

MEMORANDUM TO: Ogden College of Science and Engineering Curriculum Committee

Dr. Katie Algeo
Dr. Melanie Autin
Dr. Doug Harper
Dr. Phil Lienesch
Dr. Jeremy Maddox

Dr. Andy Mienaltowski
Dr. Les Pesterfield
Dr. Huanjing Wang
Dr. Todd Willian

FROM: Kenneth Crawford, Chair

SUBJECT: Agenda for Thursday, February 1, 2018 4:00 p.m. in COHH 4123

A. OLD BUSINESS:

- I. Consideration of the minutes of the November 30, 2017 meeting.

B. NEW BUSINESS:

Type of item	Description of Item & Contact Information
Consent	Proposal to Revise Course Prerequisites/Corequisites STAT 401, Regression Analysis, 3 hrs. Contact: Ngoc Nguyen, noc.nguyen@wku.edu , x56221
Consent	Proposal to Revise Course Prerequisites/Corequisites STAT 402, Experimental Design, 3 hrs. Contact: Ngoc Nguyen, noc.nguyen@wku.edu , x56221
Consent	Proposal to Revise Course Prerequisites/Corequisites PSYS 463, Evolutionary Psychology, 3 hrs. Contact: Andrew Mienaltowski, drmski@wku.edu , x52353
Consent	Proposal to Revise a Course Catalog Listing PSYS 490, Independent Study in Psychological Sciences, 3 hrs. Contact: Andrew Mienaltowski, drmski@wku.edu , x52353
Consent	Proposal to Revise Course Prerequisites/Corequisites AMS 227, Introduction to Manufacturing Methods, 3 hrs. Contact: Bryan Reaka, bryan.reaka@wku.edu , x7032
Consent	Proposal to Revise Course Prerequisites/Corequisites AMS 490E, Senior Research in MET, 3 hrs. Contact: Bryan Reaka, bryan.reaka@wku.edu , x7032
Consent	Proposal to Revise Course Prerequisites/Corequisites AMS 490F, Senior Research in Tech Mgt, 3 hrs. Contact: Bryan Reaka, bryan.reaka@wku.edu , x7032
Consent	Proposal to Revise Course Prerequisites/Corequisites CS 381, Introduction to Computer Networks, 3 hrs. Contact: Qi Li, qi.li@wku.edu , x56225 Contact: Michael Galloway, jefferey.galloway@wku.edu , x52859
Action	Proposal to Revise a Program Ref. 528, Major in Mathematics, 51 hrs. Contact: Tom Richmond, tom.richmond@wku.edu , x56219

Action	Proposal to Revise a Program Ref. 728, Major in Mathematics, 36-39 Contact: Tom Richmond, tom.richmond@wku.edu , x56219
Action	Proposal to Create a New Course PSYS 300, Writing in the Psychological Sciences, 3 hrs. Contact: Gordon Baylis, Gordon.baylis@wku.edu , x54901
Action	Proposal to Revise a Program Ref. 747, Major in Psychological Sciences, 38-50 hrs. Contact: Andy Mienaltowski, Andrew.mienaltowski@wku.edu , x52353
Action	Proposal to Make Multiple Revisions to a Course AMS 394, Lean Systems, 3 hrs. Contact: Bryan Reaka, bryan.reaka@wku.edu , x57032
Action	Proposal to Revise a Program Ref. 343. Minor in Construction Management, 21/24 hrs. Contact: Bryan Reaka, bryan.reaka@wku.edu , x57032
Action	Proposal to Revise a Program Ref. 575, Technology Management, 63 hrs. Contact: Bryan Reaka, bryan.reaka@wku.edu , x57032
Action	Proposal to Revise a Program Ref. 5006, Manufacturing Engineering Technology, 64 hrs. Contact: Bryan Reaka, bryan.reaka@wku.edu , x57032
Action	Proposal to Revise a Program Ref. 629P/629, Major in Computer Science, 4-50 hrs. Contact: Huanjing Wang, Huanjing.wang@wku.edu , x2672

C. OTHER BUSINESS

Members Present:

Dr. Katie Algeo
Dr. Melanie Autin
Dr. Phil Lienesch
Dr. Jeremy Maddox

Dr. Andy Mienaltowski
Dr. Zhonghang Xia for Huanjing Wang
Dr. Todd Willian

FROM: Ken Crawford, Chair

The meeting was called to order at 4:00pm.

OLD BUSINESS:

Autin/Willian moved for approval of the minutes of the November 2, 2017 meeting. Motion passed.

NEW BUSINESS:

Action Agenda

Department of Agriculture

Algeo/Autin moved to approve proposal to revise a program, Ref. 508, Major in Agriculture, Agriculture Mechanization Concentration. Motion passed.

Department of Geographic Information Systems

Maddox/Willian moved to approve the Proposal to Revise a Program, Ref. 174, Certificate in GIS. Motion passed with friendly amendment.

Mienaltowski/Willian moved to approve the Proposal to Revise a Program, Ref. 576, Major in GIS. Motion passed.

OTHER BUSINESS:

Discussed an idea to create a zero credit hour internship, research, and/or coop course for tracking purposes.

Adjourned 4:38pm

Proposal Date: December 6, 2017

**Ogden College of Science and Engineering
Department of Mathematics
Proposal to Revise Course Prerequisites/Corequisites
(Consent Item)**

Contact Person: Ngoc Nguyen, ngoc.nguyen@wku.edu 270-745-6221

1. Identification of course:

- 1.1 Course prefix (subject area) and number: STAT 401
- 1.2 Course title: Regression Analysis
- 1.3 Credit hours: 3.0

2. Current prerequisites/corequisites/special requirements:

Prerequisite: A grade of "C" or better in STAT 301 or permission of instructor. Prerequisite or Corequisite: STAT 330.

3. Proposed prerequisites/corequisites/special requirements:

Prerequisite(s): STAT 301 with a grade of C or better; STAT 330 (may be taken concurrently) or CS 396 with a grade of C or better; or permission of instructor.

4. Rationale for the revision of prerequisites/corequisites/special requirements:

Students majoring in computer science may wish to take STAT 401. After successfully completing CS 396, students have the necessary programming background and skills needed to independently learn the syntax for one of the programming languages that students taking STAT 330 concurrently are learning.

5. Effect on completion of major/minor sequence:

Students majoring in computer science who have successfully completed CS 396 can take STAT 401 without having to take STAT 330.

6. Proposed term for implementation: Fall 2018

7. Dates of prior committee approvals:

Department of Mathematics

1/19/2018

Ogden College Curriculum Committee

Undergraduate Curriculum Committee

University Senate

Proposal Date: December 6, 2017

**Ogden College of Science and Engineering
Department of Mathematics
Proposal to Revise Course Prerequisites/Corequisites
(Consent Item)**

Contact Person: Ngoc Nguyen, ngoc.nguyen@wku.edu 270-745-6221

1. Identification of course:

- 1.1 Course prefix (subject area) and number: STAT 402
- 1.2 Course title: Experimental Design
- 1.3 Credit hours: 3.0

2. Current prerequisites/corequisites/special requirements:

Prerequisite: A grade of "C" or better in STAT 301 or permission of instructor. Prerequisite or Corequisite: STAT 330.

3. Proposed prerequisites/corequisites/special requirements:

Prerequisite(s): STAT 301 with a grade of C or better; STAT 330 (may be taken concurrently) or CS 396 with a grade of C or better; or permission of instructor.

4. Rationale for the revision of prerequisites/corequisites/special requirements:

Students majoring in computer science may wish to take STAT 402. After successfully completing CS 396, students have the necessary programming background and skills needed to independently learn the syntax for one of the programming languages that students taking STAT 330 concurrently are learning.

5. Effect on completion of major/minor sequence:

Students majoring in computer science who have successfully completed CS 396 can take STAT 402 without having to take STAT 330.

6. Proposed term for implementation:

Fall 2018

7. Dates of prior committee approvals:

Department of Mathematics

1/19/2018

Ogden College Curriculum Committee

Undergraduate Curriculum Committee

University Senate

Proposal Date: 1/26/2018

**Ogden College of Science and Engineering
Department of Psychological Sciences
Proposal to Revise Course Prerequisites/Corequisites
(Consent Item)**

Contact Person: Dr. Andrew Mienaltowski, drmski@wku.edu, 5-2353

1. Identification of course:

- 1.1 Course prefix (subject area) and number: PSYS 463
- 1.2 Course title: Evolutionary Psychology

2. Current prerequisites/corequisites/special requirements:

PSYS or PSY 100 and junior standing or permission of the instructor.

3. Proposed prerequisites/corequisites/special requirements:

PSYS 160 or PSYS 100 or PSY 100, and junior standing, or permission of the instructor.

4. Rationale for the revision of prerequisites/corequisites/special requirements:

Both PSYS 160 and PSYS/PSY 100 cover introductory material in psychological sciences helpful to considering the content covered in PSYS 463. PSYS 160 is an overview of biological psychology, and PSYS/PSY 100 includes relevant socioemotional, developmental, and cognitive themes. Either course is suitable as a prerequisite.

5. Effect on completion of major/minor sequence:

The proposed change could facilitate completion of major/minor if students complete PSYS 160 and not PSYS/PSY 100 but want to complete PSYS 463.

6. Proposed term for implementation: Fall 2018

7. Dates of prior committee approvals:

Department of Psychological Sciences
Ogden College Curriculum Committee
Undergraduate Curriculum Committee
University Senate

January 26, 2018

Proposal Date: 1/26/2018

**Ogden College of Science and Engineering
Department of Psychological Sciences
Proposal to Revise Course Catalog Listing
(Consent Item)**

Contact Person: Andrew Mienaltowski, drmski@wku.edu , 5-2353

1. Identification of course:

- 1.1 Course prefix (subject area) and number: PSYS 490
- 1.2 Course title: Independent Study in Psychological Sciences

2. Current course catalog listing:

Advanced students will conduct research and/or readings or projects concerning issues in psychology under the direction of faculty members. The course may be repeated. Only three credit hours will count toward completion of the psychological sciences major/minor.

**3. Proposed course catalog listing:
(aim for 25 words or less)**

Advanced students will conduct research and/or readings in psychological science under the direction of the faculty. The course may be repeated. No more than six credits will count toward completion of the extended option of the psychological science major, and no more than three credit hours will count toward completion of the non-extended option of the major or the psychological science minor.

4. Rationale for revision of the course catalog listing:

Currently students are limited to completing three hours in both the extended and non-extended version of the Psychological Science major. This revision will allow students in the extended major to receive additional research training to support the student's experiential learning within the discipline and engagement through applied research.

5. Proposed term for implementation:

6. Dates of prior committee approvals:

Department of Psychological Sciences
Ogden College Curriculum Committee
Undergraduate Curriculum Committee
University Senate

January 26, 2018

Proposal date: 12-6-2017

**Ogden College of Science and Engineering
School of Engineering and Applied Sciences
Proposal to Revise Course Prerequisites
(Consent Item)**

Contact Person: Bryan Reaka, bryan.reaka@wku.edu, 270-745-7032

1. Identification of course:

- 1.1 Course prefix (subject area) and number: AMS 227
- 1.2 Course title: Introduction to Manufacturing Methods

2. Current prerequisites: Math 116 with a grade of “C” or better, or Math 117 or better

3. Proposed prerequisites: Math 115 or Math 116 with a grade of “C” or better in either; or Math 117 or higher with a passing grade

4. Rationale for the revision of prerequisites:

This adjustment is being done to accommodate the students from the Agricultural Systems concentration of the Agriculture degree. The Agricultural Systems concentration has added AMS 227 to their curriculum which has a math requirement of MATH 115.

5. Effect on completion of major/minor sequence:

None

6. Proposed term for implementation: Fall 2018

7. Dates of prior committee approvals:

School of Engineering and Applied Sciences

1/22/2018

Ogden College Curriculum Committee

Undergraduate Curriculum Committee

University Senate

Proposal Date: December 6, 2017

**Ogden College of Science and Engineering
School of Engineering and Applied Sciences
Proposal to Revise Course Prerequisites/Corequisites
(Consent Item)**

Contact Person: Bryan Reaka, bryan.reaka@wku.edu, 270.745.7032

1. Identification of course:

- 1.1 Course prefix (subject area) and number: AMS 490E
- 1.2 Course title: Senior Research for Manufacturing Engineering Technology

2. Current prerequisites/corequisites:

- 1.1 Prerequisites: AMS 356 with a grade of “C” or better, AMS 390 with a grade of “C” or better, AMS 370 with a grade of “C” or better;
 - 1.1.1 Pre or co-requisites AMS 396, AMS 394

3. Proposed prerequisites/corequisites:

- 1.1 Prerequisites: AMS 356 with a grade of “C” or better, AMS 390 with a grade of “C” or better, AMS 370 with a grade of “C” or better;
 - 1.1.1 Pre or co-requisites AMS 394

4. Rationale for the revision of prerequisites/corequisites:

Due to lack of personnel, AMS 396 will no longer be offered within the School of Engineering and Applied Sciences. This pre/co-requisite change will reflect that AMS 396 will no longer be offered and still allow students to matriculate through the Manufacturing Engineering Technology program.

5. Effect on completion of major/minor sequence:

This will allow students to be able to continue on their appropriate matriculation through the Manufacturing Engineering Technology program.

6. Proposed term for implementation: Fall 2018

7. Dates of prior committee approvals:

School of Engineering and Applied Sciences

1/22/2018

Ogden College Curriculum Committee

University Curriculum Committee

University Senate

Proposal Date: December 6, 2017

**Ogden College of Science and Engineering
School of Engineering and Applied Sciences
Proposal to Revise Course Prerequisites/Corequisites
(Consent Item)**

Contact Person: Bryan Reaka, bryan.reaka@wku.edu, 270.745.7032

1. Identification of course:

- 1.1 Course prefix (subject area) and number: AMS 490F
- 1.2 Course title: Senior Research for Technology Management

2. Current prerequisites/corequisites:

- 1.1 Prerequisites: AMS 356 with a grade of "C" or better, AMS 390 with a grade of "C" or better, AMS 370 with a grade of "C" or better;
 - 1.1.1 Pre or co-requisites AMS 396, AMS 394

3. Proposed prerequisites/corequisites:

- 1.1 Prerequisites: AMS 356 with a grade of "C" or better, AMS 390 with a grade of "C" or better, AMS 370 with a grade of "C" or better;
 - 1.1.1 Pre or co-requisites AMS 394

4. Rationale for the revision of prerequisites/corequisites:

Due to lack of personnel, AMS 396 will no longer be offered within the School of Engineering and Applied Sciences. This pre/co-requisite change will reflect that AMS 396 will no longer be offered and still allow students to matriculate through the Technology Management program.

5. Effect on completion of major/minor sequence:

This will allow students to be able to continue on their appropriate matriculation through the Technology Management program.

6. Proposed term for implementation: Fall 2018

7. Dates of prior committee approvals:

School of Engineering and Applied Sciences

1/22/2018

Ogden College Curriculum Committee

University Curriculum Committee

University Senate

Nov 3, 2017

**Ogden College of Science and Engineering
School of Engineering and Applied Sciences
Proposal to Revise Course Prerequisites/Corequisites
(Consent Item)**

Contact Person: Qi Li and Michael Galloway, qi.li@wku.edu Jeffrey.galloway@wku.edu, 745-6225, 745-2859

- 1. Identification of course:**
 - 1.1 Course prefix (subject area) and number: CS 381
 - 1.2 Course title: Introduction to Computer Networks

- 2. Current prerequisites/corequisites/special requirements:**

CS 339 with a grade of “C” or better

- 3. Proposed prerequisites/corequisites/special requirements:**

CS 221 with a grade of “C” or better

- 4. Rationale for the revision of prerequisites/corequisites/special requirements:**

Routing algorithm is the only topic relied on CS 339. After this topic is moved to CS 450 (Computer Networks), students become ready to take CS 381 after they complete CS 221. This revision can also bring time for students to take CS 450 before their graduation.

- 5. Effect on completion of major/minor sequence:**

None

- 6. Proposed term for implementation:**

Spring 2019

- 7. Dates of prior committee approvals:**

School of Engineering and Applied Sciences
Ogden College Curriculum Committee
Undergraduate Curriculum Committee
University Senate

1/22/2018

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

Contact Person: Tom Richmond, tom.richmond@wku.edu 745-6219

1. Identification of program:

- 1.1 Current program reference number: 528
- 1.2 Current program title: Mathematics
- 1.3 Credit hours: 51

2. Identification of the proposed program changes:

The revision will allow two additional courses to satisfy the computational requirement for some majors in mathematics.

3. Detailed program description:

<p>The general major (728) offers two options: (1) Non-teacher certifiable Major in Mathematics; (2) Major Certifiable for Teaching Secondary Level Mathematics. The extended major (528) offers only the first option. Option 1 students in the general major (728) are required to satisfy a computational requirement by completing either CS 180 or 181, while those in the extended major (528) are required to satisfy a computational requirement by completing both CS 180 and either CS 181 or MATH 371. [If MATH 371 is selected to fulfill this requirement, it cannot also be used as an elective in the extended major (528).] Option 2 students are required to complete either CS 170 or CS 180. □</p> <p>Option 1: Non-Teacher Certifiable Major in Mathematics □</p> <p>(A) General Major (728): The student must complete a minimum of 39 hours of mathematics with a minor or second</p>	<p>The general major (728) offers two options: (1) Non-teacher certifiable Major in Mathematics; (2) Major Certifiable for Teaching Secondary Level Mathematics. The extended major (528) offers only the first option. Option 1 students in the general major (728) are required to satisfy a computational requirement by completing one course chosen from CS 180, CS 181, PHYS 316, or PHYS 318, while those in the extended major (528) are required to satisfy a computational requirement by completing two courses chosen from CS 180, CS 181, MATH 371, PHYS 316, or PHYS 318. [If MATH 371 is selected for this requirement, it cannot also be used as an elective in the extended major (528).] Option 2 students are required to complete either CS 170 or CS 180. □</p> <p>Option 1: Non-Teacher Certifiable Major in Mathematics □</p> <p>(A) General Major (728): The student must complete a minimum of 39 hours of mathematics with a minor or second</p>
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major giving a total of at least 59 hours (53 unduplicated) with the following requirements:

1. MATH 136, MATH 137, MATH 237, MATH 307, MATH 310, MATH 317, MATH 337, MATH 498.
2. Two courses from: MATH 405, MATH 406, MATH 415, MATH 417, MATH 423, MATH 431, MATH 435, MATH 439, MATH 450, MATH 470, MATH 473, MATH 482.
3. Six elective hours from: MATH 275 (up to 3 hours), STAT 301, MATH 305, MATH 315, MATH 323, MATH 331, MATH 370, MATH 371, MATH 382, MATH 398 (up to 3 hours), MATH 405, MATH 406, MATH 415, MATH 417, MATH 423, MATH 435, MATH 439, MATH 450, MATH 470, MATH 475 (up to 6 hours), MATH 482.
4. Students may take certain 500-level mathematics courses for undergraduate credit with the approval of the Dept. Head in place of courses listed in items 2 or 3.
5. Note: This major is not intended to prepare students adequately for graduate mathematics. Students intending to seek a graduate degree should pursue major 528.

(B) Extended Major (528): To prepare for graduate study in mathematics, the student must complete a minimum of 51 hours of mathematics with the following requirements:

1. MATH 136, MATH 137, MATH 237, MATH 307, MATH 310, MATH 317, MATH 337, MATH 431, MATH 498.
2. Have a concentration in one of the following areas: B1, B2, or B3.

major giving a total of at least 59 hours (53 unduplicated) with the following requirements:

1. MATH 136, MATH 137, MATH 237, MATH 307, MATH 310, MATH 317, MATH 337, MATH 498.
2. Two courses from: MATH 405, MATH 406, MATH 415, MATH 417, MATH 423, MATH 431, MATH 435, MATH 439, MATH 450, MATH 470, MATH 473, MATH 482.
3. Six elective hours from: MATH 275 (up to 3 hours), STAT 301, MATH 305, MATH 315, MATH 323, MATH 331, MATH 370, MATH 371, MATH 382, MATH 398 (up to 3 hours), MATH 405, MATH 406, MATH 415, MATH 417, MATH 423, MATH 435, MATH 439, MATH 450, MATH 470, MATH 475 (up to 6 hours), MATH 482.
4. Students may take certain 500-level mathematics courses for undergraduate credit with the approval of the Dept. Head in place of courses listed in items 2 or 3.
5. Note: This major is not intended to prepare students adequately for graduate mathematics. Students intending to seek a graduate degree should pursue major 528.

(B) Extended Major (528): To prepare for graduate study in mathematics, the student must complete a minimum of 51 hours of mathematics with the following requirements:

1. MATH 136, MATH 137, MATH 237, MATH 307, MATH 310, MATH 317, MATH 337, MATH 431, MATH 498.
2. Have a concentration in one of the following areas: B1, B2, or B3.

<p>B1: Fundamentals of Analysis and Discrete Mathematics:</p> <p>i. MATH 417, MATH 439, MATH 450 □</p> <p>ii. Two courses from: MATH 315, MATH 323, MATH 415, MATH 423, MATH 473 □</p> <p>iii. Six additional elective hours from: MATH 275 (up to 3 hours), STAT 301, MATH 305, MATH 315, MATH 323, MATH 331, MATH 370, MATH 371 (provided MATH 371 was not used to satisfy the computational requirement), MATH 382, MATH 398 (up to 3 hours), MATH 405, MATH 406, MATH 409, MATH 415, MATH 423, MATH 435, MATH 470, MATH 473, MATH 475 (up to 6 hours), MATH 482. □</p>	<p>B1: Fundamentals of Analysis and Discrete Mathematics:</p> <p>i. MATH 417, MATH 439, MATH 450 □</p> <p>ii. Two courses from: MATH 315, MATH 323, MATH 415, MATH 423, MATH 473 □</p> <p>iii. Six additional elective hours from: MATH 275 (up to 3 hours), STAT 301, MATH 305, MATH 315, MATH 323, MATH 331, MATH 370, MATH 371 (provided MATH 371 was not used to satisfy the computational requirement), MATH 382, MATH 398 (up to 3 hours), MATH 405, MATH 406, MATH 409, MATH 415, MATH 423, MATH 435, MATH 470, MATH 473, MATH 475 (up to 6 hours), MATH 482. □</p>
<p>B2: Fundamentals of Applied Mathematics</p> <p>i. MATH 331, MATH 370, MATH 382, MATH 405. □</p> <p>ii. Two courses from: MATH 305, MATH 406, MATH 435, MATH 470, MATH 482 □</p> <p>iii. Three credit hours from MATH 275, STAT 301, MATH 305, MATH 315, MATH 323, MATH 371 (provided MATH 371 was not used to satisfy the computational requirement), MATH 398, MATH 406, MATH 409, MATH 415, MATH 417, MATH 423, MATH 435, MATH 439, MATH 450, MATH 470, MATH 473, MATH 475, MATH 482. □</p>	<p>B2: Fundamentals of Applied Mathematics</p> <p>i. MATH 331, MATH 370, MATH 382, MATH 405. □</p> <p>ii. Two courses from: MATH 305, MATH 406, MATH 435, MATH 470, MATH 482 □</p> <p>iii. Three credit hours from MATH 275, STAT 301, MATH 305, MATH 315, MATH 323, MATH 371 (provided MATH 371 was not used to satisfy the computational requirement), MATH 398, MATH 406, MATH 409, MATH 415, MATH 417, MATH 423, MATH 435, MATH 439, MATH 450, MATH 470, MATH 473, MATH 475, MATH 482. □</p>
<p>B3: Fundamentals of Mathematical Studies</p> <p>i. MATH 450 □</p> <p>ii. Two courses from: MATH 405, MATH 406, MATH 409, MATH 415, MATH 417, MATH □423, MATH 435,</p>	<p>B3: Fundamentals of Mathematical Studies</p> <p>i. MATH 450 □</p> <p>ii. Two courses from: MATH 405, MATH 406, MATH 409, MATH 415, MATH 417, MATH □423, MATH 435,</p>

MATH 439, MATH 470, MATH 473, MATH 482. □

iii. Twelve additional elective hours from MATH 275 (up to 3 hours), STAT 301, MATH 305, □MATH 315, MATH 323, MATH 331, MATH 370, MATH 371 (provided MATH 371 was not used to satisfy the computational requirement), MATH 382, MATH 398 (up to 3 hours), MATH 405, MATH 406, MATH 409, MATH 415, MATH 423, MATH 435, MATH 470, MATH 473, MATH 475 (up to 6 hours), MATH 482. □

3. Students may take certain 500-level mathematics courses for undergraduate credit in place of courses listed in items B1i, B1ii, B2i, B2ii, B3i, or B3ii with the approval of the mathematics department head. No minor or second major for the extended major is required. □

4. Also required is PHIL 215 or EE 180. □

Option 2: Major Certifiable for Teaching Secondary Level

Mathematics □ General Certifiable

Major (reference number 728): The student must complete a minimum of 36 hours of mathematics with a second major in Science and Mathematics Education (SMED) and with the following requirements:

1. MATH 136, MATH 137, MATH 237, MATH 304, MATH 307, MATH 310, MATH 317, MATH 323, MATH 498; STAT 301. Before the “professional semester,” the student must complete each of these courses with a grade of “C” or better and achieve a GPA of at least 2.5 in required mathematics

MATH 439, MATH 470, MATH 473, MATH 482. □

iii. Twelve additional elective hours from MATH 275 (up to 3 hours), STAT 301, MATH 305, □MATH 315, MATH 323, MATH 331, MATH 370, MATH 371 (provided MATH 371 was not used to satisfy the computational requirement), MATH 382, MATH 398 (up to 3 hours), MATH 405, MATH 406, MATH 409, MATH 415, MATH 423, MATH 435, MATH 470, MATH 473, MATH 475 (up to 6 hours), MATH 482. □

3. Students may take certain 500-level mathematics courses for undergraduate credit in place of courses listed in items B1i, B1ii, B2i, B2ii, B3i, or B3ii with the approval of the mathematics department head. No minor or second major for the extended major is required. □

4. Also required is PHIL 215 or EE 180. □

Option 2: Major Certifiable for Teaching Secondary Level

Mathematics □ General Certifiable

Major (reference number 728): The student must complete a minimum of 36 hours of mathematics with a second major in Science and Mathematics Education (SMED) and with the following requirements:

1. MATH 136, MATH 137, MATH 237, MATH 304, MATH 307, MATH 310, MATH 317, MATH 323, MATH 498; STAT 301. Before the “professional semester,” the student must complete each of these courses with a grade of “C” or better and achieve a GPA of at least 2.5 in required mathematics

<p>courses. □</p> <p>2. At least 3 hours of 400-level mathematics from the following list: MATH 405, MATH 406, MATH 409, MATH 415, MATH 417, MATH 421, MATH 423, MATH 431, MATH 435, MATH 439, MATH 450, MATH 470, MATH 482. □</p> <p>Students in this option must have a second major in science and mathematics education (SMED). In addition, students must attain a grade of “C” or better in each required mathematics course and a 2.5 GPA for all required mathematics courses.</p>	<p>courses. □</p> <p>2. At least 3 hours of 400-level mathematics from the following list: MATH 405, MATH 406, MATH 409, MATH 415, MATH 417, MATH 421, MATH 423, MATH 431, MATH 435, MATH 439, MATH 450, MATH 470, MATH 482. □</p> <p>Students in this option must have a second major in science and mathematics education (SMED). In addition, students must attain a grade of “C” or better in each required mathematics course and a 2.5 GPA for all required mathematics courses.</p>
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4. Rationale for the proposed program change:

The Department of Physics and Astronomy requested that the courses PHYS 316 and PHYS 318 be permitted to satisfy the computational requirement for some majors in mathematics. The courses meet the goals of the computational requirement. Due to the extensive PHYS prerequisites for PHYS 316 and PHYS 318, we anticipate that this change will only impact mathematics majors who are also majoring or minoring in physics.

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

Fall 2018

6. Dates of prior committee approvals:

Department of Mathematics	_____ 1/19/18 _____
Ogden College Curriculum Committee	_____
Undergraduate Curriculum Committee	_____
University Senate	_____

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

Contact Person: Tom Richmond, tom.richmond@wku.edu 745-6219

1. Identification of program:

- 1.1 Current program reference number: 728
- 1.2 Current program title: Mathematics
- 1.3 Credit hours: 36-39

2. Identification of the proposed program changes:

The revision will allow two additional courses to satisfy the computational requirement for some majors in mathematics.

3. Detailed program description:

<p>The general major (728) offers two options: (1) Non-teacher certifiable Major in Mathematics; (2) Major Certifiable for Teaching Secondary Level Mathematics. The extended major (528) offers only the first option. Option 1 students in the general major (728) are required to satisfy a computational requirement by completing either CS 180 or 181, while those in the extended major (528) are required to satisfy a computational requirement by completing both CS 180 and either CS 181 or MATH 371. [If MATH 371 is selected to fulfill this requirement, it cannot also be used as an elective in the extended major (528).] Option 2 students are required to complete either CS 170 or CS 180. □</p> <p>Option 1: Non-Teacher Certifiable Major in Mathematics □</p> <p>(A) General Major (728): The student must complete a minimum of 39 hours of mathematics with a minor or second</p>	<p>The general major (728) offers two options: (1) Non-teacher certifiable Major in Mathematics; (2) Major Certifiable for Teaching Secondary Level Mathematics. The extended major (528) offers only the first option. Option 1 students in the general major (728) are required to satisfy a computational requirement by completing one course chosen from CS 180, CS 181, PHYS 316, or PHYS 318, while those in the extended major (528) are required to satisfy a computational requirement by completing two courses chosen from CS 180, CS 181, MATH 371, PHYS 316, or PHYS 318. [If MATH 371 is selected for this requirement, it cannot also be used as an elective in the extended major (528).] Option 2 students are required to complete either CS 170 or CS 180. □</p> <p>Option 1: Non-Teacher Certifiable Major in Mathematics □</p> <p>(A) General Major (728): The student must complete a minimum of 39 hours of mathematics with a minor or second</p>
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major giving a total of at least 59 hours (53 unduplicated) with the following requirements:

1. MATH 136, MATH 137, MATH 237, MATH 307, MATH 310, MATH 317, MATH 337, MATH 498.

2. Two courses from: MATH 405, MATH 406, MATH 415, MATH 417, MATH 423, MATH 431, MATH 435, MATH 439, MATH 450, MATH 470, MATH 473, MATH 482.

3. Six elective hours from: MATH 275 (up to 3 hours), STAT 301, MATH 305, MATH 315, MATH 323, MATH 331, MATH 370, MATH 371, MATH 382, MATH 398 (up to 3 hours), MATH 405, MATH 406, MATH 415, MATH 417, MATH 423, MATH 435, MATH 439, MATH 450, MATH 470, MATH 475 (up to 6 hours), MATH 482.

4. Students may take certain 500-level mathematics courses for undergraduate credit with the approval of the Dept. Head in place of courses listed in items 2 or 3.

5. Note: This major is not intended to prepare students adequately for graduate mathematics. Students intending to seek a graduate degree should pursue major 528.

(B) Extended Major (528): To prepare for graduate study in mathematics, the student must complete a minimum of 51 hours of mathematics with the following requirements:

1. MATH 136, MATH 137, MATH 237, MATH 307, MATH 310, MATH 317, MATH 337, MATH 431, MATH 498.

2. Have a concentration in one of the following areas: B1, B2, or B3.

major giving a total of at least 59 hours (53 unduplicated) with the following requirements:

1. MATH 136, MATH 137, MATH 237, MATH 307, MATH 310, MATH 317, MATH 337, MATH 498.

2. Two courses from: MATH 405, MATH 406, MATH 415, MATH 417, MATH 423, MATH 431, MATH 435, MATH 439, MATH 450, MATH 470, MATH 473, MATH 482.

3. Six elective hours from: MATH 275 (up to 3 hours), STAT 301, MATH 305, MATH 315, MATH 323, MATH 331, MATH 370, MATH 371, MATH 382, MATH 398 (up to 3 hours), MATH 405, MATH 406, MATH 415, MATH 417, MATH 423, MATH 435, MATH 439, MATH 450, MATH 470, MATH 475 (up to 6 hours), MATH 482.

4. Students may take certain 500-level mathematics courses for undergraduate credit with the approval of the Dept. Head in place of courses listed in items 2 or 3.

5. Note: This major is not intended to prepare students adequately for graduate mathematics. Students intending to seek a graduate degree should pursue major 528.

(B) Extended Major (528): To prepare for graduate study in mathematics, the student must complete a minimum of 51 hours of mathematics with the following requirements:

1. MATH 136, MATH 137, MATH 237, MATH 307, MATH 310, MATH 317, MATH 337, MATH 431, MATH 498.

2. Have a concentration in one of the following areas: B1, B2, or B3.

<p>B1: Fundamentals of Analysis and Discrete Mathematics:</p> <p>i. MATH 417, MATH 439, MATH 450 □</p> <p>ii. Two courses from: MATH 315, MATH 323, MATH 415, MATH 423, MATH 473 □</p> <p>iii. Six additional elective hours from: MATH 275 (up to 3 hours), STAT 301, MATH 305, MATH 315, MATH 323, MATH 331, MATH 370, MATH 371 (provided MATH 371 was not used to satisfy the computational requirement), MATH 382, MATH 398 (up to 3 hours), MATH 405, MATH 406, MATH 409, MATH 415, MATH 423, MATH 435, MATH 470, MATH 473, MATH 475 (up to 6 hours), MATH 482. □</p>	<p>B1: Fundamentals of Analysis and Discrete Mathematics:</p> <p>i. MATH 417, MATH 439, MATH 450 □</p> <p>ii. Two courses from: MATH 315, MATH 323, MATH 415, MATH 423, MATH 473 □</p> <p>iii. Six additional elective hours from: MATH 275 (up to 3 hours), STAT 301, MATH 305, MATH 315, MATH 323, MATH 331, MATH 370, MATH 371 (provided MATH 371 was not used to satisfy the computational requirement), MATH 382, MATH 398 (up to 3 hours), MATH 405, MATH 406, MATH 409, MATH 415, MATH 423, MATH 435, MATH 470, MATH 473, MATH 475 (up to 6 hours), MATH 482. □</p>
<p>B2: Fundamentals of Applied Mathematics</p> <p>i. MATH 331, MATH 370, MATH 382, MATH 405. □</p> <p>ii. Two courses from: MATH 305, MATH 406, MATH 435, MATH 470, MATH 482 □</p> <p>iii. Three credit hours from MATH 275, STAT 301, MATH 305, MATH 315, MATH 323, MATH 371 (provided MATH 371 was not used to satisfy the computational requirement), MATH 398, MATH 406, MATH 409, MATH 415, MATH 417, MATH 423, MATH 435, MATH 439, MATH 450, MATH 470, MATH 473, MATH 475, MATH 482. □</p>	<p>B2: Fundamentals of Applied Mathematics</p> <p>i. MATH 331, MATH 370, MATH 382, MATH 405. □</p> <p>ii. Two courses from: MATH 305, MATH 406, MATH 435, MATH 470, MATH 482 □</p> <p>iii. Three credit hours from MATH 275, STAT 301, MATH 305, MATH 315, MATH 323, MATH 371 (provided MATH 371 was not used to satisfy the computational requirement), MATH 398, MATH 406, MATH 409, MATH 415, MATH 417, MATH 423, MATH 435, MATH 439, MATH 450, MATH 470, MATH 473, MATH 475, MATH 482. □</p>
<p>B3: Fundamentals of Mathematical Studies</p> <p>i. MATH 450 □</p> <p>ii. Two courses from: MATH 405, MATH 406, MATH 409, MATH 415, MATH 417, MATH □423, MATH 435,</p>	<p>B3: Fundamentals of Mathematical Studies</p> <p>i. MATH 450 □</p> <p>ii. Two courses from: MATH 405, MATH 406, MATH 409, MATH 415, MATH 417, MATH □423, MATH 435,</p>

MATH 439, MATH 470, MATH 473, MATH 482. □

iii. Twelve additional elective hours from MATH 275 (up to 3 hours), STAT 301, MATH 305, □MATH 315, MATH 323, MATH 331, MATH 370, MATH 371 (provided MATH 371 was not used to satisfy the computational requirement), MATH 382, MATH 398 (up to 3 hours), MATH 405, MATH 406, MATH 409, MATH 415, MATH 423, MATH 435, MATH 470, MATH 473, MATH 475 (up to 6 hours), MATH 482. □

3. Students may take certain 500-level mathematics courses for undergraduate credit in place of courses listed in items B1i, B1ii, B2i, B2ii, B3i, or B3ii with the approval of the mathematics department head. No minor or second major for the extended major is required. □

4. Also required is PHIL 215 or EE 180. □

Option 2: Major Certifiable for Teaching Secondary Level Mathematics □ General Certifiable Major (reference number 728): The student must complete a minimum of 36 hours of mathematics with a second major in Science and Mathematics Education (SMED) and with the following requirements:

1. MATH 136, MATH 137, MATH 237, MATH 304, MATH 307, MATH 310, MATH 317, MATH 323, MATH 498; STAT 301. Before the “professional semester,” the student must complete each of these courses with a grade of “C” or better and achieve a GPA of at least 2.5 in required mathematics

MATH 439, MATH 470, MATH 473, MATH 482. □

iii. Twelve additional elective hours from MATH 275 (up to 3 hours), STAT 301, MATH 305, □MATH 315, MATH 323, MATH 331, MATH 370, MATH 371 (provided MATH 371 was not used to satisfy the computational requirement), MATH 382, MATH 398 (up to 3 hours), MATH 405, MATH 406, MATH 409, MATH 415, MATH 423, MATH 435, MATH 470, MATH 473, MATH 475 (up to 6 hours), MATH 482. □

3. Students may take certain 500-level mathematics courses for undergraduate credit in place of courses listed in items B1i, B1ii, B2i, B2ii, B3i, or B3ii with the approval of the mathematics department head. No minor or second major for the extended major is required. □

4. Also required is PHIL 215 or EE 180. □

Option 2: Major Certifiable for Teaching Secondary Level Mathematics □ General Certifiable Major (reference number 728): The student must complete a minimum of 36 hours of mathematics with a second major in Science and Mathematics Education (SMED) and with the following requirements:

1. MATH 136, MATH 137, MATH 237, MATH 304, MATH 307, MATH 310, MATH 317, MATH 323, MATH 498; STAT 301. Before the “professional semester,” the student must complete each of these courses with a grade of “C” or better and achieve a GPA of at least 2.5 in required mathematics

<p>courses. □</p> <p>2. At least 3 hours of 400-level mathematics from the following list: MATH 405, MATH 406, MATH 409, MATH 415, MATH 417, MATH 421, MATH 423, MATH 431, MATH 435, MATH 439, MATH 450, MATH 470, MATH 482. □</p> <p>Students in this option must have a second major in science and mathematics education (SMED). In addition, students must attain a grade of “C” or better in each required mathematics course and a 2.5 GPA for all required mathematics courses.</p>	<p>courses. □</p> <p>2. At least 3 hours of 400-level mathematics from the following list: MATH 405, MATH 406, MATH 409, MATH 415, MATH 417, MATH 421, MATH 423, MATH 431, MATH 435, MATH 439, MATH 450, MATH 470, MATH 482. □</p> <p>Students in this option must have a second major in science and mathematics education (SMED). In addition, students must attain a grade of “C” or better in each required mathematics course and a 2.5 GPA for all required mathematics courses.</p>
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4. Rationale for the proposed program change:

The Department of Physics and Astronomy requested that the courses PHYS 316 and PHYS 318 be permitted to satisfy the computational requirement for some majors in mathematics. The courses meet the goals of the computational requirement. Due to the extensive PHYS prerequisites for PHYS 316 and PHYS 318, we anticipate that this change will only impact mathematics majors who are also majoring or minoring in physics.

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

Fall 2018

6. Dates of prior committee approvals:

Department of Mathematics	_____ 1/19/18 _____
Ogden College Curriculum Committee	_____
Undergraduate Curriculum Committee	_____
University Senate	_____

**Ogden College of Science and Engineering
Psychological Sciences
Proposal to Create a New Course
(Action Item)**

Contact Person: Gordon C Baylis, gordon.baylis@wku.edu, 5-4901

1. Identification of proposed course:

- 1.1 Course Prefix and Number: PSYS 300
- 1.2 Course title: Writing in the Psychological Sciences
- 1.3 Abbreviated course title: Writing in Psych Sciences
(maximum of 30 characters or spaces)
- 1.4 Credit hours: 3
- 1.5 Variable credit : No.
- 1.6 Grade type: Standard Letter Grade
- 1.7 Prerequisites: ENG 200, and PSYS 160 or PSYS 100 or PSY 100, or permission of the instructor.
- 1.8 Course description: How to write about research in neural and behavioral science within the discipline and for a lay audience. Includes learning how to write in American Psychological Association (APA) style.

2. Rationale:

- 2.1 Reason for developing the proposed course: Writing in the Disciplines courses give students advanced instruction and practice in writing within the academic discipline and make students aware of how disciplinary conventions and rhetorical situations call for different choices in language, structure, format, tone, citation, and documentation. Students conduct investigations into writing and reading conventions in their fields and receive advanced instruction in planning, drafting, arranging, revising, and editing discipline-specific essays.
- 2.2 Projected enrollment in the proposed course: 20. Course enrollment will be kept at a moderate size to enable discussion of important issues, such as those described above. Size needs to be moderate to allow students – both collectively and individually – to get feedback about their writing, in order to revise and improve their writing style. One section will likely be offered each semester.
- 2.3 Relationship of the proposed course to courses now offered by the department: The Department of Psychological Sciences includes discipline specific writing within its curriculum but offers no intermediate course where writing is specifically the focus of the course. For instance, discipline-related writing instruction in PSYS 210 and PSYS 211 are limited to aspects of research design, one of the main topics of these courses.
- 2.4 Relationship of the proposed course to courses offered in other departments:

The course ENG 300 represents the general purpose Writing in the Disciplines course. As the new Colonnade structure was rolled out, it was anticipated that individual disciplines, or groups of disciplines, would develop a more tailored version of this class. Thus far, only two departments – Communication and Geography & Geology – have developed such a Writing in the Disciplines class. This proposed class represents the third discipline-specific version of a writing in the disciplines course, and focuses on writing within the behavioral and neurophysiological sciences.

- 2.5 Relationship of the proposed course to courses offered in other institutions: A large fraction of universities teach courses in writing appropriate to disciplines, prompting the inclusion of this notion in the new colonnade program. Within undergraduate psychology programs, writing is often incorporated in upper-level course work without formal expectations spelled out in program descriptions in undergraduate course catalogs. Below is a table documenting the diversity of approaches at other Kentucky and Benchmark institutions:

<u>Name of Institution</u>	<u>Method for Providing Instruction within the Disciplines of Psychological Science</u>
University of Louisville	Several upper-level classes have a writing designation instead of a single course
Eastern Kentucky University	Writing requirement built into multiple courses offered by the department
Appalachian State University	PSY 300 Research Methods in Psychology satisfies GenEd writing requirement
Indiana State University	PSY 376 Psychological Research and Writing
University of North Carolina - Greensboro	PSY 311 Research Methods and Statistics 2 is a writing intensive course
University of South Alabama	PSY 322 Research Design and Analysis 2 is a writing intensive course
University of Southern Mississippi	PSY 361 Research Methods is a writing intensive course

3. Discussion of proposed course:

3.1 Schedule type: Lecture

3.2 Learning Outcomes:

Students will learn to:

- Write clear and effective prose in several forms, using conventions appropriate to the field of behavioral and neural sciences (e.g., APA style), and also to lay audiences.
- Find, analyze, evaluate, and cite pertinent primary and secondary sources, including academic databases, to prepare written texts.
- Identify, analyze, and evaluate statements, assumptions, and conclusions representing diverse points of view, and construct informed, sustained, and ethical arguments in response.
- Plan, organize, revise, practice, edit, and proofread to improve the development and clarity of ideas.
- Distinguish among various kinds of evidence by identifying reliable sources and valid arguments.

3.3 Content outline:

Students will be taught to write a scientific paper, construct a PowerPoint presentation, and a poster. They will be taught how to write a short article for a lay audience. Finally, they will be given a brief introduction to the skills of grant writing. Students will learn how to write in APA format, including the rules

associated with the appropriate display of summary results (e.g., figures and tables) and in-text and bibliography reference citations.

3.4 Student expectations and requirements:
Students will be graded on their performance on writing exercises. They will be expected to write each of the standard sections of a scientific article, and will be graded on each. Students will receive instruction on how to improve their writing, and they will also be expected to revise a complete article. They will also be required to construct a 10-minute presentation and a standard poster presentation; these will be graded.

3.5 Tentative texts and course materials
Simon & Schuster Handbook for Writers (9th edition)
APA Publication manual (6th edition)
Exemplary articles from psychology journals, and from Scientific American (to exemplify articles for lay audiences) will also be assigned.

4. Resources

- 4.1. Library resources: Students will use the Psychology and Science indexing/abstracting/full-text services offered by the WKU library. Current resources will provide adequate access to journal articles needed for this course.
- 4.2. Computer resources: WKU's web-based instructional tools (i.e., Blackboard) will be used for this course. This technology is adequate for the needs of the professor and the students

5. Budget implications:

- 5.1 Proposed method of staffing: Existing faculty will teach this course.
- 5.2 Special equipment needed: None.
- 5.3 Expendable materials needed: None.
- 5.4 Laboratory materials needed: None.

6. Proposed term for implementation: Fall 2018

7. Dates of prior committee approvals:

Department of Psychological Sciences

OCSE Curriculum Committee

Undergraduate Curriculum Committee

Colonnade Curriculum Committee

University Senate

January 26, 2018

**Ogden College of Science and Engineering
Department of Psychological Sciences
Proposal to Revise A Program
(Action Item)**

Contact Person: Andy Mienaltowski, andrew.mienaltowski@wku.edu, 5-2353

1. Identification of program:

- 1.1 Current program reference number: 747
- 1.2 Current program title: Major in Psychological Science
- 1.3 Credit hours: 38-50 hours

2. Identification of the proposed program changes:

- Addition of PSYS 425 Developmental Psychopathology to Clinical Science and Developmental Science concentrations
- Addition of PSYS 442 Psychology of Suicide and Self-Injury to Clinical Science concentration
- Addition of PSYS 463 Evolutionary Psychology to the Developmental Science and Social Psychology concentrations
- Additional language added to clarify the number of PSYS 490 credits that students can complete toward the major.

3. Detailed program description:

<p>Current Program: The Department of Psychological Sciences offers programs designed for students who are interested in a science-oriented degree that will prepare them for graduate study in psychology or a related field (e.g., medical school, pharmacy, physical therapy) or for employment in jobs where strong quantitative and research skills are required. The department provides two options for the Bachelor of Science degree. The first option requires a minimum of 38 credit hours and a minor or second major is required. The second option requires a minimum of 50 unduplicated credit hours and no minor or second major is required. For both options, students will complete a program of study that includes Core and Concentration components as well as a Laboratory Experience component. To complete the Core requirement, students will select a total of 25 to 28 credit hours from the following categories: Foundations of Psychology, Developmental Processes, Learning and Cognition, Individual Differences and Social Processes, Biological</p>	<p>Revised Program: The Department of Psychological Sciences offers programs designed for students who are interested in a science-oriented degree that will prepare them for graduate study in psychology or a related field (e.g., medical school, pharmacy, physical therapy) or for employment in jobs where strong quantitative and research skills are required. The department provides two options for the Bachelor of Science degree. The first option requires a minimum of 38 credit hours and a minor or second major is required. The second option requires a minimum of 50 unduplicated credit hours and no minor or second major is required. For both options, students will complete a program of study that includes Core and Concentration components as well as a Laboratory Experience component. To complete the Core requirement, students will select a total of 25 to 28 credit hours from the following categories: Foundations of Psychology, Developmental Processes, Learning and Cognition, Individual Differences and Social Processes, Biological</p>
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Bases of Behavior and Mental Processes, Research Methods and Statistics, and Integrative Science in Psychology. To complete the Concentration requirement, students will select courses from one or two of the six thematic concentrations or they may design a custom concentration (subject to approval by their advisor). To complete the Laboratory Experience component, students will complete one PSYS lab course or one PSYS lecture/lab course at the 300-level or above. Students in the 38-hour option will complete 12 credit hours from one thematic concentration, or design a custom concentration by selecting 12 hours from courses not used to satisfy their Core requirement. Students choosing the 50-hour option will complete 21-24 credit hours from two concentrations or 24 – 25 hours from the quantitative psychology concentration.

Students must maintain a minimum 2.50 GPA both overall and in the major. Either (1) MATH 116 and MATH 117, or (2) MATH 118 or higher is required; MATH 183 is recommended. Students who select the 50-hour option with the quantitative psychology concentration must complete MATH 136.

Applied Psychological Science. This concentration focuses on how psychological science can be used to solve real-world problems in business, sports, or human engineering domains.

Core Courses

PSYS 100 or PSYS 160, PSYS 220 or PSYS 321, PSYS 333, PSYS 350, PSYS 360 or PSYS 362 or PSYS 363, PSYS 210, PSYS 211, PSYS 313, PSYS 380 or PSYS 481 or PSYS 490

Concentration Courses

Required: PSYS 413
Electives: Choose 9 hours from PSYS 353, PSYS 360 or PSYS 362 or PSYS 363, PSYS 370, PSYS 433, PSYS 473, PSYS 481, PSYS 490, PSYS 499, PSY 340, PSY 355, PSY 412, PSY 470.

Laboratory Experience

Bases of Behavior and Mental Processes, Research Methods and Statistics, and Integrative Science in Psychology. To complete the Concentration requirement, students will select courses from one or two of the six thematic concentrations or they may design a custom concentration (subject to approval by their advisor). To complete the Laboratory Experience component, students will complete one PSYS lab course or one PSYS lecture/lab course at the 300-level or above. Students in the 38-hour option will complete 12 credit hours from one thematic concentration, or design a custom concentration by selecting 12 hours from courses not used to satisfy their Core requirement. Students choosing the 50-hour option will complete 21-24 credit hours from two concentrations or 24 – 25 hours from the quantitative psychology concentration.

Students must maintain a minimum 2.50 GPA both overall and in the major. Either (1) MATH 116 and MATH 117, or (2) MATH 118 or higher is required; MATH 183 is recommended. Students who select the 50-hour option with the quantitative psychology concentration must complete MATH 136.

Students in the 38-hour option of the Psychological Science major can count no more than 3 credits of PSYS 490 toward the major. Students in the 50-hour option may count no more than 6 credits of PSYS 490 toward the major, with no more than 3 credits counting toward a single concentration's requirements.

Applied Psychological Science. This concentration focuses on how psychological science can be used to solve real-world problems in business, sports, or human engineering domains.

Core Courses

PSYS 100 or PSYS 160, PSYS 220 or PSYS 321, PSYS 333, PSYS 350, PSYS 360 or PSYS 362 or PSYS 363, PSYS 210, PSYS 211, PSYS 313, PSYS 380 or PSYS 481 or PSYS 490

Concentration Courses

Required: PSYS 413

Select any one PSYS course with a laboratory or lecture/laboratory designation at the 300-level or above.

Biobehavioral Psychology. This concentration provides knowledge of the biological bases of behavior and thought.

Core Courses

PSYS 100 or PSYS 160, PSYS 220 or PSYS 321, PSYS 331, PSYS 350 or PSYS 440, PSYS 360 or PSYS 362, PSYS 210, PSYS 211, PSYS 313, PSYS 380 or PSYS 481 or PSYS 490

Concentration Courses

Required: PSYS 363

Electives: Choose 9 hours from PSYS 333, PSYS 431, PSYS 462, PSYS 463, PSYS 465, PSYS 483, PSYS 490, PSYS 499

Laboratory Experience

Select any one PSYS course with a laboratory or lecture/laboratory designation at the 300-level or above.

Clinical Psychological Science. This concentration focuses on mechanisms and etiologies of psychological health and dysfunction.

Core Courses

PSYS 100 or PSYS 160, PSYS 220 or PSYS 321, PSYS 331 or PSYS 333, PSYS 440, PSYS 360 or PSYS 362 or PSYS 363, PSYS 210, PSYS 211, PSYS 313, PSYS 380 or PSYS 481 or PSYS 490.

Concentration Courses

Choose 12 hours from PSYS 350, PSYS 353, PSYS 360 or PSYS 362, PSYS 413, PSYS 423, PSYS 450, PSYS 451, PSYS 453, PSYS 462, PSYS 465, PSYS 482, PSYS 481, PSYS 490, PSYS 499.

Laboratory Experience

Select any one PSYS course with a laboratory or lecture/laboratory designation at the 300-level or above.

Electives: Choose 9 hours from PSYS 353, PSYS 360 or PSYS 362 or PSYS 363, PSYS 370, PSYS 433, PSYS 473, PSYS 481, PSYS 490, PSYS 499, PSY 340, PSY 355, PSY 412, PSY 470.

Laboratory Experience

Select any one PSYS course with a laboratory or lecture/laboratory designation at the 300-level or above.

Biobehavioral Psychology. This concentration provides knowledge of the biological bases of behavior and thought.

Core Courses

PSYS 100 or PSYS 160, PSYS 220 or PSYS 321, PSYS 331, PSYS 350 or PSYS 440, PSYS 360 or PSYS 362, PSYS 210, PSYS 211, PSYS 313, PSYS 380 or PSYS 481 or PSYS 490

Concentration Courses

Required: PSYS 363

Electives: Choose 9 hours from PSYS 333, PSYS 431, PSYS 462, PSYS 463, PSYS 465, PSYS 483, PSYS 490, PSYS 499

Laboratory Experience

Select any one PSYS course with a laboratory or lecture/laboratory designation at the 300-level or above.

Clinical Psychological Science. This concentration focuses on mechanisms and etiologies of psychological health and dysfunction.

Core Courses

PSYS 100 or PSYS 160, PSYS 220 or PSYS 321, PSYS 331 or PSYS 333, PSYS 440, PSYS 360 or PSYS 362 or PSYS 363, PSYS 210, PSYS 211, PSYS 313, PSYS 380 or PSYS 481 or PSYS 490.

Concentration Courses

Choose 12 hours from PSYS 350, PSYS 353, PSYS 360 or PSYS 362, PSYS 413, PSYS 423, **PSYS 425, PSYS 442**, PSYS

Cognitive Psychology. This concentration emphasizes the scientific study of mental processes such as attention, perception, memory, problem-solving, thinking, and language use.

Core Courses

PSYS 100 or PSYS 160, PSYS 220 or PSYS 321, PSYS 333, PSYS 350 or PSYS 440, PSYS 360 or PSYS 362 or PSYS 363, PSYS 210, PSYS 211, PSYS 313, PSYS 380 or PSYS 481 or PSYS 490.

Concentration Courses

Choose 12 hours from PSYS 331, PSYS 363, PSYS 423, PSYS 431, PSYS 433, PSYS 462, PSYS 490, PSYS 499, PSY 412.

Laboratory Experience

Select any one PSYS course with a laboratory or lecture/laboratory designation at the 300-level or above.

Developmental Science. This addresses the physical, emotional, intellectual, social, perceptual, and personality growth of humans throughout the lifespan.

Core Courses

PSYS 100 or PSYS 160, PSYS 220 or PSYS 321, PSYS 331 or PSYS 333, PSYS 350 or PSYS 440, PSYS 360 or PSYS 362 or PSYS 363, PSYS 210, PSYS 211, PSYS 313, PSYS 380 or PSYS 481 or PSYS 490.

Concentration Courses: Choose 12 hours from PSYS 220, PSYS 321, PSYS 423, PSYS 424, PSYS 431, PSYS 482, PSYS 490, PSYS 499.

Laboratory Experience

Select any one PSYS course with a laboratory or lecture/laboratory designation at the 300-level or above.

Social Psychology. This concentration emphasizes the study of how social situations affect behavior.

450, PSYS 451, PSYS 453, PSYS 462, PSYS 465, PSYS 482, PSYS 481, PSYS 490, PSYS 499.

Laboratory Experience

Select any one PSYS course with a laboratory or lecture/laboratory designation at the 300-level or above.

Cognitive Psychology. This concentration emphasizes the scientific study of mental processes such as attention, perception, memory, problem-solving, thinking, and language use.

Core Courses

PSYS 100 or PSYS 160, PSYS 220 or PSYS 321, PSYS 333, PSYS 350 or PSYS 440, PSYS 360 or PSYS 362 or PSYS 363, PSYS 210, PSYS 211, PSYS 313, PSYS 380 or PSYS 481 or PSYS 490.

Concentration Courses

Choose 12 hours from PSYS 331, PSYS 363, PSYS 423, PSYS 431, PSYS 433, PSYS 462, PSYS 490, PSYS 499, PSY 412.

Laboratory Experience

Select any one PSYS course with a laboratory or lecture/laboratory designation at the 300-level or above.

Developmental Science. This addresses the physical, emotional, intellectual, social, perceptual, and personality growth of humans throughout the lifespan.

Core Courses

PSYS 100 or PSYS 160, PSYS 220 or PSYS 321, PSYS 331 or PSYS 333, PSYS 350 or PSYS 440, PSYS 360 or PSYS 362 or PSYS 363, PSYS 210, PSYS 211, PSYS 313, PSYS 380 or PSYS 481 or PSYS 490.

Concentration Courses: Choose 12 hours from PSYS 220, PSYS 321, PSYS 423, PSYS 424, **PSYS 425**, PSYS 431, **PSYS 463**, PSYS 482, PSYS 490, PSYS 499.

<p><i>Core Courses</i> PSYS 100 or PSYS 160, PSYS 220 or PSYS 321, PSYS 331 or PSYS 333, PSYS 350, PSYS 360 or PSYS 362 or PSYS 363, PSYS 210, PSYS 211, PSYS 313, PSYS 380 or PSYS 481 or PSYS 490.</p> <p><i>Concentration Courses</i> Required: PSYS 413 Electives: Choose 9 hours from PSYS 353, PSYS 433, PSYS 440, PSYS 450, PSYS 451, PSYS 453, PSYS 483, PSYS 490, PSYS 499, PSY 412.</p> <p><i>Laboratory Experience</i> Select any one PSYS course with a laboratory or lecture/laboratory designation at the 300-level or above.</p> <p><i>General Concentration.</i> This concentration allows students, with help from their advisor, to design an individualized theme.</p> <p><i>Core Courses</i> PSYS 100 or PSYS 160, PSYS 220 or PSYS 321, PSYS 331 or PSYS 333, PSYS 350 or PSYS 440, PSYS 360 or PSYS 362 or PSYS 363, PSYS 210, PSYS 211, PSYS 313, PSYS 380 or PSYS 481 or PSYS 490.</p> <p><i>Concentration Courses</i> Select 12-24 hours of electives from courses not used to satisfy Core requirements.</p> <p><i>Laboratory Experience</i> Select any one PSYS course with a laboratory or lecture/laboratory designation at the 300-level or above.</p> <p>Quantitative Psychology. This concentration focuses on the use of advanced data manipulation and statistical analysis techniques within psychological science to examine discipline-specific research questions. This concentration requires at least 49 hours, so students do not need a minor or second major. Also, students in this concentration do not select another concentration within the Psychological Science major.</p>	<p><i>Laboratory Experience</i> Select any one PSYS course with a laboratory or lecture/laboratory designation at the 300-level or above.</p> <p><i>Social Psychology.</i> This concentration emphasizes the study of how social situations affect behavior.</p> <p><i>Core Courses</i> PSYS 100 or PSYS 160, PSYS 220 or PSYS 321, PSYS 331 or PSYS 333, PSYS 350, PSYS 360 or PSYS 362 or PSYS 363, PSYS 210, PSYS 211, PSYS 313, PSYS 380 or PSYS 481 or PSYS 490.</p> <p><i>Concentration Courses</i> Required: PSYS 413 Electives: Choose 9 hours from PSYS 353, PSYS 433, PSYS 440, PSYS 450, PSYS 451, PSYS 453, PSYS 463, PSYS 483, PSYS 490, PSYS 499, PSY 412.</p> <p><i>Laboratory Experience</i> Select any one PSYS course with a laboratory or lecture/laboratory designation at the 300-level or above.</p> <p><i>General Concentration.</i> This concentration allows students, with help from their advisor, to design an individualized theme.</p> <p><i>Core Courses</i> PSYS 100 or PSYS 160, PSYS 220 or PSYS 321, PSYS 331 or PSYS 333, PSYS 350 or PSYS 440, PSYS 360 or PSYS 362 or PSYS 363, PSYS 210, PSYS 211, PSYS 313, PSYS 380 or PSYS 481 or PSYS 490.</p> <p><i>Concentration Courses</i> Select 12-24 hours of electives from courses not used to satisfy Core requirements.</p> <p><i>Laboratory Experience</i> Select any one PSYS course with a laboratory or lecture/laboratory designation at the 300-level or above.</p>
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<p><i>Core Courses</i> PSYS 100 or PSYS 160, PSYS 220 or PSYS 321, PSYS 331 or PSYS 333, PSYS 350 or PSYS 440, PSYS 360 or PSYS 362 or PSYS 363, PSYS 210, PSYS 211, PSYS 313, PSYS 380 or PSYS 481 or PSYS 490.</p> <p><i>Concentration Courses</i> CS 146 or CS 170 or CS 180, STAT 301, STAT 330, STAT 401 or STAT 402, PSYS 413, and 9 PSYS upper-level elective hours selected in consultation with an advisor.</p> <p><i>Laboratory Experience</i> Select any one PSYS course with a laboratory or lecture/laboratory designation at the 300-level or above.</p>	<p>Quantitative Psychology. This concentration focuses on the use of advanced data manipulation and statistical analysis techniques within psychological science to examine discipline-specific research questions. This concentration requires at least 49 hours, so students do not need a minor or second major. Also, students in this concentration do not select another concentration within the Psychological Science major.</p> <p><i>Core Courses</i> PSYS 100 or PSYS 160, PSYS 220 or PSYS 321, PSYS 331 or PSYS 333, PSYS 350 or PSYS 440, PSYS 360 or PSYS 362 or PSYS 363, PSYS 210, PSYS 211, PSYS 313, PSYS 380 or PSYS 481 or PSYS 490.</p> <p><i>Concentration Courses</i> CS 146 or CS 170 or CS 180, STAT 301, STAT 330, STAT 401 or STAT 402, PSYS 413, and 9 PSYS upper-level elective hours selected in consultation with an advisor.</p> <p><i>Laboratory Experience</i> Select any one PSYS course with a laboratory or lecture/laboratory designation at the 300-level or above.</p>
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(Side-by-side table is required for most program changes showing revised program on the right and identifying deletions by strike-through and additions in boldface.)

4. **Rationale for the proposed program change:**
The proposed revisions will add PSYS 425, PSYS 442, and PSYS 463 into concentrations within the major to increase the options that students have to complete the concentration-specific coursework in the major. Many Psychological Science majors complete PSYS 490 Independent Study hours. The proposed revision clarifies how many hours can count toward the major.
5. **Proposed term for implementation and special provisions (if applicable):** Fall 2018
6. **Dates of prior committee approvals:**
Department of Psychological Sciences January 26, 2018
Ogden College Curriculum Committee _____

Undergraduate Curriculum Committee
University Senate

**Ogden College of Science and Engineering
School of Engineering and Applied Sciences
Proposal to Make Multiple Revisions to a Course
(Action Item)**

Contact Person: Bryan Reaka, bryan.reaka@wku.edu, 270.745.7032

1. Identification of course:

- 1.1 Current course prefix (subject area) and number: AMS 394
- 1.2 Course title: LEAN SYSTEMS

2. Revise course title:

- 2.1 Current course title: LEAN SYSTEMS
- 2.2 Proposed course title: Lean and Supply Chain Systems
- 2.3 Proposed abbreviated title: Lean and Supply Chain Systems
- 2.4 Rationale for revision of course title: As the topics in both of these courses have evolved it is becoming evident that one topic is intimately intertwined within the other topic in industry.

3. Revise course number: (N/A)

- 3.1 Current course number:
- 3.2 Proposed course number:
- 3.3 Rationale for revision of course number:

4. Revise course prerequisites/corequisites/special requirements: (N/A)

- 4.1 Current prerequisites/corequisites/special requirements: (indicate which)
- 4.2 Proposed prerequisites/corequisites/special requirements:
- 4.3 Rationale for revision of course prerequisites/corequisites/special requirements:
- 4.4 Effect on completion of major/minor sequence:

5. Revise course catalog listing:

- 5.1 Current course catalog listing: Applications of lean systems across disciplines. Lean is the enhancement of customer value and the elimination and reduction of all forms of waste.
- 5.2 Proposed course catalog listing: Applications of lean and supply chain principals across disciplines. This is the enhancement of customer value, elimination and reduction of all forms of waste from supplier to end user.
- 5.3 Rationale for revision of course catalog listing:

Comparing Lean production and supply chain management	
Lean Production	Supply Chain Management
Focus to reduce waste and non-value-add activities	Goal is reduced lead times/cost through various methods
Traditional focus and success primarily with optimizing shop floor	Focus to optimize across supply chain partners

Uses a set of structured tools	Applies Lean tools as well as leverages other tools (Six Sigma, TQM, TOC)
Emphasis on no inventory through “continuous flow”	Emphasis on minimizing inventory through various techniques

Adapted from Mandroth, K. B., Vitasek, K., Thompson, R. H., (2008) Lean Practices in the supply chain. *Jones Lang LaSalle*, http://manrodt.com/pdf/lean_2008.pdf

This is also an effort to reduce number of course sections offered within the School of Engineering and Applied Sciences. The University is on a hiring freeze and we are running into a bottleneck of being unable to offer courses that are needed for students to complete their degree program in a timely fashion.

6. Revise course credit hours: (N/A)

- 6.1 Current course credit hours:
- 6.2 Proposed course credit hours:
- 6.3 Rationale for revision of course credit hours:

7. Revise grade type: (N/A)

- 7.1 Current grade type:
- 7.2 Proposed grade type:
- 7.3 Rationale for revision of grade type:

8. Proposed term for implementation: Fall 2018

9. Dates of prior committee approvals:

School of Engineering and Applied Sciences
Ogden College Curriculum Committee
Undergraduate Curriculum Committee
University Senate

1/22/2018

**Ogden College of Science and Engineering
School of Engineering and Applied Sciences
Proposal to Revise a Program- Minor in Construction Management
(Action Item)**

Contact Person: Bryan Reaka, bryan.reaka@wku.edu, 270-745-7032

1. Identification of program:

- 1.1 Current program reference number: **343**
- 1.2 Current program title: Minor in Construction Management
- 1.3 Credit hours: 21/24

2. Identification of the proposed Minor changes:

Changes to Minor in Construction Management Minor

- Remove CE 304 from minor
- Add CM 250 to the minor
- Remove CE 360/ 361
- Instead of Technical Electives options (choosing 7 hours from) AMS 390, CM 426, have options of Technical Selective from AMS 163 or AMS 251 or AMS 305 or AMS 325 or AMS 390 or AMS 394 or AMS 430 or MGT 301 or MGT 314 or MGT 333 or CM 400C or CE 316 or CE 370/371 or ENGR 400
- Decrease number of hours from 21/24 to 20/21

3. Detailed program description:

MINOR IN CONSTRUCTION MANAGEMENT (OLD)		21/24		MINOR IN CONSTRUCTION MANAGEMENT (New)		19 / 20
AMS 261	Construction Methods & Materials	3		AMS 261	Construction Methods & Materials	3
AMS 262	Construction Laboratory	1		AMS 262	Construction Laboratory	1
CE 303	Construction Management	3		CE 303	Construction Management	3
CE 304	Construction Management Lab	1				
				CM 250	Contract Documents	3
CM 363 or CE 360/361	Construction Estimating & Bidding or Estimating Scheduling and Bidding/Estimating Lab	3/6		CM 363	Construction Estimating & Bidding	3
CM 462	Construction Scheduling	3		CM 462	Construction Scheduling	3
	Technical Electives				Technical Selective	
Choose from AMS 390, CE 370/371, CM 400, CM-426	Project Management, Construction Materials, Construction Materials Lab, Construction Administration, Construction Law	7		AMS 163 or AMS 251 or AMS 305 or AMS 325 or AMS 390 or AMS 394 or AMS 430 or MGT 301 or MGT 314 or MGT 333 or CM 400 or CE 316 or or CE 370/ 371 or ENGR 400	Architectural Drafting or Introduction to BIM or Building Codes or Survey of Building Systems or Project Management or Lean Systems or Tech Mgt/ Supervision or Business Law or Operations Management or MGMT of Nonprofit or Construction Administration or Equipment & Methods or Construction Materials and Lab or Princ. of Systems Engineering	3 / 4

4. Rationale for the proposed program change:

Changes to Construction Management Minor

- Remove CE 304 from minor – this course will no longer be offered in the School due to reduced resources and lack of faculty
- Add CM 250 to the minor- This is a foundational course in understanding the Construction Management industry and required prerequisite for other CM courses in the minor.
- Remove CE 360/361 -These courses are no longer offered.
- Instead of Technical Electives options (choosing 7 hours from) AMS 390, CE 370, 371, CM 400, CM 426, have options of Technical Selective from AMS 163 or AMS 251 or AMS 305 or AMS 325 or AMS 390 or AMS 394 or AMS 430 or MGT 301 or MGT 314 or MGT 333 or CM 400C or CE 316 or CE 370/371 or ENGR 400. The course CM 426 that was listed in Technical Electives is no longer offered. The addition of the Technical Selective course will allow the student to better focus on an area that may interest the individual student.
- Decrease number of hours from 21/24 to 19/20. Decrease reflects the removal of prescribed course in the minor.

5. Effective Catalog Year: 2018-2019

6. Dates of prior committee approvals:

School of Engineering and Applied Sciences	<u>1/22/18</u> _____
Ogden College Curriculum Committee	_____
Undergraduate Curriculum Committee	_____
University Senate	_____

**Ogden College of Science and Engineering
School of Engineering and applied Sciences
Proposal to Revise A Program
(Action Item)**

Contact Person: Bryan Reaka, bryan.reaka@wku.edu, 270.745.7032

1. Identification of program:

- 1.1 Current program reference number: 575
- 1.2 Current program title: Technology Management
- 1.3 Credit hours: 63

2. Identification of the proposed program changes:

- Replace AMS 396 with AMS 342 in the major

3. Detailed program description:

OLD (63 hours) Note: includes 24 hours of technical transfer credit.	NEW (63 hours) Note: includes 24 hours of technical transfer credit.
AMS 271	AMS 271
AMS 310	AMS 310
AMS 396	AMS 342
AMS 356	AMS 356
AMS 371	AMS 371
AMS 390	AMS 390
AMS 394	AMS 394
AMS 430	AMS 430
AMS 490F	AMS 490F
Advisor approved Upper Division Electives 12 hours	Advisor approved Upper Division Electives 12 hours

4. Rationale for the proposed program change:

- Replace AMS 396 with AMS 342 in the major- As the topics in both Lean Systems (AMS 394) and Supply Chain (AMS 396) have evolved it is becoming evident that one topic is intimately intertwined within the other topic in industry. The AMS Departmental Advisory Board (DAB) met and discussed this at the fall 2017 DAB meeting. This is also an effort to reduce number of course sections offered within the School of Engineering and Applied Sciences. The University is on a hiring freeze and we are running into a bottleneck of being unable to offer courses that are needed for students to complete their degree program in a timely fashion. The replacing of this

with AMS 342 will help to familiarizes students with Manufacturing topics and provides for a more thorough and well-rounded education in Technology Management.

5. **Effective Catalog Year:**
2018-2019

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

School of Engineering and Applied Sciences	<u>1/22/2018</u>
Ogden College Curriculum Committee	_____
Undergraduate Curriculum Committee	_____
University Senate	_____

Proposal Date: December 5, 2017

**Ogden College of Science and Engineering
School of Engineering and Applied Sciences
Proposal to Revise A Program
(Action Item)**

Contact Person: Bryan Reaka bryan.reaka@wku.edu 270-745-7032

1. Identification of program:

- 1.1 Current program reference number: 5006
- 1.2 Current program title: Manufacturing Engineering Technology
- 1.3 Credit hours: 64

2. Identification of the proposed program changes:

- Management Core – remove AMS 396 or AMS 396-M1, AMS 396-M2, and AMS 396-M3
- Decrease number of hours in the Management core from 27 to 24 hours
- MET Core – remove AMS 352 or AMS 352-M1, AMS 352-M2, and AMS 352-M3
- Decrease the number of hours in the Manufacturing Engineering Technology (MET) core from 18 to 15 hours
- Decrease the number of hours in the MET major from 64 to 58 hours

3. Detailed program description:

Manufacturing Engineering Tech	(Old)	64	Manufacturing Engineering Tech	(New)	58
<i>Technical Core: 19hrs</i>			<i>Technical Core: 19hrs</i>		
Introductory Accounting or Basic Marketing Concepts or Personal Finance	ACCT200 or MKT 220 or FIN 161	3	Introductory Accounting or Basic Marketing Concepts or Personal Finance	ACCT200 or MKT 220 or FIN 161	3
Basic Electricity	AMS120 or (AMS 120-M1, AMS 120-M2, and AMS 120-M3)	3	Basic Electricity	AMS120 or (AMS 120-M1, AMS 120-M2, and AMS 120-M3)	3
Architectural Drafting or CADD for Manufacturing	AMS 163/205 or (AMS 205-M1, AMS 205-M2, and AMS 205-M3)	3	Architectural Drafting or CADD for Manufacturing	AMS 163/205 or (AMS 205-M1, AMS 205-M2, and AMS 205-M3)	3
Industrial Statistics	AMS271	3	Industrial Statistics	AMS271	3
Mentored Research Experience or Internship I	UC 400 or AMS398	1	Mentored Research Experience or Internship I	UC 400 or AMS398	1
Senior Research	AMS490E or (AMS 490-M1, AMS 490-M2, and AMS 490-M3)	3	Senior Research	AMS490E or (AMS 490-M1, AMS 490-M2, and AMS 490-M3)	3
Robotics and Machine Vision	AMS 328 or (AMS 328-M1, AMS 328-M2, and AMS 328-M3)	3	Robotics and Machine Vision	AMS 328 or (AMS 328-M1, AMS 328-M2, and AMS 328-M3)	3

<i>Management Core: 27hrs</i>			<i>Management Core: 24hrs</i>		
Work Design/Ergonomics	AMS310 or (AMS 310-M1, AMS 310-M2, and AMS 310-M3)	3	Work Design/Ergonomics	AMS310 or (AMS 310-M1, AMS 310-M2, and AMS 310-M3)	3
Systems Design and Operation	AMS356 or (AMS 356-M1, AMS 356-M2, and AMS 356-M3)	3	Systems Design and Operation	AMS356 or (AMS 356-M1, AMS 356-M2, and AMS 356-M3)	3
Project Management	AMS390 or (AMS 390-M1, AMS 390-M2, and AMS 390-M3)	3	Project Management	AMS390 or (AMS 390-M1, AMS 390-M2, and AMS 390-M3)	3
Technology Mgmt./Sup./Team Blding	AMS430 or (AMS 430-M1, AMS 430-M2, and AMS 430-M3)	3	Technology Mgmt./Sup./Team Blding	AMS430 or (AMS 430-M1, AMS 430-M2, and AMS 430-M3)	3
Basic Business Communications or Advanced Public Speaking or Persuasion or Interpersonal Communication or Group Decision Making or Organizational Communication or Business Communication Fundamentals	BUS 214C or COMM 345 or COMM 346 or COMM 349 or COMM 362 or MGT 361	3	Basic Business Communications or Advanced Public Speaking or Persuasion or Interpersonal Communication or Group Decision Making or Organizational Communication or Business Communication Fundamentals	BUS 214C or COMM 345 or COMM 346 or COMM 349 or COMM 362 or MGT 361	3
Legal Environment of Business or Business Law or MGMT of Nonprofit Org	MGT 200 or MGT301 or MGT 333	3	Legal Environment of Business or Business Law or MGMT of Nonprofit Org	MGT 200 or MGT301 or MGT 333	3
Quality Assurance	AMS371 or (AMS 371-M1, AMS 371-M2, and AMS 371-M3)	3	Quality Assurance	AMS371 or (AMS 371-M1, AMS 371-M2, and AMS 371-M3)	3
Lean Manufacturing	AMS 394 or (AMS 394-M1, AMS 394-M2, and AMS 394-M3)	3	Lean Manufacturing	AMS 394 or (AMS 394-M1, AMS 394-M2, and AMS 394-M3)	3
Intro to Supply Chain Management	AMS 396 or (AMS 396-M1, AMS 396-M2, and AMS 396-M3)	3			
<i>MET Core: 18hrs</i>			<i>MET Core: 15hrs</i>		
Industrial Materials or Applied Strength of Materials	AMS217 or (AMS 217-M1, AMS 217-M2, and AMS 217-M3) or CM337	3	Industrial Materials or Applied Strength of Materials	AMS217 or (AMS 217-M1, AMS 217-M2, and AMS 217-M3) or CM337	3
Manufacturing Methods	AMS227 or (AMS 227-M1, AMS 227-M2, and AMS 227-M3)	3	Manufacturing Methods	AMS227 or (AMS 227-M1, AMS 227-M2, and AMS 227-M3)	3

Manufacturing Operations	AMS342 or (AMS 342-M1, AMS 342-M2, and AMS 342-M3)	3		Manufacturing Operations	AMS342 or (AMS 342-M1, AMS 342-M2, and AMS 342-M3)	3
Automated Systems	AMS343 or (AMS 343-M1, AMS 343-M2, and AMS 343-M3)	3		Automated Systems	AMS343 or (AMS 343-M1, AMS 343-M2, and AMS 343-M3)	3
Food Processing: Unit Operation	AMS352 or (AMS 352-M1, AMS 352-M2, and AMS 352-M3)	3				
Computer Numeric Control	AMS370 or (AMS 370-M1, AMS 370-M2, and AMS 370-M3)	3		Computer Numeric Control	AMS370 or (AMS 370-M1, AMS 370-M2, and AMS 370-M3)	3
Additional Requirements in Major	MATH 117, or HIGHER	3		Additional Requirements in Major	MATH 117, or HIGHER	3

4. Rationale for the proposed program change:

- Management Core – remove AMS 396 or AMS 396-M1, AMS 396-M2, and AMS 396-M3 As the topics in both Lean Systems (AMS 394) and Supply Chain (AMS 396) have evolved it is becoming evident that one topic is intimately intertwined within the other topic in industry. The AMS Departmental Advisory Board (DAB) met and discussed this at the fall 2017 DAB meeting. This is also an effort to reduce number of course sections offered within the School of Engineering and Applied Sciences. The University is on a hiring freeze and we are running into a bottleneck of being unable to offer courses that are needed for students to complete their degree program in a timely fashion.
- Decrease number of hours in the Management core from 27 to 24 hours- this reflects the decrease in the 3 credit hours for AMS 396
- MET Core – remove AMS 352 or AMS 352-M1, AMS 352-M2, and AMS 352-M3- this course is specific to a particular industry and is the only industry specific course in the MET program. The AMS Departmental Advisory Board (DAB) met and discussed this at the fall 2017 DAB meeting. This course also does not add to the overall skill set suggested in the 4 pillars of Manufacturing as set forward by the Society of Manufacturing Engineers. The topics related to the processing of food products are covered in the required AMS 342 course within the MET major. In an effort to reduce the number of sections of courses needed and to allow students to matriculate through the program the resources (personnel) that have been allocated to teach this course in the past would be better used in a classroom that would service more than one discipline.
- Decrease the number of hours in the Manufacturing Engineering Technology core from 18 to 15 hours- this reflects the removal of 3 credits from the section.
- Decrease the number of hours in the MET major from 64 to 58 hours- this reflects the removal of 2 courses from the curriculum.

5. Effective Catalog Year: 2018-2019

6. Dates of prior committee approvals:

School of Engineering and Applied Sciences

1/22/2018

Ogden College Curriculum Committee

Undergraduate Curriculum Committee

University Senate

**School of Engineering and Applied Sciences
Ogden College of Science and Engineering
Proposal to Revise A Program
(Action Item)**

Contact Person: Huanjing Wang, huanjing.wang@wku.edu, 745-2672

1. Identification of program:

- 1.1 Current program reference number:
629P (seeking admission)
629 (officially admitted)
- 1.2 Current program title:
Major in Computer Science
- 1.3 Credit hours: 44-50

2. Identification of the proposed program changes:

- Remove PHIL 215 from supporting course list.
- Add CS 372 to CS electives in the systems/ scientific application option.
- Remove CS 370 from CS electives in the systems/ scientific application option.
- Remove Math 127 from Math electives in the systems/ scientific application option.

3. Detailed program description:

<u>Current Program</u>	<u>Proposed Program</u>								
<p>The major in computer science requires a minimum of 44 semester hours. To be admitted to the computer science major, students must complete CS 180, 221, and CS 339 with grades of C or better. In addition, all CS courses counting toward the CS program major must be completed with a grade of “C” or better. Computer Science electives may include from 0-3 hours of 200-level courses. Students must adhere to all University Policies as indicated in the WKU catalog section “Academic Information.” Additional requirements are as follows:</p>	<p>The major in computer science requires a minimum of 44 semester hours. To be admitted to the computer science major, students must complete CS 180, 221, and CS 339 with grades of C or better. In addition, all CS courses counting toward the CS program major must be completed with a grade of “C” or better. Computer Science electives may include from 0-3 hours of 200-level courses. Students must adhere to all University Policies as indicated in the WKU catalog section “Academic Information.” Additional requirements are as follows:</p>								
<p>Systems/Scientific Applications Concentration</p> <ul style="list-style-type: none"> 1. 50 hours are required including 47 hours of computer science courses and 3 hours of STAT 301. 2. ENG 307, MATH 136, and PHIL 215 are required. 	<p>Systems/Scientific Applications Concentration Requirements:</p> <table style="width: 100%; border: none;"> <tr> <td>CS 180 Computer Science I</td> <td style="text-align: right;">4</td> </tr> <tr> <td>CS 221 Computer Science II</td> <td style="text-align: right;">4</td> </tr> <tr> <td>CS 325 Computer Organization and Architecture</td> <td style="text-align: right;">3</td> </tr> <tr> <td>CS 339 Computer Science III</td> <td style="text-align: right;">3</td> </tr> </table>	CS 180 Computer Science I	4	CS 221 Computer Science II	4	CS 325 Computer Organization and Architecture	3	CS 339 Computer Science III	3
CS 180 Computer Science I	4								
CS 221 Computer Science II	4								
CS 325 Computer Organization and Architecture	3								
CS 339 Computer Science III	3								

3. Completion of these 11 CS core courses (35 credit hours): CS 180, 221, 339, 325, 351, 360, 382, 396, 421, 425, and 496.	CS 351 Database Management Systems I	3
4. Completion of 12 hours of CS electives from the following courses: CS 370, 381, 443, 445, 446, 450, and 456.	CS 360 Software Engineering	3
5. Completion of 2 courses from the following list: MATH 127 , 137, 305, 307, 331, 405, 406, 470 and 473.	CS 382 Programming Languages	3
6. Completion of one year of a laboratory science (a two semester sequence of the same science) and one additional science course. All must be designed for Science/Engineering majors.	CS 396 Intermediate Software Project	3
7. One additional course from the above list of Mathematics courses (this course may not be used to satisfy any other CS major degree requirement) or one additional science course designed for science/engineering majors.	CS 421 Data Structures and Algorithm Analysis	3
	CS 425 Operating Systems I	3
	CS 496 Senior Project and Professional Practice	3
	CS Elective*	3
	CS Elective*	3
	CS Elective*	3
	CS Elective*	3
	STAT 301 Probability and Applied Statistics	3
	Technical Course Total	50
	<u>Other requirements:</u>	
	MATH 136 Calculus I	4
	ENG 307 Technical Writing	3
	Math Elective*	3 or 4
	Math Elective*	3
	One year of a laboratory science (a two semesters sequence of the same science) and one additional science course (all must be designed for Science/Engineering majors).	11
	One additional Math Elective* or one additional science course designed for science/engineering majors.	3
	List of Courses to Satisfy CS Elective*	
	CS 372 Mobile App Development	3
	CS 381 Introduction to Computer Networks	3
	CS 443 Database Management Systems	3
	CS 445 Operating Systems II	3
	CS 446 Interactive Computer Graphics	3
	CS 450 Computer Networks	3
	CS 456 Artificial Intelligence	3
	List of Courses to Satisfy Math Elective*	
	MATH 137 Calculus II	4
	MATH 305 Introduction to Mathematical Modeling	3
	MATH 307 Introduction to Linear Algebra	3
	MATH 331 Differential Equations	3
	MATH 405 Numerical Analysis I	3
	MATH 406 Numerical Analysis II	3
	MATH 470 Introduction to Operations Research	3
	MATH 473 Introduction to Graph Theory	3

<p>Any Minor Option</p> <ol style="list-style-type: none"> 44 hours of computer science courses are required. ENG 307, MATH 136, STAT 301, and PHIL 215 are required. Completion of these 11 CS core courses (35 credit hours): CS 180, 221, 339, 325, 351, 360, 382, 396, 421, 425, and 496. Completion of an additional 9 hours of CS electives at the 200-level or above (excluding CS 226 and 257) including 3 hours at the 400-level and another 3 hours at the 300-level or higher. Note: At most 1.5 hours of credit for CS 239 may count towards the major. At most 3 hours of credit for CS 239 and 245 (only for languages for which credit is not received through another course) may count towards the major. Completion of any additional minor/major. 	<p>Any Minor Option</p> <p><u>Requirements:</u></p> <table border="0"> <tr><td>CS 180 Computer Science I</td><td>4</td></tr> <tr><td>CS 221 Computer Science II</td><td>4</td></tr> <tr><td>CS 325 Computer Organization and Architecture</td><td>3</td></tr> <tr><td>CS 339 Computer Science III</td><td>3</td></tr> <tr><td>CS 351 Database Management Systems I</td><td>3</td></tr> <tr><td>CS 360 Software Engineering</td><td>3</td></tr> <tr><td>CS 382 Programming Languages</td><td>3</td></tr> <tr><td>CS 396 Intermediate Software Project</td><td>3</td></tr> <tr><td>CS 421 Data Structures and Algorithm Analysis</td><td>3</td></tr> <tr><td>CS 425 Operating Systems I</td><td>3</td></tr> <tr><td>CS 496 Senior Project and Professional Practice</td><td>3</td></tr> <tr><td>CS Elective* 200-level or above (excluding CS 226 and 257)</td><td>3</td></tr> <tr><td>CS Elective* 300-level or above</td><td>3</td></tr> <tr><td>CS Elective* 400-level or above</td><td>3</td></tr> <tr><td>Technical Course Total</td><td>44</td></tr> </table> <p><u>Other requirements:</u></p> <table border="0"> <tr><td>MATH 136 Calculus I</td><td>4</td></tr> <tr><td>ENG 307 Technical Writing</td><td>3</td></tr> <tr><td>STAT 301 Probability and Applied Statistics</td><td>3</td></tr> <tr><td>Completion of any additional minor/major</td><td></td></tr> </table> <p>CS Elective*</p> <p>At most 1.5 hours of credit for CS 239 may count towards the major. At most 3 hours of credit for CS 239 and 245 (only for languages for which credit is not received through another course) may count towards the major.</p>	CS 180 Computer Science I	4	CS 221 Computer Science II	4	CS 325 Computer Organization and Architecture	3	CS 339 Computer Science III	3	CS 351 Database Management Systems I	3	CS 360 Software Engineering	3	CS 382 Programming Languages	3	CS 396 Intermediate Software Project	3	CS 421 Data Structures and Algorithm Analysis	3	CS 425 Operating Systems I	3	CS 496 Senior Project and Professional Practice	3	CS Elective* 200-level or above (excluding CS 226 and 257)	3	CS Elective* 300-level or above	3	CS Elective* 400-level or above	3	Technical Course Total	44	MATH 136 Calculus I	4	ENG 307 Technical Writing	3	STAT 301 Probability and Applied Statistics	3	Completion of any additional minor/major	
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<p>Specialty Concentration</p> <ol style="list-style-type: none"> 50 hours of computer science courses are required. ENG 307, MATH 136, STAT 301, and PHIL 215 are required. Completion of these 13 CS core courses (41 credit hours): CS 180, 221, 339, 325, 351, 360, 381, 382, 396, 421, 425, 443, and 496. An additional 18 hours of specialty courses, selected in consultation with a CS advisor, not used to satisfy specific other graduation requirements for the CS major or for the Colonnade Program, 	<p>Specialty Concentration</p> <p><u>Requirements:</u></p> <table border="0"> <tr><td>CS 180 Computer Science I</td><td>4</td></tr> <tr><td>CS 221 Computer Science II</td><td>4</td></tr> <tr><td>CS 325 Computer Organization and Architecture</td><td>3</td></tr> <tr><td>CS 339 Computer Science III</td><td>3</td></tr> <tr><td>CS 351 Database Management Systems I</td><td>3</td></tr> <tr><td>CS 360 Software Engineering</td><td>3</td></tr> <tr><td>CS 381 Introduction to Computer Networks</td><td>3</td></tr> <tr><td>CS 382 Programming Languages</td><td>3</td></tr> <tr><td>CS 396 Intermediate Software Project</td><td>3</td></tr> <tr><td>CS 421 Data Structures and Algorithm Analysis</td><td>3</td></tr> <tr><td>CS 425 Operating Systems I</td><td>3</td></tr> <tr><td>CS 443 Database Management Systems</td><td>3</td></tr> </table>	CS 180 Computer Science I	4	CS 221 Computer Science II	4	CS 325 Computer Organization and Architecture	3	CS 339 Computer Science III	3	CS 351 Database Management Systems I	3	CS 360 Software Engineering	3	CS 381 Introduction to Computer Networks	3	CS 382 Programming Languages	3	CS 396 Intermediate Software Project	3	CS 421 Data Structures and Algorithm Analysis	3	CS 425 Operating Systems I	3	CS 443 Database Management Systems	3														
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4. Rationale for the proposed program change:

- The revision of the program is consistent with removing PHIL 215 from prerequisite changes of CS 339
- Adding a newly created course CS 372 to elective course list in systems/ scientific application option.
- CS 370 is removed from CS electives in the systems/ scientific application option since the course is not offered anymore.
- Math 127 is removed from math elective in the systems/ scientific application option because it is not counted as advanced math course, therefore does not satisfy ABET requirements.

5. Proposed term for implementation and special provisions (if applicable): Fall 2018

6. Dates of prior committee approvals:

School of Engineering and Applied Sciences	<u>12/1/17</u>
Ogden College Curriculum Committee	_____
Undergraduate Curriculum Committee	_____
University Senate	_____