organization and Administration of Guidance Services). We propose that CNS 660 is a better course for aspiring administrator students and would designate that class as the only option. This will also correct a mistake in the current Graduate Catalog that lists CNS 551 as an elective and makes no mention of CNS 660.
5. The current graduate catalogue includes among its admissions requirements that students must have 60 graduate hours of credit. This is an error and is not a part of the current curriculum contract with EPSB nor is this requirement observed by the program.

All of these changes, upon approval by the Professional Education Council, will be offered as a proposed curriculum contract change to the EPSB.

5. Proposed term for implementation: Fall 2016

6. Dates of committee approvals:

Department	January 19, 2016
College Curriculum Committee	February 2, 2016
Professional Education Council (if applicable)	February 10, 2016
Graduate Council	
University Senate	

Revise a Program
(Action)

Date: January 19, 2016
College: College of Education and Behavioral Sciences
Department: Educational Administration, Leadership, and Research
Contact Person: Gary Houchens, gary.houchens@wku.edu, 5-4890

1. Identification of program:

1.1 Reference number: 121 (Concentrations ILV1 and ILV2)
1.2 Program title: School Administration, Supervisor of Instruction, Rank I (121, ILV1 and ILV2)

2. Proposed change(s):

2.1 ☐ title:
2.2 ☒ admission criteria: Moving pre-requisite courses to Level I course requirements
2.3 ☒ curriculum: Making numerous changes to reflect recent revisions in other overlapping programs
2.4 ☒ other: removing level II coursework; deleting concentration ILV2

3. Detailed program description:

Existing Program	Revised Program
Overview Applicants seeking certification for Supervisor of Instruction should be aware that reciprocity may not be offered by all states. *Program Admission* Applicants for the Planned Sixth-Year/Rank I program and for the certification-only endorsement for Supervisor of Instruction must meet the following requirements: • Completion of at least three years full-time appropriate teaching experience; • Master's degree from an accredited institution; • 3.2 GPA or above for all graduate course work~~; and~~ • ~~Completion of appropriate prerequisite courses.~~ ~~*Pre-requisite Courses (18 Hrs):*~~	*Overview* Applicants seeking certification for Supervisor of Instruction should be aware that reciprocity may not be offered by all states. *Program Admission* Applicants for the Rank I program for Supervisor of Instruction must meet the following requirements: • Completion of at least three years full-time appropriate teaching experience; • Master's degree from an accredited institution; and • 3.2 GPA or above for all graduate course work. *Program Requirements (33 Hours)*

EDFN 500 -- Research Methods (3 Hrs) PSY 510 -- Advanced Educational Psychology ~~& PSY 511 – Psychology of Learning (6 Hrs)~~ EDFN 576 – Issues & Trends in Education (3 Hrs) ~~Select 6 hours from the following (6 Hrs):~~ ~~SEC 580 – Curriculum (3 Hrs)~~ ~~MGE 571 – Middle Grades Curriculum (3 Hrs)~~ EDAD 683 – Leading Teaching and Learning (3 Hrs) ~~ELED 503 – Organization of Elementary School Curriculum (3 Hrs)~~ *Program Requirements (30 Hours)* Level I - Supervisor of Instruction (Concentration Code ILV1) Requirements: ~~EDAD 585 – Fundamentals of School Administration (3 hrs)~~ EDAD 684 – Instructional Leadership (3 hrs) EDAD 686 – Principles of Supervision (3 hrs) LTCY 519 – Foundations of Reading Instruction (3 hrs) SPED 516 – The Exceptional Child: Perspectives and Issues (3 hrs) ~~*Elective:*~~ ~~*CNS 551 – Classroom Guidance (3 hrs)*~~ ~~Level II – Certification Program course work (Concentration Code ILV2) Required Courses:~~ ~~EDAD 677 – Legal Issues for Professional Educators (3 hrs)~~	**Level I -** **Complete all of the following core courses:** EDFN 500 -- Research Methods (3 Hrs) PSY 510 – Advanced Educational Psychology (3 Hrs) EDFN 576 – Issues & Trends in Education (3 Hrs) **EDAD 640 – Introduction to School Leadership (3 hrs)** EDAD 684 – Instructional Leadership (3 hrs) EDAD 686 – Principles of Supervision (3 hrs) LTCY 519 – Foundations of Reading Instruction (3 hrs) SPED 516 – The Exceptional Child: Perspectives and Issues (3 hrs) **CNS 660 –Organization and Administration of Guidance Services (3 hrs)** **Complete two of the following elective curriculum courses:** **TCHL 530 – Curriculum Development (3 hrs)** **SPED 533 – Seminar: Curriculum for Learning and Behavior Disorders (3 hrs)** **SPED 535 – Curriculum for Individuals with Moderate to Severe Disabilities (3 hrs)** EDAD 683 – Leading Teaching and Learning (3 Hrs) **GTE 537 – Curriculum, Strategies, and Materials for Gifted Students (3 Hrs)** **IECE 530 – Advanced IECE Curriculum Development (3 Hrs)**

~~EDAD 682 – School-Community Relations (3 hrs)~~ ~~EDAD 594 – Seminar on Leadership: Auxiliary Programs (3 hrs)~~ ~~EDAD 694 – Seminar in Educational Administration (3 hrs)~~ Filing a TC-1 requesting Rank I requires completion of a minimum of 60 semester hours of graduate credit ~~including the master's degree.~~ Within these total hours the student must complete the required professional courses as outlined in a planned program designed to provide the student with appropriate administrative competencies and courses required for certification.	Filing a TC-1 requesting Rank I requires completion of a minimum of 60 semester hours of graduate credit, **including at least 30 hours beyond the master's degree.** Within these total hours the student must complete the required professional courses as outlined in a planned program designed to provide the student with appropriate administrative competencies and courses required for certification.

4. **Rationale:** These proposed revisions reflect recent changes in the school principal certification program and other related programs in the School of Teacher Education, a need to make pre-requisite courses program requirements so students may count those courses toward Rank I requirements, and to correct errors in the current Graduate Catalog. However, learning objectives for the program have not changed.

1. The vast majority of supervisor of instruction students first complete the school principal certification program. New courses in the principal program have effectively replaced courses in the existing supervisor of instruction program. Specifically, EDAD 640 (Introduction to School Leadership) offers the same content as EDAD 585 (Fundamentals of School Administration) and EDAD 682 (School-Community Relations) has been replaced by EDAD 642 (Leveraging Community Systems and Resources) EDAD 585 and EDAD 682 are no longer being offered and proposals to eliminate these courses will be forthcoming. To avoid requiring regular course substitution forms for students in the supervisor of instruction program, we propose permanently replacing these courses in the program since they address the same learning objectives as the courses they are replacing.

2. The supervisor of instruction program currently requires six credit hours of curriculum content, but includes as options courses provided through the School of Teacher Education that are no longer being offered (SEC 580, MGE 571, and ELED 503) due to the introduction of the Master's in Teacher Leadership Course and replaced with TCHL 530, Curriculum Development. We propose stipulating that these six curriculum hours come from the following options: TCHL 530, GTE 537 (Curriculum, Strategies, and Materials for Gifted Students), SPED 534 (Seminar: Curriculum for Learning and Behavior Disorders), SPED 535 (Curriculum for Moderate to Severe Disabilities), and EDAD 683 (Leading Teaching and Learning) – currently an option for this curriculum component. GTE 537 is already a frequent course substitution in this component.

3. The current pre-requisite component of the program provides an obstacle to students seeking Rank I since Education Professional Standards Board guidelines stipulate courses designated as "pre-requisites" may not be counted toward the 60 post-baccalaureate hours in a planned program required for rank change. By designating these courses as Level I requirements, all courses in the program may count toward rank change.

4. The current curriculum contract with EPSB includes a requirement that students complete either CNS 551 (Classroom Guidance) or CNS 660 (Organization and Administration of Guidance Services). We propose that CNS 660 is a better course for aspiring administrator students and would designate that class as the only option. This will also correct a mistake in the current Graduate Catalog that lists CNS 551 as an elective and makes no mention of CNS 660.

5. Level II coursework requirements are being eliminated from the Rank I to reduce the program length to a more reasonable 33 hours (as opposed to the original 45 hours).

All of these changes, upon approval by the Professional Education Council, will be offered as a proposed curriculum contract change to the EPSB.

5. Proposed term for implementation: Fall 2016

6. Dates of committee approvals:

Department	January 19, 2016
College Curriculum Committee	February 2, 2016
Professional Education Council (if applicable)	February 10, 2016
Graduate Council	
University Senate	

Revise a Program
(Action)

Date: January 19, 2016
College: College of Education and Behavioral Sciences
Department: Educational Administration, Leadership, and Research
Contact Person: Gary Houchens, gary.houchens@wku.edu, 5-4890

1. Identification of program:

1.1 Reference number: 131 (Concentration codes ILV1 and ILV2)
1.2 Program title: Supervisor of Instruction, Endorsement (131, ILV1 and ILV2)

2. Proposed change(s):

2.1 ☐ title:
2.2 ☒ admission criteria: Moving pre-requisite courses to Level I course requirements
2.3 ☒ curriculum: Making numerous changes to reflect recent revisions in other overlapping programs
2.4 ☒ other: Deleting prerequisite requirements of 18 hours which changes total Level I program hours to 33 hours. Total program hours 45.

3. Detailed program description:

Existing Program	Revised Program
Overview Applicants seeking certification for Supervisor of Instruction should be aware that reciprocity may not be offered by all states. *Program Admission* Applicants for the Planned Sixth-Year/Rank I program and for the certification-only endorsement for Supervisor of Instruction must meet the following requirements: • Completion of at least three years full-time appropriate teaching experience; • Master's degree from an accredited institution; • 3.2 GPA or above for all graduate course work~~; and~~ • ~~Completion of appropriate prerequisite courses.~~	*Overview* Applicants seeking certification for Supervisor of Instruction should be aware that reciprocity may not be offered by all states. *Program Admission* Applicants for the Planned Sixth-Year/Rank I program and for the certification-only endorsement for Supervisor of Instruction must meet the following requirements: • Completion of at least three years full-time appropriate teaching experience; • Master's degree from an accredited institution; • 3.2 GPA or above for all graduate course work; and

~~*Pre-requisite Courses (18 Hrs):*~~	*Program Requirements (45 Hours)*
	Level I - **(33 Hours):**
EDFN 500 -- Research Methods (3 Hrs) PSY 510 -- Advanced Educational Psychology ~~& PSY 511 – Psychology of Learning (6 Hrs)~~ EDFN 576 – Issues & Trends in Education (3 Hrs)	**Complete all of the following core courses:** EDFN 500 -- Research Methods (3 Hrs) PSY 510 – Advanced Educational Psychology (3 Hrs) EDFN 576 – Issues & Trends in Education (3 Hrs)
~~Select 6 hours from the following (6 Hrs):~~ ~~SEC 580 – Curriculum (3 Hrs)~~ ~~MGE 571 – Middle Grades Curriculum (3 Hrs)~~ EDAD 683 – Leading Teaching and Learning (3 Hrs) ~~ELED 503 – Organization of Elementary School Curriculum (3 Hrs)~~	**EDAD 640 – Introduction to School Leadership (3 hrs)** EDAD 684 – Instructional Leadership (3 hrs) EDAD 686 – Principles of Supervision (3 hrs) LTCY 519 – Foundations of Reading Instruction (3 hrs) SPED 516 – The Exceptional Child: Perspectives and Issues (3 hrs) **CNS 660 – Organization and Administration of Guidance Services (3 hrs)**
Program Requirements (30 Hours) Level I - Supervisor of Instruction (Concentration Code ILV1) Requirements: ~~EDAD 585 – Fundamentals of School Administration (3 hrs)~~ EDAD 684 – Instructional Leadership (3 hrs) EDAD 686 – Principles of Supervision (3 hrs) LTCY 519 – Foundations of Reading Instruction (3 hrs) SPED 516 – The Exceptional Child: Perspectives and Issues (3 hrs) ~~*Elective:*~~ ~~*CNS 551 – Classroom Guidance (3 hrs)*~~	**Complete two of the following elective curriculum courses:** **TCHL 530 – Curriculum Development (3 hrs)** **SPED 533 – Seminar: Curriculum for Learning and Behavior Disorders (3 hrs)** **SPED 535 – Curriculum for Individuals with Moderate to Severe Disabilities (3 hrs)** EDAD 683 – Leading Teaching and Learning (3 Hrs) **GTE 537 – Curriculum, Strategies, and Materials for Gifted Students (3 Hrs)** **IECE 530 – Advanced IECE Curriculum Development (3 Hrs)**
Level II – Certification Program course work (Concentration Code ILV2) Required Courses: EDAD 677 – Legal Issues for Professional Educators (3 hrs)	Level II Certification coursework (Concentration Code ILV2) Required Courses (12 Hrs): EDAD 677 Legal Issues for Professional Educators (3 Hrs)

~~EDAD 682 – School-Community Relations (3 hrs)~~ EDAD 594 – Seminar on Leadership: Auxiliary Programs (3 hrs) EDAD 694 – Seminar in Educational Administration (3 hrs) ~~Filing a TC-1 requesting Rank I requires completion of a minimum of 60 semester hours of graduate credit including the master's degree. Within these total hours the student must complete the required professional courses as outlined in a planned program designed to provide the student with appropriate administrative competencies and courses required for certification.~~	**EDAD 642 – Leveraging Community Systems and Resources (3 Hrs)** EDAD 594 – Seminar in Leadership: Auxiliary Programs (3 Hrs) EDAD 694 – Seminar in Educational Administration (3 Hrs)

4. **Rationale:** These proposed revisions reflect recent changes in the school principal certification program and other related programs in the School of Teacher Education, a need to make pre-requisite courses program requirements so students may count those courses toward Rank I requirements, and to correct errors in the current Graduate Catalog. However, learning objectives for the program have not changed.

   1. The vast majority of supervisor of instruction students first complete the school principal certification program. New courses in the principal program have effectively replaced courses in the existing supervisor of instruction program. Specifically, EDAD 640 (Introduction to School Leadership) offers the same content as EDAD 585 (Fundamentals of School Administration) and EDAD 682 (School-Community Relations) has been replaced by EDAD 642 (Leveraging Community Systems and Resources) EDAD 585 and EDAD 682 are no longer being offered and proposals to eliminate these courses will be forthcoming. To avoid requiring regular course substitution forms for students in the supervisor of instruction program, we propose permanently replacing these courses in the program since they address the same learning objectives as the old courses they are replacing.

   2. The supervisor of instruction program currently requires six credit hours of curriculum content, but includes as options courses provided through the School of Teacher Education that are no longer being offered (SEC 580, MGE 571, and ELED 503) due to the introduction of the Master's in Teacher Leadership Course and replaced with TCHL 530, Curriculum Development. We propose stipulating that these six curriculum hours come from the following options: TCHL 530, GTE 537 (Curriculum, Strategies, and Materials for Gifted Students), SPED 534 (Seminar: Curriculum for Learning and Behavior Disorders), SPED 535 (Curriculum for Moderate to Severe Disabilities), and EDAD 683 (Leading Teaching and Learning) – currently an option for this curriculum component. GTE 537 is already a frequent course substitution in this component.

3. The current pre-requisite component of the program provides an obstacle to students seeking Rank I since Education Professional Standards Board guidelines stipulate courses designated as "pre-requisites" may not be counted toward the 60 post-baccalaureate hours in a planned program required for rank change. By designating these courses as Level I requirements, all courses in the program may count toward rank change.

4. The current curriculum contract with EPSB includes a requirement that students complete either CNS 551 (Classroom Guidance) or CNS 660 (Organization and Administration of Guidance Services). We propose that CNS 660 is a better course for aspiring administrator students and would designate that class as the only option. This will also correct a mistake in the current Graduate Catalog that lists CNS 551 as an elective and makes no mention of CNS 660.

All of these changes, upon approval by the Professional Education Council, will be offered as a proposed curriculum contract change to the EPSB.

5. Proposed term for implementation: Fall 2016

6. Dates of committee approvals:

Department	January 19, 2016
College Curriculum Committee	February 2,2016
Professional Education Council (if applicable)	February 10, 2016
Graduate Council	
University Senate	

Gordon Ford College of Business
Department of Economics
Proposal to Revise Graduate Program
(Action Item)

Contact Person: Dr. Alex Lebedinsky, alex.lebedinsky@wku.edu 5-3150

1. Identification of program:

1.1 Current program reference number: 0410
1.2 Current program title: Master of Arts: Applied Economics
1.3 Credit hours:30

2. Identification of the proposed program changes:

Mathematical Methods Concentration in the Master of Arts program in Applied Economics.

3. Detailed program description:

Current Program	Proposed Program
The Master of Arts in Applied Economics emphasizes the training of students with backgrounds in economics and other arts and sciences for careers that require strong quantitative skills, technical tools, and communication abilities that can be applied to a broad range of subjects. ~~Toward this end,~~ students may also enroll in courses from related master programs including the Master in Business Administration, the Master in Public Administration, and the Master in Health Administration to enhance their range of knowledge and experience. In addition to course work, the program utilizes practicum, an end-of-program applied project, and non-credit workshops to build specific technical skills and to enhance employability of graduates **Joint Undergraduate Master's Program (JUMP)** This degree offers a Joint Undergraduate Master's Program (JUMP) which provides academically outstanding students the opportunity to complete both an undergraduate and graduate degree in approximately five years. Contact the graduate program coordinator for additional information. **Program Admission** ~~1. Completion of Graduate School admission application, a list of three references, submission of official copy of undergraduate degree transcript, and an official copy of a~~	The Master of Arts in Applied Economics offers two concentrations, general and mathematical methods. The general concentration emphasizes the training of students with backgrounds in economics and other arts and sciences for careers that require strong quantitative skills, technical tools, and communication abilities that can be applied to a broad range of subjects. The mathematical methods concentration is designed for students with strong background in mathematics to gain applied knowledge in economics. Students in either concentration may also enroll in approved courses from related master programs including but not limited to the Master in Business Administration, the Master in Public Administration, and the Master in Health Administration to enhance their range of knowledge and experience. In addition to course work, the program utilizes practicum, an end-of-program applied project, and non-credit workshops to build specific technical skills and to enhance employability of graduates **Joint Undergraduate Master's Program (JUMP)** This degree offers a Joint Undergraduate Master's Program (JUMP) which provides academically outstanding students the opportunity to complete both an undergraduate and graduate degree in approximately five years. Contact the graduate program coordinator for additional information. **Program Admission** Please refer to the admission section of this catalog for Graduate School admission requirements.

~~GRE score taken within the last five years~~. ~~Applications are considered for fall admission only.~~

2. Minimum undergraduate GPA of 2.75 (4.0 scale) and minimum GRE Quantitative score of 147 on a 170 point scale ~~(or 570 on an 800 point scale).~~ Alternate graduate admission test scores such as the GMAT or LSAT will be considered on a case by case basis.

3. ~~All applicants from non-English speaking countries are required to meet university TOEFL/IELTS Academic Version minimum standards~~.

4. All applicants must have completed an introductory microeconomics course (ECON 202 or equivalent), an introductory macroeconomics course (ECON 203 or equivalent), and an introductory statistics course (ECON 206 or equivalent). Students who have not completed an intermediate level course (300 level or higher) in microeconomics, macroeconomics, or statistics are advised to complete online preparatory work in the area of deficiency prior to ~~the fall semester~~.

Degree Requirements (30 hours)

Required Core
ECON 465G Regression and Econometric Analysis[1]
ECON 502 Applied Microeconomic Theory
ECON 503 Applied Macroeconomic Theory
ECON 506 Applied Statistical Methods
ECON 594 Forecasting

~~Electives~~
Select 9-12 hours with advisor approval[2]

General Concentration

1. Graduate School admission application which includes submission of official undergraduate degree transcripts.[1]

2. Three letters of recommendation from individuals familiar with the student's academic performance.

3. Minimum undergraduate GPA of 2.75 (4.0 scale).

4. Official GRE score taken within the last five years. Minimum GRE Quantitative score of 147 on a 170 point scale. Alternate graduate admission test scores such as the GMAT or LSAT will be considered on a case by case basis.

[1] All applicants must have completed an introductory microeconomics course (ECON 202 or equivalent), an introductory macroeconomics course (ECON 203 or equivalent), and an introductory statistics course (ECON 206 or equivalent). Students who have not completed an intermediate level course (300 level or higher) in microeconomics, macroeconomics, or statistics are advised to complete online preparatory work in the area of deficiency prior to admission.

Mathematical Methods Concentration

1. Graduate School admission application which includes submission of official undergraduate degree transcripts with a major in Economics, Mathematics, Math-Econ or other related majors.[1]

2. Three letters of recommendation from individuals familiar with the student's academic performance.

3. Minimum undergraduate GPA of 2.75 (4.0 scale).

4. Official GRE score taken within the last five years. Minimum GRE Quantitative score of 147 on a 170 point scale. Alternate graduate admission test scores such as the GMAT or LSAT will be considered on a case by case basis. GRE requirement is waived for students who have earned an undergraduate degree from WKU and have a minimum GPA of 3.3 in their major.

[1] All applicants must have completed a calculus sequence through multivariable calculus, discrete mathematics, principles of micro- and macroeconomics, and one semester of junior or senior level probability theory.

Degree Requirements (30 hours)

Required Core for both concentrations: (15 hours)
ECON 465G Regression and Econometric Analysis[1]
ECON 502 Applied Microeconomic Theory
ECON 503 Applied Macroeconomic Theory
ECON 506 Applied Statistical Methods
ECON 594 Forecasting

Concentration (9-12 hours) [2]
There are two concentration options: General or Mathematical Methods. See below.

Thesis or Project ECON 596 Applied Economics Project or ECON 599 Thesis Research/Writing [1]Waived if student has taken ECON 465 or equivalent as an undergraduate. [2]Up to 6 hours of approved non-economics courses and up to 12 hours of 400G courses.	Thesis or Project (3-6 hours) ECON 596 Applied Economics Project[3] or ECON 599 Thesis Research/Writing [1]Waived if student has taken ECON 465 or equivalent as an undergraduate. If ECON 465 is taken at the undergraduate level, this course must be substituted with either a MATH, ECON, or STAT course from the list of electives. [2]Up to 6 hours of approved non-economics courses and up to 12 hours of 400G courses. [3]Required for Mathematical Methods Concentration Concentration: **General Concentration (9-12 hours)** Select 9-12 hours with advisor approval. OR **Mathematical Methods Concentration (12 hours)** Select 12 hours from the following[4]: ECON 507 Data Methods in Economics ECON 571 Public Policy Economics ECON 585 Topics in Macroeconomics ECON 597 Practicum in Economics ECON 598 Independent Study Economics ECON 400G Issues in Capital Market Economics ECON 410G Seminar in Economics ECON 420G Public Finance ECON 430G Environmental and Resource Economics ECON 434G The Economics of Poverty and Discrimination ECON 440G American Industry: Structure, Performance and Policy ECON 445G Economics of Healthcare ECON 464G Introduction to Mathematical Economics ECON 475G Urban and Regional Economics ECON 496G International Monetary Economics MATH 405G Numerical Analysis I MATH 406G Numerical Analysis II MATH 431G Intermediate Analysis I MATH 470G Introduction to Operations Research MATH 482G Probability and Statistics-II MATH 529 Applied Probability MATH 531 Advanced Differential Equations MATH 532 Real Analysis MATH 540 Stochastic Processes MATH 541 Graph Theory MATH 542 Advanced Topics in Discrete Mathematics MATH 570 Topics in Operations Research MATH 590 Special Topics in Mathematics MATH 598 Graduate Seminar: Communicating Mathematics and Technical Writing STAT 549 Statistical Methods I STAT 550 Statistical Methods II [4]At least 9 hours of electives must be MATH or STAT courses. A maximum of 12 hours at the 400G level may be included in the entire program.

4. Rationale for the proposed program change:

Recently, the mathematics and economics departments created a joint undergraduate degree program in mathematical economics that includes a general track and an actuarial track. Mathematical Methods concentration in the MA program in Applied Economics would allow students with this joint bachelor degree to continue graduate work in their field. The program would also be open to students from outside the mathematical economics major. The proposed program would also allow students with a strong background in mathematics to gain applied knowledge in economics. Additionally, the program would allow economics majors with strong quantitative backgrounds to enhance their mathematical skills.

Both in content and pedagogy, the Mathematical Methods concentration will focus on further development of advanced quantitative skills to prepare students for careers that require a mix of strong analytical skills, technical tools, and a broad range of knowledge. The program will offer a solid foundation for students who want to pursue a doctorate degree in economics or a related field.

The program will offer a highly employable combination of skills to its graduates. Bureau of Labor Statistics (BLS) projects that employment of economists is projected to grow 14 percent from 2012 to 2022. BLS also forecasts that "Job prospects should be best for those with a master's degree or Ph.D., strong analytical skills, and related work experience." MA concentration Mathematical Methods will enhance analytical and data skills – the very skills that make a regular economics MA degree in demand - increasing employability of its graduates.

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

Fall 2016

6. Dates of prior committee approvals:

Department of Economics	_____3/18/2016____
Gordon Ford College of Business	_____3/29/2016____
Graduate Council	_____
University Senate	_____

Revise a Program
(Action)

Date: February 9, 2016
College: Ogden
Department: AMS
Contact Person: Mark Doggett, mark.doggett@wku.edu, 270-745-6951

1. Identification of program:

1.1 Reference number: 0447
1.2 Program title: Engineering Technology Management

2. Proposed change(s):

2.1 ☐ title:
2.2 ☐ admission criteria:
2.3 ☒ curriculum: change number of elective hours and delete Non-Thesis option
2.4 ☐ other:

3. Detailed program description:

Existing Program			Revised Program		
Management Core: 12 hrs/ 4 courses			**Management Core: 12 hrs/ 4 courses**		
Resource Management	AMS 520	3	Resource Management	AMS 520	3
Operations Leadership	AMS 590	3	Operations Leadership	AMS 590	3
Project Management	AMS 655	3	Project Management	AMS 655	3
Quality Management	AMS 671	3	Quality Management	AMS 671	3
~~**Technical Concentration: 9 hrs/ 3 courses**~~			**Electives: 12 hrs/ 4 courses**		
Emerging Technologies Theory of Constraints Lean Systems Six Sigma Quality Product Development Supply Chain Management	AMS 510 AMS 540 AMS 594 AMS 580 AMS 588 AMS 650	~~9~~	Emerging Technologies Theory of Constraints Lean Systems Six Sigma Quality Product Development Supply Chain Management	AMS 510 AMS 540 AMS 594 AMS 580 AMS 588 AMS 650	
~~**Electives: 3 hrs/ 1 course**~~					
Automated Data Collection Workforce Development Legal & Ethics Issues in Tech	AMS 530 AMS 535 AMS 630	~~3~~	Automated Data Collection Workforce Development Legal & Ethics Issues in Tech	AMS 530 AMS 535 AMS 630	12
Research: 9 hrs/ 2 courses			**Research: 9 hrs/ 2 courses**		
Research Methods Tech Mgmt.	AMS 571	3	Research Methods Tech Mgmt.	AMS 571	3
Thesis ~~Non-Thesis~~	AMS 599 ~~AMS 690~~	6	Thesis	AMS 599	6
Grand Total Hours:		**33**	**Grand Total Hours:**		**33**

4. **Rationale:** Program growth plus limited faculty capacity has resulted in the need for more program flexibility. This proposal provides both course scheduling and student flexibility for program completion. It allows the offering of more electives across the entire academic year while simultaneously giving students more choices in tailoring their program of study.

5. **Proposed term for implementation:** Fall 2016

6. **Dates of committee approvals:**

AMS	2/19/2016
College Graduate Curriculum Committee	3/9/2016
Graduate Council	
University Senate	

Ogden College of Science and Engineering
Department of Mathematics
Proposal to Revise Graduate Program
(Action Item)

Contact Person: Ferhan Atici, ferhan.atici@wku.edu, 5-6229

1. Identification of program:

1.4 Current program reference number: 085
1.5 Current program title: Master of Science: in Mathematics
1.6 Credit hours:30

2. Identification of the proposed program changes:

Mathematical Economics concentration in the Master of Science program in Mathematics.

3. Detailed program description:

Current Program	Proposed Program
The M.S. has two options available. The M.S. (general option) provides knowledge in such traditional areas as analysis, algebra, topology, and applied mathematics, and is recommended for students who wish to obtain a Ph. D. degree, to teach in a community college, or to seek employment in industry with an emphasis on conceptual foundations. The M.S. (computational option) is designed for students seeking employment in industry with an emphasis on computational mathematics and/or computer science in addition to knowledge in traditional areas.	The M.S. has three concentrations available. The M.S. (general concentration) provides knowledge in such traditional areas as analysis, algebra, topology, and applied mathematics, and is recommended for students who wish to obtain a Ph. D. degree, to teach in a community college, or to seek employment in industry with an emphasis on conceptual foundations. The M.S. (computational concentration) is designed for students seeking employment in industry with an emphasis on computational mathematics and/or computer science in addition to knowledge in traditional areas. The M.S. (Mathematical Economics concentration) is designed for students seeking employment in industry with an emphasis on economics in addition to knowledge in traditional areas. It is also designed for students who completed a undergraduate degree program in mathematical economics at WKU.
General Option: Admission Requirements Admission requirements for the M.S. in Mathematics General Option include: 1.One of the following: (a) A minimum GAP score of 600 [GAP = (GRE-V + GRE-Q) + (Undergraduate GPA x 100)] or a minimum GAP score of 3000 for students who took the GRE prior to August 2011 [GAP = (GRE-V + GRE-Q) x Undergraduate GPA] *Students who took the GRE prior to 2002 should contact the graduate advisor of the program;	General Concentration: Admission Requirements Admission requirements for the M.S. in Mathematics General Concentration include: 1.One of the following: (a) A minimum GAP score of 600 [GAP = (GRE-V + GRE-Q) + (Undergraduate GPA x 100)] or a minimum GAP score of 3000 for students who took the GRE prior to August 2011 [GAP = (GRE-V + GRE-Q) x Undergraduate GPA] *Students who took the GRE prior to 2002 should contact the graduate advisor of the program;

(b) A GRE score of at least 300. For options (a) or (b) WKU requires a minimum score of 139 on both the verbal and quantitative parts of the GRE; (c) For students that graduate from WKU with a mathematics major, a GPA of at least 3.3 in their mathematics major, a GPA of at least 3.3 in their mathematics major.	(b) A GRE score of at least 300. For options (a) or (b), the Mathematics department requires a minimum score of 139 on both the verbal and quantitative parts of the GRE; (c) For students that graduate from WKU with a mathematics major, a GPA of at least 3.3 in their mathematics major.
2. Successful completion of the following undergraduate courses: (a) a calculus sequence through multivariable calculus; (b) linear algebra; (c) discrete mathematics; (d) an applied mathematics course (e.g. differential equations, probability, calculus-based statistics, numerical analysis); (e) abstract algebra.	2. Successful completion of the following undergraduate courses: (a) a calculus sequence through multivariable calculus; (b) linear algebra; (c) discrete mathematics; ((d) an applied mathematics course (e.g. differential equations, probability, calculus-based statistics, numerical analysis); (e) abstract algebra.
3. A cumulative grade point average of 3.0 (on a 4.0 scale) is required in at least one of the following: (a) A cumulative grade point average of 3.0 (on a 4.0 scale) in at least one of the following: (a) all mathematics courses that are applicable to the undergraduate mathematics major; (b) courses specified in (b) through (e) of Item 2 above.	3. A cumulative grade point average of 3.0 (on a 4.0 scale) is required in at least one of the following: (a) A cumulative grade point average of 3.0 (on a 4.0 scale) in at least one of the following: (a) all mathematics courses that are applicable to the undergraduate mathematics major; (b) courses specified in (b) through (e) of Item 2 above.
Degree Requirements minimum of 30 hours The Master of Science in Mathematics (General Option) requires a minimum of 30 hours of graduate-level mathematics courses. A maximum of 12 hours at the 400G level may be included in the entire program. A research tool is required and may entail coursework beyond the 30 hours of mathematics. The research tool must be completed during the first 15 hours of coursework and may be fulfilled by a mathematics reading course, a computer science course, a foreign language examination, or another option approved by a Mathematics Department graduate advisor. A student may, upon prior approval of the Mathematics Department Graduate Committee, include in his/her program a maximum of 6 hours of coursework from a related field. Comprehensive exams are required only for students who choose not to write a thesis.	Degree Requirements minimum of 30 hours The Master of Science in Mathematics (General Concentration) requires a minimum of 30 hours of graduate-level mathematics courses. A maximum of 12 hours at the 400G level may be included in the entire program. A research tool is required and may entail coursework beyond the 30 hours of mathematics. The research tool must be completed during the first 15 hours of coursework and may be fulfilled by a mathematics reading course, a computer science course, a foreign language examination, or another option approved by a Mathematics Department graduate advisor. A student may, upon prior approval of the Mathematics Department Graduate Committee, include in his/her program a maximum of 6 hours of coursework from a related field. Comprehensive exams are required only for students who choose not to write a thesis.
Basic Requirements 1. The following courses must be completed: a) MATH 431G Intermediate Analysis I b) MATH 417G Algebraic Systems, or MATH 439G Topology, or MATH 450G Complex Variables, or MATH 435G Partial Differential Equations	Basic Requirements 1. The following courses must be completed: a) MATH 431G Intermediate Analysis I b) MATH 417G Algebraic Systems, or MATH 439G Topology, or MATH 435G Partial Differential Equations

c) MATH532 Real Analysis, or MATH 550 Complex Analysis, or MATH 535 Advanced Applied Mathematics-I, **or** MATH 541 Graph Theory **If equivalent courses were taken at the undergraduate level, then the student must substitute appropriate graduate mathematics courses selected in consultation with a Mathematics Department graduate advisor.* *Electives* *The remaining mathematics courses in the student program must be chosen from:* *MATH 405G Numerical Analysis I* *MATH 406G Numerical Analysis II* *MATH 415G Algebra and Number Theory* MATH 417G Algebraic Systems MATH 439G Topology *MATH 423G Geometry II* *MATH 435G Partial Differential Equations* *MATH 450G Complex Variables* *MATH 470G Introduction to Operations Research* MATH 500 Readings in Mathematics *MATH 517 Topics from Algebra* *MATH 529 Applied Probability* *MATH 531 Advanced Differential Equations* MATH 532 Real Analysis *MATH 535 Advanced Applied Mathematics I* *MATH 536 Advanced. Applied Mathematics II* *MATH 539 Topology II* *MATH 540 Stochastic Processes* *MATH 541 Graph Theory* *MATH 542 Advanced Topics in Discrete Mathematics* MATH 550 Complex Analysis MATH 560 Functional Analysis MATH 570 Topics in Operations Research MATH 590 Special Topics in Mathematics MATH 598 Graduate Seminar STAT 549 Statistical Methods I STAT 550 Statistical Methods II Research Tool A research tool is required and may entail coursework beyond the 30 hours of mathematics. The research tool can be fulfilled in a variety of ways, some of which are listed below: ·Taking the MATH 598 Graduate Seminar · Graduate level courses in other disciplines. The research tool course should be in disciplines that have a strong relation to mathematics. For example, any graduate level course pre-approved by the student's graduate advisor will be accepted. The research tool cannot be taken during the last semester.	c) MATH 450G Complex Variables, d) MATH532 Real Analysis, or MATH 550 Complex Analysis, or MATH 535 Advanced Applied Mathematics-I, **or** MATH 541 Graph Theory *If equivalent courses were taken at the undergraduate level, then the student must substitute appropriate graduate mathematics courses selected in consultation with a Mathematics Department graduate advisor. Electives The remaining mathematics courses in the student program must be chosen from: MATH 405G Numerical Analysis I MATH 406G Numerical Analysis II MATH 415G Algebra and Number Theory MATH 417G Algebraic Systems MATH 439G Topology MATH 423G Geometry II MATH 435G Partial Differential Equations MATH 470G Introduction to Operations Research MATH 500 Readings in Mathematics MATH 517 Topics from Algebra MATH 529 Applied Probability MATH 531 Advanced Differential Equations MATH 532 Real Analysis MATH 535 Advanced Applied Mathematics I MATH 536 Advanced. Applied Mathematics II MATH 539 Topology II MATH 540 Stochastic Processes MATH 541 Graph Theory MATH 542 Advanced Topics in Discrete Mathematics MATH 550 Complex Analysis MATH 560 Functional Analysis MATH 570 Topics in Operations Research MATH 590 Special Topics in Mathematics MATH 598 Graduate Seminar STAT 549 Statistical Methods I STAT 550 Statistical Methods II Research Tool A research tool is required and may entail coursework beyond the 30 hours of mathematics. The research tool can be fulfilled in a variety of ways, some of which are listed below: ·Taking the MATH 598 Graduate Seminar ·Graduate level courses in other disciplines. The research tool course should be in disciplines that have a strong relation to mathematics. For example, any graduate level course pre-approved by the student's graduate advisor will be accepted. The research tool must be taken prior to the last semester.

Optional Thesis 6 hours Students who choose to write a thesis are required to complete 6 hours of MATH 599 Thesis Research and Writing and to give an oral defense of the thesis.	Optional Thesis 6 hours Students who choose to write a thesis are required to complete 6 hours of MATH 599 Thesis Research and Writing and to give an oral defense of the thesis.
Computational Mathematics Option	Computational Mathematics Concentration
Admission Requirements 1. One of the following: (a) A minimum GAP score of 600 [GAP = (GRE-V + GRE-Q) + (Undergraduate GPA x 100)] or a minimum GAP score of 3000 for students who took the GRE prior to August 2011 [GAP = (GRE-V + GRE-Q) x Undergraduate GPA] *Students who took the GRE prior to 2002 should contact the graduate advisor of the program; (b) A GRE score of at least 300. For options (a) or (b) WKU requires a minimum score of 139 on both the verbal and quantitative parts of the GRE; (c) For students that graduate from WKU with a mathematics major, a GPA of at least 3.3 in their mathematics major.	Admission Requirements 1. One of the following: (a) A minimum GAP score of 600 [GAP = (GRE-V + GRE-Q) + (Undergraduate GPA x 100)] or a minimum GAP score of 3000 for students who took the GRE prior to August 2011 [GAP = (GRE-V + GRE-Q) x Undergraduate GPA] *Students who took the GRE prior to 2002 should contact the graduate advisor of the program; (b) A GRE score of at least 300. For options (a) or (b), the Mathematics department requires a minimum score of 139 on both the verbal and quantitative parts of the GRE; (c) For students that graduate from WKU with a mathematics major, a GPA of at least 3.3 in their mathematics major.
2. Completion of the following undergraduate courses: (a) a one year calculus sequence; (b) linear algebra; (c) discrete mathematics; (d) a one year sequence of programming courses; (e) a B.A. degree with a major in either Computer Science, Engineering, Mathematics or Physics. 3. A cumulative grade point average of at least 3.0 (on a 4.0 scale) in at least one of the following: (a) all mathematics and computer science courses that are listed in (a) through (d) of Item 2 above; or (b) all courses in the major listed in (e) of Item 2 *above.* *Students cannot enter the program if they have a deficiency in the courses listed in Item 2 above*	2. Completion of the following undergraduate courses: (a) a one year calculus sequence; (b) linear algebra; (c) discrete mathematics; (d) a one year sequence of programming courses; (e) a B.A. degree with a major in either Computer Science, Engineering, Mathematics or Physics. 3. A cumulative grade point average of at least 3.0 (on a 4.0 scale) in at least one of the following: (a) all mathematics and computer science courses that are listed in (a) through (d) of Item 2 above; or (b) all courses in the major listed in (e) of Item 2 above. Students cannot enter the program if they have a deficiency in the courses listed in Item 2 above
Degree Requirements minimum of 30 hours *The Master of Science in Mathematics (Computational Mathematics Option) requires a minimum of 30 hours of graduate-level mathematics and computer science courses. A maximum of 12 hours at the 400G level may be included in the entire program. All students in the M.S. program (computational mathematics option) must have a working knowledge of a high-level programming language. The CS classes required in this option do not allow for additional courses in a related field.*	Degree Requirements minimum of 30 hours The Master of Science in Mathematics (Computational Mathematics Concentration) requires a minimum of 30 hours of graduate-level mathematics and computer science courses. A maximum of 12 hours at the 400G level may be included in the entire program. All students in the M.S. program (computational mathematics concentration) must have a working knowledge of a high-level programming language. The CS classes required in this concentration do not allow for additional courses in a related field.
Comprehensive exams are required only for students who choose not to write a thesis.	Comprehensive exams are required only for students who choose not to write a thesis.
Required Core *MATH/CS 405G Numerical Analysis I** *MATH 470G Introduction to Operations Research** *CS 549 Algorithms Analysis** *STAT 549 Statistical Methods I* *MATH 406G Numerical Analysis II* *At least two courses from the list below:*	Required Core MATH/CS 405G Numerical Analysis I* MATH 470G Introduction to Operations Research* CS 549 Algorithms Analysis* STAT 549 Statistical Methods I MATH 406G Numerical Analysis II At least two courses from the list below:

CS 562 Parallel and Distributed Computing *CS 565 Data Mining Techniques and Tools* *CS 595 Advanced Topics in Computer Science (with advisor approval)* **If equivalent courses were taken at the undergraduate level, then the student must substitute appropriate graduate mathematics courses selected in consultation with a Mathematics Department graduate advisor.*	CS 562 Parallel and Distributed Computing CS 565 Data Mining Techniques and Tools CS 595 Advanced Topics in Computer Science (with advisor approval) *If equivalent courses were taken at the undergraduate level, then the student must substitute appropriate graduate mathematics courses selected in consultation with a Mathematics Department graduate advisor.
Electives *MATH 431G Intermediate Analysis I* *MATH 541 Graph Theory* *MATH 570 Topics in Operations Research* *MATH 504 Application of Technology to Problems in Mathematics* *MATH 540 Stochastic Processes* *MATH 542 Advanced Topics in Discrete Mathematics* *MATH 590 Special Topics in Mathematics (with advisor approval)* STAT 550 Statistical Methods II	Electives MATH 431G Intermediate Analysis I MATH 541 Graph Theory MATH 570 Topics in Operations Research MATH 504 Application of Technology to Problems in Mathematics MATH 540 Stochastic Processes MATH 542 Advanced Topics in Discrete Mathematics MATH 590 Special Topics in Mathematics (with advisor approval) STAT 550 Statistical Methods II
Research Tool *This requirement is satisfied by the computer science classes.*	Research Tool This requirement is satisfied by a graduate level computer science class.
Optional Thesis 6 hours *Students who choose to write a thesis are required to complete 6 hours of MATH 599 Thesis Research and Writing and to give an oral defense of the thesis.*	Optional Thesis 6 hours Students who choose to write a thesis are required to complete 6 hours of MATH 599 Thesis Research and Writing and to give an oral defense of the thesis.
	Mathematical Economics Concentration Admission Requirements 1. One of the following: (a) A GRE score of at least 300. For options (a) or (b), a minimum score of 147 on the quantitative parts of the GRE, (b) For students that graduate from WKU with a mathematics major, a GPA of at least 3.3 in their major, (c) For students that graduate from WKU with a mathematical economics major, a GPA of at least 3.3 in their major, (d) For students that graduate from WKU with an economics or business economics major, a GPA of at least 3.3- in the major and a GPA of at least 3.3 in the courses listed in 2.(a), (b),(d) and (e). 2. An undergraduate degree with a major in Economics, Mathematics, Mathematical Economics or other related majors with completion of the following undergraduate courses: (a) a calculus sequence through multivariable calculus; (b) discrete mathematics; (c) principles of microeconomics and macroeconomics; (d) one semester of junior or senior level probability theory,

	(e) differential equations. The Master of Science in Mathematics (Mathematical Economics concentration) requires a minimum of 30 hours of graduate-level mathematics and economics courses. A maximum of 12 hours at the 400G level may be included in the entire program. Basic Requirements ECON 465G Regression and Econometrics ECON 502 Microeconomics ECON 503 Macroeconomics STAT 549 Statistical Methods I MATH 431G Intermediate Analysis-I or MATH 482G Probability and Statistics-II MATH 531 Advanced Differential Equations or STAT 550 Statistical Methods II *If equivalent courses were taken at the undergraduate level, then the student must substitute appropriate graduate mathematics courses or graduate economics courses selected in consultation with a Mathematics Department graduate advisor. Electives At most one 3 credit hours course in Economics can be taken as an elective. MATH 405G Numerical Analysis I MATH 406G Numerical Analysis II MATH 431G Intermediate Analysis MATH 470G Introduction to Operations Research MATH 482G Probability and Statistics-II MATH 529 Applied Probability MATH 531 Advanced Differential Equations MATH 532 Real Analysis MATH 540 Stochastic Processes MATH 541 Graph Theory MATH 542 Advanced Topics in Discrete Mathematics MATH 570 Topics in Operations Research MATH 590 Special Topics in Mathematics (approval by the graduate advisor) MATH 598 Graduate Seminar STAT 550 Statistical Methods II ECON 594 Forecasting Thesis Option 6 hours Students who choose to write a thesis are required to complete 6 hours of MATH 599 Thesis Research and Writing and to give an oral defense of the thesis. Non Thesis Option 3 hours Students who choose not to write a thesis are required to complete 3 hours of Math 598 Comprehensive Exams are not required.

4. Rationale for the proposed program change:

Recently, the mathematics and economics departments created a undergraduate degree program in mathematical economics that includes a general track and an actuarial track. Mathematical Economics concentration in the MS program in Mathematics would allow students with this bachelor degree to continue graduate work in their field. The program would also be open to students from outside the mathematical economics major. The proposed program would also allow students with a strong background in mathematics to gain applied knowledge in economics. Additionally, the program would allow economics majors with strong quantitative backgrounds to enhance their mathematical skills.

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

Fall 2016

6. Dates of prior committee approvals:

2-19-16

3-9-2016