

MEMORANDUM TO: Ogden College of Science and Engineering Curriculum Committee

Dr. Martin Stone
Dr. Doug Chelson
Dr. Phil Lienesch
Dr. Darwin Dahl
Dr. Huanjing Wang
Dr. Warren Campbell

Dr. Xingang Fan
Dr. Melanie Autin
Dr. Doug Harper
Dr. Andy Mienaltowski
Dr. Les Pesterfield

FROM: Kenneth Crawford, Chair

SUBJECT: Agenda for Thursday, February 2, 2017 4:00 p.m. in COHH 4123

A. OLD BUSINESS:

- I. Consideration of the minutes of the December 1, 2016 meeting.

B. NEW BUSINESS:

Consent Items

Department of Chemistry

- I. Proposal to Revise Course Catalog Listing
 - a. CHEM 320, Principles of Inorganic Chemistry, 3 hrs.
 - b. CHEM 330, Quantitative Analysis, 5 hrs.
- II. Proposal to Revise Course Prerequisites/Corequisites
 - a. CHEM 420, Inorganic Chemistry, 3 hrs.
 - b. CHEM 435, Instrumental Analysis, 3 hrs.
 - c. CHEM 450, Physical Chemistry I, 3 hrs.
 - d. CHEM 452, Physical Chemistry II, 3 hrs.

Department of Engineering

- I. Proposal to Revise Course Prerequisites
 - a. EE 460, Continuous Control Systems, 3.5 hrs.
 - b. EE 461, Discrete Control Systems, 3 hrs.
 - c. ENGR 400, Principles of Engineering, 3 hrs.

Department of Geography & Geology

- I. Proposal to Revise Course Prerequisites
 - a. GISC 419, GIS Programming, 3 hrs.

Department of Psychological Sciences

- I. Proposal to Revise Course Prerequisites
 - a. PSYS 290, Supervised Study in Psychological Sciences, 1-3 hrs.

Action Items

Department of Chemistry

- I. Proposal to Create a New Course

- a. CHEM 436, Instrumental Analysis Laboratory, 2 hrs.
- II. Proposal to Revise a Program
 - a. Ref. 335, Minor in Chemistry, 18-24 hrs.
 - b. Ref. 623, Major in Chemistry, 30-48 hrs.

Department of Geography & Geology

- I. Proposal to Create a New Course
 - a. METR 335, Satellite/Radar Meteorology, 3 hrs.

Department of Psychological Sciences

- I. Proposal to Revise a Program
 - a. Ref. 434, Minor in Neuroscience, 21 hrs.
 - b. Ref. 440 Minor in Psychological Science, 22 hrs.
 - c. Ref. 747 Major in Psychological Science, 37-49 hrs.

C. OTHER BUSINESS

MEMBERS PRESENT:

Dr. Martin Stone	Dr. Melanie Autin
Dr. Brent Askins for Douglas Chelson	Dr. Doug Harper
Dr. Phil Lienesch	Dr. Andy Mienaltowski
Dr. Warren Campbell	Dr. Les Pesterfield
Dr. Xingang Fan	Guest: Patrick Brown & Leslie Plumlee

FROM: Ken Crawford, Chair

OLD BUSINESS:

Campbell/Autin moved for approval of the minutes of the November 3rd meeting. Motion passed.

NEW BUSINESS:

Consent Agenda

Stone/Campbell moved to approve moving Proposal to Revise Course Title: AMS 329 and Proposal to Revise Course Prerequisites/Corequisites: CE 461 to action agenda. Motion passed. Autin Campbell moved to approve the remaining consent agenda items. Motion passed.

Action Agenda

Department of Architectural and Manufacturing Sciences

Campbell/Stone moved to approve Proposal to Make Multiple Revisions to a Course: AMS 310. Motion passed with friendly amendment.

Campbell/Stone moved to approve Proposal to Revise Course Title: AMS 329. Motion passed with friendly amendment.

Campbell/Stone moved to approve Proposal to Revise a Program: Ref. 533 Major in Construction Management. Motion passed with friendly amendment.

Department of Biology

Campbell/Stone moved to approve Proposal to Create a New Course: BIOL 285. Motion passed.

Campbell/Stone moved to approve Proposal to Create a New Course: BIOL 355. Motion passed.

Department of Engineering

Autin/Campbell moved to approve Proposal to Revise Course Prerequisites/Corequisites: CE 461. Motion passed.

Department of Mathematics

Stone/Campbell moved to approve Proposal to Create a New Course: MATH 270. Motion passed.

OTHER BUSINESS: None

Meeting adjourned at 4:22pm.

**Ogden College of Science & Engineering
Department of Chemistry
Proposal to Revise Course Catalog Listing
(Consent Item)**

Contact Person: Jeremy B. Maddox, jeremy.maddox@wku.edu, 5-8725

1. Identification of course:

- 1.1 Course prefix (subject area) and number: CHEM 320
- 1.2 Course title: PRINCIPLES OF INORGANIC CHEMISTRY

2. Current course catalog listing:

A treatment of the usual topics in theoretical inorganic chemistry presented at a level not requiring calculus. It is not acceptable for ACS-program students, who should take CHEM 420.

3. Proposed course catalog listing:

A treatment of the usual topics in theoretical inorganic chemistry presented at a level not requiring calculus.

4. Rationale for revision of the course catalog listing:

CHEM 320 is a foundation-level course in inorganic chemistry that is appropriate for all chemistry majors at the sophomore or junior level. CHEM 320 will become a prerequisite for CHEM 420, which is an in-depth inorganic chemistry course, appropriate for senior-level chemistry majors.

5. Proposed term for implementation:

Fall 2017

6. Dates of prior committee approvals:

Department of Chemistry

1/10/2017

Ogden College Curriculum Committee

Professional Education Council (if applicable)

General Education Committee (if applicable)

Not applicable

Undergraduate Curriculum Committee

University Senate

Proposal Date: 1/18/2017

**Ogden College of Science & Engineering
Department of Chemistry
Proposal to Revise Course Catalog Listing
(Consent Item)**

Contact Person: Jeremy B. Maddox, jeremy.maddox@wku.edu, 5-8725

1. Identification of course:

- 1.1 Course prefix (subject area) and number: CHEM 330
- 1.2 Course title: QUANTITATIVE ANALYSIS

2. Current course catalog listing:

A study of the common techniques and theory of gravimetric, volumetric, electrochemical, and optical methods of analysis. Lecture, 3 hours; laboratory, 2 hours. Laboratory meets four and one-half hours per week. Priority for registration for this course will be given to rising sophomores and rising juniors. *Course Fee*

3. Proposed course catalog listing:

A study of the common techniques and theory of gravimetric, volumetric, electrochemical, and optical methods of analysis. Lecture, 3 hours; laboratory, 2 hours. Laboratory meets four and one-half hours per week. *Course Fee*

4. Rationale for revision of the course catalog listing:

Additional lab space that will be available in the new building will no longer pose as much of a physical restriction on the number students we can take each term. The process for determining 'rising sophomore and rising junior' status is difficult with the number of AP/dual credit/etc. hours students have when they come to WKU. We were often preventing students in their second year at WKU from registering when they should have been because they already had junior or senior status by hours. This change will remove administrative burden from office staff in giving course overrides.

5. Proposed term for implementation:

Fall 2017

6. Dates of prior committee approvals:

Department of Chemistry

Ogden College Curriculum Committee

Professional Education Council (if applicable)

General Education Committee (if applicable)

Undergraduate Curriculum Committee

University Senate

Not applicable

Proposal Date: 11/3/2016

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

Contact Person: Jeremy B Maddox, jeremy.maddox@wku.edu, 5-8725

1. Identification of course:

- 1.1 Course prefix (subject area) and number: CHEM 420
- 1.2 Course title: INORGANIC CHEMISTRY

2. Current prerequisites/corequisites/special requirements:

Prerequisites: CHEM 450-451 with a grade of "C" or better.

3. Proposed prerequisites/corequisites/special requirements:

Prerequisites: A grade of "C" or better in CHEM 320 and CHEM 450-451.

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

CHEM 420 is an in-depth inorganic chemistry course. To be successful students should have a solid foundation-level experience, which CHEM 320 will provide.

5. Effect on completion of major/minor sequence:

This will require ACS-certified chemistry majors to take an additional three credit hour course in the sophomore or junior year prior to taking CHEM 420.

6. Proposed term for implementation:

Fall 2017

7. Dates of prior committee approvals:

Department of Chemistry

1/10/2017

Ogden College Curriculum Committee

Professional Education Council (if applicable)

Not applicable

General Education Committee (if applicable)

Not applicable

Undergraduate Curriculum Committee

University Senate

Proposal Date: 11/3/2016

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

Contact Person: Jeremy B. Maddox, jeremy.maddox@wku.edu, 5-8725

1. Identification of course:

- 1.1 Course prefix (subject area) and number: CHEM 435
- 1.2 Course title: Instrumental Analysis

2. Current prerequisites/corequisites/special requirements:

Prerequisites: CHEM 450-451 with a grade of "C" or better.

3. Proposed prerequisites/corequisites/special requirements:

Prerequisites: CHEM 330 and CHEM 340 with a grade of "C" or better. Corequisite: CHEM 436.

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

The embedded laboratory component of CHEM 435 is being moved to a new separate laboratory course CHEM 436. The prerequisites CHEM 330 and CHEM 340 are included to ensure that students have adequate preparation for CHEM 435.

5. Effect on completion of major/minor sequence:

The addition of CHEM 330, CHEM 340, and CHEM 436 has no impact on the major sequence. Removing the prerequisite CHEM 450 allows students to take CHEM 435 and 450 in any order.

6. Proposed term for implementation:

Fall 2017

7. Dates of prior committee approvals:

Department of Chemistry

01/10/2017

Ogden College Curriculum Committee

Professional Education Council (if applicable)

Not applicable

General Education Committee (if applicable)

Not applicable

Undergraduate Curriculum Committee

University Senate

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

Contact Person: Jeremy B Maddox, jeremy.maddox@wku.edu, (270) 745-8725

1. Identification of course:

- 1.1 Course prefix (subject area) and number: CHEM 450
- 1.2 Course title: PHYSICAL CHEMISTRY I

2. Current prerequisites/corequisites/special requirements:

Prerequisites: A grade of "C" or better in CHEM 314 or 340; CHEM 330; PHYS 231 or 255.
Corequisite: CHEM 451. Prerequisites or corequisites: A grade of "C" or better in MATH 137;
PHYS 332 or 265

3. Proposed prerequisites/corequisites/special requirements:

Prerequisites: A grade of "C" or better in CHEM 314 or 340; CHEM 330; MATH 136; PHYS 231 or 255. Corequisite: CHEM 451.

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

The proposed revisions are necessary to ensure that students have completed and sufficiently mastered the prerequisite chemistry coursework and cognate coursework in mathematics and physics before taking this course.

5. Effect on completion of major/minor sequence:

Not applicable

6. Proposed term for implementation:

Fall 2017

7. Dates of prior committee approvals:

Department of Chemistry

1/10/2017

Ogden College Curriculum Committee

Professional Education Council (if applicable)

Not applicable

General Education Committee (if applicable)

Not applicable

Undergraduate Curriculum Committee

University Senate

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

Contact Person: Jeremy B Maddox, jeremy.maddox@wku.edu, (270) 745-8725

1. Identification of course:

- 1.1 Course prefix (subject area) and number: CHEM 452
- 1.2 Course title: PHYSICAL CHEMISTRY II

2. Current prerequisites/corequisites/special requirements:

Prerequisites: CHEM 450-451 with a grade of "C" or better. Corequisite: CHEM 453.

3. Proposed prerequisites/corequisites/special requirements:

Prerequisites: A grade of "C" or better in CHEM 320; CHEM 450; MATH 137; PHYS 265 or 332. Corequisite: CHEM 453.

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

The proposed revisions are necessary to ensure that students have adequately mastered the prerequisite material before taking this course.

5. Effect on completion of major/minor sequence:

Students will now be required to complete CHEM 320 prior to taking CHEM 452. Students will need to complete MATH 137 and PHYS 265 prior to taking CHEM 452.

6. Proposed term for implementation:

Fall 2017

7. Dates of prior committee approvals:

Department of Chemistry	1/10/2017
Ogden College Curriculum Committee	_____
Professional Education Council (if applicable)	Not applicable
General Education Committee (if applicable)	Not applicable
Undergraduate Curriculum Committee	_____
University Senate	_____

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

Contact Person: Stacy Wilson, stacy.wilson@wku.edu, 55848

1. Identification of course:

- 1.1 Course prefix (subject area) and number: EE 460
- 1.2 Course title: Continuous Control Systems

2. Current prerequisites:

EE 420 with a grade of "C" or better

3. Proposed prerequisites:

EE 420 ("C" or better) or ME 310 ("C" or better)
and
MATH 307 or MATH 350 or MATH 370

4. Rationale for the revision of prerequisites:

This course has been added to the list of technical electives for mechanical engineering students. The change in pre-requisite courses is to reflect the appropriate preparation needed for both mechanical and electrical engineering students.

5. Effect on completion of major/minor sequence:

This change will provide more options for the mechanical engineering students.

6. Proposed term for implementation: Fall 2017

7. Dates of prior committee approvals:

Engineering Department

Ogden College Curriculum Committee

Undergraduate Curriculum Committee

University Senate

17 November 2016

Attachment: Course Inventory Form

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

Contact Person: Stacy Wilson, stacy.wilson@wku.edu, 55848

1. Identification of course:

- 1.1 Course prefix (subject area) and number: EE 461
- 1.2 Course title: Discrete Control Systems

2. Current prerequisites:

EE 420

3. Proposed prerequisites:

EE 420 (“C” or better) or ME 310 (“C” or better)
and
MATH 307 or MATH 350 or MATH 370

4. Rationale for the revision of prerequisites:

This course has been added to the list of technical electives for mechanical engineering students. The change in pre-requisite courses is to reflect the appropriate preparation needed for both mechanical and electrical engineering students.

Also, electrical engineering students need adequate mastery of the material in EE 420 before taking this course.

5. Effect on completion of major/minor sequence:

This change will provide more options for the mechanical engineering students.

6. Proposed term for implementation: Fall 2017

7. Dates of prior committee approvals:

Engineering Department

Ogden College Curriculum Committee

Undergraduate Curriculum Committee

University Senate

17 November 2016

Attachment: Course Inventory Form

Proposal Date: 11/17/16

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

Contact Person: Stacy Wilson, stacy.wilson@wku.edu, 55848

- 1. Identification of course:**
 - 1.1 Course prefix (subject area) and number: ENGR 400
 - 1.2 Course title: Principles of Systems Engineering

- 2. Current prerequisites:**

Junior standing in an engineering discipline; and
STAT 301 and
EE 210 or EM 221 or EM 222

- 3. Proposed prerequisites**

Junior standing in an engineering discipline; and
STAT 301 or CE 305
and
EE 210 or EM 221 or EM 222

- 4. Rationale for the revision of prerequisites:**

The civil engineering program no longer requires STAT 301 but now requires CE 305.
The Systems Engineering minor requires either STAT 301 or CE 305.

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

This change will have no change on the completion of the minor.

- 6. Proposed term for implementation:** Fall 2017

- 7. Dates of prior committee approvals:**

Engineering Department
Ogden College Curriculum Committee
Undergraduate Curriculum Committee
University Senate

17 November 2016

Attachment: Course Inventory Form

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

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

1. **Identification of course:**
 - 1.1 Course prefix (subject area) and number: PSYS 290
 - 1.2 Course title: Supervised Study in Psychological Sciences
2. **Current prerequisites/corequisites/special requirements:** PSYS or PSY 100.
3. **Proposed prerequisites/corequisites/special requirements:** PSYS or PSY 100, or PSYS 160.
4. **Rationale for the revision of prerequisites/corequisites/special requirements:** Students in the Psychological Science major can complete PSYS 160 instead of PSYS/PSY 100. The proposed prerequisite change will allow students who complete PSYS 160 instead of PSYS/PSY 100 to sign up for a supervised research experience.
5. **Effect on completion of major/minor sequence:** None
6. **Proposed term for implementation:** Fall 2017
7. **Dates of prior committee approvals:**

Department of Psychological Sciences
OCSE Curriculum Committee
University Curriculum Committee
University Senate

January 20, 2017

**Ogden College of Science & Engineering
Department of Chemistry
Proposal to Create a New Course
(Action Item)**

Contact Person: Jeremy B Maddox, jeremy.maddox@wku.edu, 5-8725

1. Identification of proposed course:

- 1.1 Course prefix (subject area) and number: CHEM 436
- 1.2 Course title: Instrumental Analysis Laboratory
- 1.3 Abbreviated course title: Instr. Analysis Lab
- 1.4 Credit hours: 2 Variable credit: No
- 1.5 Grade type: Standard letter grade
- 1.6 Corequisite: CHEM 435
- 1.7 Course description: A laboratory to accompany CHEM 435 focusing on techniques involving modern instrumental analysis. Pre-lab lecture and laboratory meets 4.5 hours per week. *Course Fee*

2. Rationale:

- 2.1 Reason for developing the proposed course:

CHEM 436 is a laboratory course designed to accompany CHEM 435. CHEM 435 is a 3-hour course that currently contains an embedded laboratory component. The embedded laboratory detracts from the amount of lecture material that can be covered in one semester. Creating the separate CHEM 436 laboratory course will enhance both the lecture and laboratory components of the experience, and will streamline the how the Department reports student laboratory hours for certification by the American Chemical Society.

- 2.2 Projected enrollment in the proposed course:

Five to ten students based on typical enrollments in CHEM 435. Only chemistry majors in the ACS-certified concentration would take this course.

- 2.3 Relationship of the proposed course to courses now offered by the department:

CHEM 436 will serve a laboratory co-requisite to accompany CHEM 435. There are no other existing CHEM courses that could fulfill this objective. CHEM 435 and CHEM 436 are not prerequisites for any other courses in the ACS-certified chemistry major; therefore, there is no impact on course sequencing.

2.4 Relationship of the proposed course to courses offered in other departments:

There are no similar courses offered by other departments. CHEM 436 is a majors only course involving specialized equipment for chemical analysis. It is highly unlikely that another department will ever offer a similar course.

2.5 Relationship of the proposed course to courses offered in other institutions:

Every institution that offers an ACS-certified chemistry degree must offer an in-depth course in analytical chemistry that utilizes modern instrumental analysis. However, there is some variety in how different programs deliver this content. Some programs use an embedded laboratory while others have separate laboratory course. The Department has elected to switch from the former to the latter approach.

3. Discussion of proposed course:

3.1 Schedule type: B

3.2 Learning Outcomes:

Students will gain an appreciation for modern instrumental methods of chemical analysis and be able to determine the most appropriate method for a given analysis. This will entail descriptions of the fundamentals instrumental components found in Spectrophotometric, Electrochemical and Chromatographic instrumentation. The student will also be expected to obtain a statistical understanding of acquiring signals and processing them.

3.3 Content outline:

Statistical factors in data acquisition and analysis
Elementary electronics
Spectroscopic methods of analysis
Electrochemical methods of analysis
Chromatographic methods of analysis

3.4 Student expectations and requirements:

Students will be given a variety of samples to analyze by a variety of instrumental methods. The student will be able to compare and contrast outcomes of different analyses. A combination of short and formal lab reports will be required for grading. A formal presentation on a chosen instrumental technique not covered in lecture will also be required as part of the assigned grade.

3.5 Tentative texts and course materials:

Fundamentals of analytical chemistry, 9th ed., Douglas A. Skoog,
Donald M. West, F. James Holler, and Stanley R. Crouch
ISBN-13: 978-0-49555832-3

Journal of Chemical Education: (e-journal available in WKU library)

4. Resources:

- 4.1 Library resources: See attached library resource form and bibliography
- 4.2 Computer resources: No new additional resources are required.

5. Budget implications:

- 5.1 Proposed method of staffing: Existing faculty will teach the course.
- 5.2 Special equipment needed: No special equipment needed.
- 5.3 Expendable materials needed: Already in place from CHEM 330.
- 5.4 Laboratory materials needed: Already in place from CHEM 330.

6. Proposed term for implementation: Fall 2017

7. Dates of prior committee approvals:

Department of Chemistry	1/10/2017
Ogden College Curriculum Committee	_____
Professional Education Council (if applicable)	Not applicable
General Education Committee (if applicable)	Not applicable
Undergraduate Curriculum Committee	_____
University Senate	_____

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

Contact Person: Jeremy B. Maddox, jeremy.maddox@wku.edu, 5-8725

1. Identification of program:

- 1.1 Current program reference number: 335
- 1.2 Current program title: Minor in Chemistry
- 1.3 Credit hours: 18-24

2. Identification of the proposed program changes:

- 2.1 The minimum number of CHEM credit hours is increased from 18 to 20 hours.
- 2.2 An unrestricted CHEM 300+ (3-6 hr) elective is replaced by CHEM 340/341 (5 hr).

3. Detailed program description:

(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.)

Current Program	Proposed Program
The minor in chemistry requires a minimum of 18-21 hours.	The minor in chemistry requires a minimum of 20 hours.
Course requirements (18-21 hrs) CHEM 120/121 (5) CHEM 222/223 (5) CHEM 330 (5) CHEM 300+ (3-6)	Course requirements (20 hrs) CHEM 120/121 (5) CHEM 222/223 (5) CHEM 330 (5) CHEM 300+ (3-6) CHEM 340/341 (5)
At least nine semester hours must be earned in courses numbered 300 and above and at least one upper-division laboratory based course must be taken in residence at the WKU Bowling Green campus.	At least ten semester hours must be earned in courses numbered 300 and above and at least one upper-division laboratory based courses must be taken in residence at the WKU Bowling Green campus.

4. Rationale for the proposed program change:

The current program contains an unrestricted CHEM 300+ elective of 3-6. The most common and the most appropriate choice for this elective is CHEM 340/341 Organic Chemistry I and Laboratory. Therefore, CHEM 340/341 is explicitly added to the program and the elective is removed; this action then requires a minimum of 20 CHEM credit hours to complete the minor.

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

Fall 2017

6. Dates of prior committee approvals:

Department of Chemistry	<u>12/2/2016</u>
Ogden College Curriculum Committee	_____
Professional Education Council (if applicable)	_____
Undergraduate Curriculum Committee	_____
University Senate	_____

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

Contact Person: Jeremy B. Maddox, jeremy.maddox@wku.edu, 5-8725

1. Identification of program:

- 1.1 Current program reference number: 623
- 1.2 Current program title: Major in Chemistry
- 1.3 Credit hours: 30-48

2. Identification of the proposed program changes:

- 2.1 A second major or minor is no longer required for students pursuing a Major in Chemistry with the American Chemical Society (ACS)-certified concentration.
- 2.2 The minimum number of CHEM credit hours for the ACS-certified concentration is increased to from 47-48 to 53 hours.
- 2.3 A requirement of CHEM 320 is added to the ACS-certified concentration. The catalog description for CHEM 320 is revised, and CHEM 320 is added to the prerequisites for CHEM 420. A requirement CHEM 421 is added to the ACS-certified concentration.
- 2.4 Registration preference in CHEM 330 is no longer given to rising sophomores and rising juniors.
- 2.5 The course CHEM 436 is created. A requirement of CHEM 436 is added to the ACS-certified concentration.
- 2.6 The pre/corequisites for CHEM 435 are changed to "Prerequisites: CHEM 330 and CHEM 340 with a grade of "C" or better. Corequisite: CHEM 436."
- 2.7 The pre/corequisites for CHEM 450 are changed to "Prerequisites: A grade of "C" or better in CHEM 314 or 340; CHEM 330; MATH 136, PHYS 231 or 255. Corequisite: CHEM 451."
- 2.8 The pre/corequisites for CHEM 452 are changed to "Prerequisites: A grade of "C" or better in CHEM 320; CHEM 450; MATH 137; PHYS 265 or 332. Corequisite: CHEM 453."
- 2.9 Substitution of PHYS 231/232 for PHYS 255/256 and PHYS 332/233 for PHYS 265/266 is included for the cognate course requirements of the ACS-certified concentration.
- 2.10 LTCY 421 is added to the Chemistry Major with Teacher Certification (Teacher) concentration; this increases the minimum number of the SMED requirements for the Teacher concentration from 34 to 37 hours.

3. Detailed program description:

(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.)

Current Program	Proposed Program
The major in chemistry requires a minimum of 30 semester hours and leads to the Bachelor of Science degree.	The major in chemistry requires a minimum of 30 semester hours and leads to the Bachelor of Science degree. Requirements of the major include selecting one of three concentrations.
A second major or minor is also required.	A second major or minor or the ACS-certified concentration is also required.
<p><i>ACS Certified Chemistry Major Concentration</i></p> <p>WKU is on the approved list of the Committee on Professional Training of the American Chemical Society. For certification by this committee, the completion of a minimum of 48 hours of chemistry for the Bachelor of Science degree is required.</p> <p>CHEM course requirements (47-48 hours):</p> <p>CHEM 120/121 (5) CHEM 222/223 (5)</p> <p>CHEM 330 (5) CHEM 340/341 (5) CHEM 342/343 (5) CHEM 398 (1) CHEM 399 (2) CHEM 420 (3)</p> <p>CHEM 446 (3) CHEM 435 (3)</p> <p>CHEM 450/451 (5) CHEM 452/453 (5)</p>	<p><i>ACS Certified Chemistry Major Concentration</i></p> <p>WKU is on the approved list of the Committee on Professional Training of the American Chemical Society. For certification by this committee, the completion of a minimum of 53 hours of chemistry courses, 16-18 hours of math and science cognate courses, and completion of Colonnade general education courses for the Bachelor of Science degree is required.</p> <p>CHEM course requirements (53 hours):</p> <p>CHEM 120/121 (5) CHEM 222/223 (5) CHEM 320 (3) CHEM 330 (5) CHEM 340/341 (5) CHEM 342/343 (5) CHEM 398 (1) CHEM 399 (2) CHEM 420 (3) CHEM 421 (1) CHEM 446 (3) CHEM 435 (3) CHEM 436 (2) CHEM 450/451 (5) CHEM 452/453 (5)</p>

<p>It is recommended that CHEM 330 is taken as soon after CHEM 222 as possible; therefore, rising sophomores and rising juniors are given priority for registration in CHEM 330.</p> <p>It is recommended that physical chemistry, CHEM 450, CHEM 451, CHEM 452, CHEM 453, be taken in the junior year because CHEM 450 is a prerequisite for CHEM 420 and CHEM 435.</p> <p>CHEM 421 is strongly recommended as part of this concentration.</p> <p>Cognate course requirements (18 hours):</p> <p>MATH 136 (4) MATH 137 (4) PHYS 255/256 (5) PHYS 265/266 (5)</p>	<p>It is recommended that CHEM 330 is taken as soon after CHEM 222 as possible. ; therefore, rising sophomores and rising juniors are given priority for registration in CHEM 330.</p> <p>It is also recommended that physical chemistry, CHEM 450, CHEM 451, CHEM 452, CHEM 453, be taken in the junior year because CHEM 450 is a prerequisite for CHEM 420 and CHEM 435.</p> <p>CHEM 421 (1) is strongly recommended as part of this concentration.</p> <p>Cognate course requirements (16-18 hours):</p> <p>MATH 136 (4) MATH 137 (4) PHYS 231/232 (4) or 255/256 (5) PHYS 332/233 (4) or 265/266 (5)</p>
<p><i>General Chemistry Major Concentration</i></p> <p>CHEM course requirements (30 hours):</p> <p>CHEM 120/121 (5) CHEM 222/223 (5) CHEM 330 (5) CHEM 314 or 340/341 (5)</p> <p>CHEM 320 or 446 (3)</p> <p>CHEM 412 or 450/451 (5) CHEM 300+ (2)</p>	<p><i>General Chemistry Major Concentration</i></p> <p>CHEM course requirements (30 hours):</p> <p>CHEM 120/121 (5) CHEM 222/223 (5) CHEM 330 (5) CHEM 314 or 340/341 (5)</p> <p>CHEM 320 or 446 (3)</p> <p>CHEM 412 or 450/451 (5) CHEM 300+ (2)</p>

<p><i>Chemistry Major with Teacher Certification Concentration</i></p> <p>Students interested in teaching chemistry must declare a second major in Science and Mathematics Education (SMED) available through the College of Education and Behavioral Sciences.</p> <p>CHEM course requirements (35 hours):</p> <p>CHEM 120/121 (5) CHEM 222/223 (5) CHEM 314 (5) CHEM 320 (3) CHEM 330 (5) CHEM 399 (2) CHEM 412 (5) CHEM 446/447 (5)</p> <p>Cognate course requirements (16 hours):</p> <p>MATH 136 (4) PHYS 231/232 (4) PHYS 332/233 (4) GEOL 111/113 (4)</p>	<p><i>Chemistry Major with Teacher Certification Concentration</i></p> <p>Students interested in teaching chemistry must declare a second major in Science and Mathematics Education (SMED) available through the College of Education and Behavioral Sciences.</p> <p>CHEM course requirements (35 hours):</p> <p>CHEM 120/121 (5) CHEM 222/223 (5) CHEM 314 (5) CHEM 320 (3) CHEM 330 (5) CHEM 399 (2) CHEM 412 (5) CHEM 446/447 (5)</p> <p>Cognate course requirements (16 hours):</p> <p>MATH 136 (4) PHYS 231/232 (4) PHYS 332/233 (4) GEOL 111/113 (4)</p>
<p><i>Chemistry Major with Teacher Certification Concentration (continued)</i></p> <p>SMED course requirements (34 hours):</p> <p>SMED 101 (1-1.5) SMED 102 (2-3) SMED 310 (3) SMED 320 (3) SMED 340 (3) SMED 360 (3) SMED 470 (3) SMED 489 (3) SPED 330 (3) SEC 490 (5-10)</p>	<p><i>Chemistry Major with Teacher Certification Concentration (continued)</i></p> <p>SMED course requirements (37 hours):</p> <p>SMED 101 (1-1.5) SMED 102 (2-3) SMED 310 (3) SMED 320 (3) SMED 340 (3) SMED 360 (3) SMED 470 (3) SMED 489 (3) SPED 330 (3) SEC 490 (5-10) LTCY 421 (3)</p>

4. **Rationale for the proposed program change:**

Background

The Department of Chemistry has undertaken a comprehensive review of its curriculum relative to a set of internally selected benchmark institutions:

Ball State University, California State University-Long Beach, Centre College, East Carolina University, East Tennessee State University, Eastern Kentucky University, Eastern Michigan University, Illinois State University, James Madison University, Middle Tennessee University, Montclair State University, University of North Carolina at Charlotte, University of North Carolina at Wilmington, Northern Arizona University, and Western Washington University

After careful consideration of many different factors, the Department proposes the following revisions that will strengthen its academic program.

ACS-Certified Major Concentration

The ACS-certified concentration exceeds the minimum of 48 credit hours required for a stand-alone major at WKU. A second major or minor is not necessary to complete the requirements for a baccalaureate degree; therefore, students that complete the ACS-certified concentration are not required to obtain a second major or minor.

The addition of CHEM 320 provides the ACS-certified concentration with a solid foundation-level experience in inorganic chemistry that will serve as a prerequisite for the required in-depth inorganic chemistry course CHEM 420. Several of our internally selected benchmark institutions also require both foundation-level and in-depth inorganic chemistry courses.

Registration preference in CHEM 330 is no longer given to rising sophomores and rising juniors, as additional lab space that will be available in the new building (Ogden College Hall) will no longer pose as much of a physical restriction on the number students we can take each term. The process for determining 'rising sophomore and rising junior' status is difficult with the number of AP/dual credit/etc. hours students have when they come to WKU. We were often preventing students in their second year at WKU from registering when they should have been because they already had junior or senior status by hours. This change will remove administrative burden from office staff in giving course overrides.

The addition of a new CHEM 436 laboratory course to accompany the CHEM 435 lecture course for the ACS-certified concentration will enhance students' exposure to in-depth topics in analytical chemistry and instrumental analysis. The current program invokes a 3-hour lecture/lab model that includes two 55-minute lecture periods and a 4.5-hour laboratory per week. The two-course model allows for expanded discussion of topics in lecture and will further capitalize on the Department's instrumental analysis facilities. The prerequisites/corequisites for CHEM 435 are revised accordingly.

The pre/corequisites for the physical chemistry course sequence CHEM 450 and 452 are modified to reflect precisely which cognate courses in MATH and PHYS are needed for the specific topics covered in each CHEM course. CHEM 450 emphasizes chemical thermodynamics and kinetics, which requires students to have mastered the mathematical and physical concepts covered in MATH 136 and PHYS 231 or 255, respectively. CHEM 452 emphasizes molecular quantum theory and statistical thermodynamics, which requires students to have mastered the mathematical and physical concepts covered in MATH 137 and PHYS 265 or 332. CHEM 320 includes some foundation-level material needed for the in-depth course CHEM 452 so CHEM 320 is added to the prerequisites for CHEM 452.

Allowing PHYS 231/232 and 332/233 to substitute for PHYS 255/256 and 265/266, respectively, enhances the ability of students to switch from the General Chemistry Major concentration to the ACS-certified concentration and still graduate in four years.

Chemistry Major with Teacher Certification Concentration

The program revision entails the addition of LTCY 421 to the Chemistry Major with Teacher Certification concentration in order to meet the new requirement for teacher certification set forth in 16 KAR 5:060, Literacy Preparation for Teachers of Middle and High School Students.

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

Fall 2017

6. Dates of prior committee approvals:

Department of Chemistry	<u>1/10/2017</u>
Ogden College Curriculum Committee	_____
Professional Education Council (if applicable)	_____
Undergraduate Curriculum Committee	_____
University Senate	_____

3. Discussion of proposed course:

3.1 Schedule type: L (Lecture)

3.2 Learning Outcomes:

- The purpose of this course is to provide students with a fundamental understanding of various past, current, and future remote-sensing technologies, how these systems operate, and how to utilize them for meteorological interpretation, analysis, and forecasting.

3.3 Content outline:

Week	Topic of Lecture
1	Introductions; Course expectations
	History & current state of atmospheric science remote sensing; Role of NWP
2	-Electromagnetic Radiation; Resolution - Kepler's Law; Polar and Geostationary platforms
3	-Absorption and emission -Planck's, Wien's, Rayleigh-Jeans, & Stefan-Boltzmann Laws; Brightness
*4	Temperatures -Synoptic-scale cloud patterns
5	-Water vapor -Snow and fog
6	-Winds -Mesoscale cloud patterns
7	-Precipitation measurement -Tropical Rainfall Measuring Mission -Global Precipitation Measurement
**8	Review Day; Satellite projection portion spot check.
Test I	
9	-History & current state of atmospheric science remote sensing -WSR-88D; TDWR; TRMM and GPM; Phased Array
10	-Passive vs. Active remote sensing; Microwave remote sensing -Radar fundamentals; Bands;
11	-cloud & precipitation droplet size, distribution, Z-R relationship -Rayleigh and Mie scattering
^12	-Reflectivity and velocity; scan strategies -Polarimetry
13	-Derived products -Mesoscale analysis and interpretation
14	-Mesoscale forecast applications
Test II	
15	Presentations
	Presentations
Class Projects Due	

3.4 Student expectations and requirements:

-Grades will consists of two exams over lecture (40%), homework exercises (15%), and a formal research consisting of a written and oral presentation (45%)

3.5 Tentative texts and course materials:

- Satellite Meteorology: An introduction by Kider and Vonder Haar ISBN-10: 0124064302
- Weather Radar Handbook by Vasquez ISBN-10: 0983253323

4. Resources:

- 4.1 Library resources: see attached library resource form and bibliography.
- 4.2 Computer resources: no new additional resources are required.

5. Budget implications:

- 5.1 Proposed method of staffing: existing faculty will teach this course.
- 5.2 Special equipment needed: existing computing infrastructure will be used.
- 5.3 Expendable materials needed: none.
- 5.4 Laboratory materials needed: none.

6. Proposed term for implementation: 201730

7. Dates of prior committee approvals:

Department of Geography and Geology
Ogden College Curriculum Committee
Undergraduate Curriculum Committee
University Senate

1/19/2017

Ogden College of Psychology 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: 434
- 1.2 Current program title: Minor in Neuroscience
- 1.3 Credit hours: 21 hours

2. Identification of the proposed program changes:

- Addition of PSYS 362 as a possible course that students can complete in place of PSYS 360
- Removal of redundant language about restriction on possible overlapping credit hours between Neuroscience minor and other majors

3. Detailed program description:

<p>Current Program: The minor in Neuroscience offers students the opportunity to study the intersection of brain and behavior in a manner that incorporates tools and perspectives from the psychological and biological sciences, and related disciplines. This minor will be an attractive option for students who are (1) planning to pursue advanced study in any of several fields related to neuroscience, including psychology, biology, medicine, counseling, or social work or (2) seeking relevant training for jobs related to the assessment, rehabilitation, and treatment of brain damage, brain diseases, and addiction.</p> <p>The minor in Neuroscience requires a minimum of 21 credit hours of coursework. This includes 6 hours of the following required courses: PSYS 360 and BIOL 335. An additional 15 credit hours in electives may be selected from the following courses: PSYS 331, PSYS 333, PSYS 363, PSYS 462, PSYS 465, BIOL 319, BIOL 327, BIOL 334, BIOL 446 / CHEM 446 or PHIL 332. Note: Students must choose at least 1 course from Biology and Psychological Sciences. Students must take PSYS 100 or PSYS 160 and BIOL 120 / BIOL 121 prior to beginning their coursework in the minor (some courses available for the minor may have additional prerequisites). Students who are majoring or minoring in</p>	<p>Proposed Program: The minor in Neuroscience offers students the opportunity to study the intersection of brain and behavior in a manner that incorporates tools and perspectives from the psychological and biological sciences, and related disciplines. This minor will be an attractive option for students who are (1) planning to pursue advanced study in any of several fields related to neuroscience, including psychology, biology, medicine, counseling, or social work or (2) seeking relevant training for jobs related to the assessment, rehabilitation, and treatment of brain damage, brain diseases, and addiction.</p> <p>The minor in Neuroscience requires a minimum of 21 credit hours of coursework. This includes 6 hours of the following required courses: PSYS 360 or PSYS 362, and BIOL 335. An additional 15 credit hours in electives may be selected from the following courses: PSYS 331, PSYS 333, PSYS 363, PSYS 462, PSYS 465, BIOL 319, BIOL 327, BIOL 334, BIOL 446 / CHEM 446 or PHIL 332. Note: Students must choose at least 1 course from Biology and Psychological Sciences. Students must take PSYS 100 or PSYS 160 and BIOL 120 / BIOL 121 prior to beginning their coursework in the minor (some courses available for the minor may have additional prerequisites). Students who are majoring or minoring in</p>
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Psychological Science or Biology may apply no more than six hours of major or minor course work in these areas to the minor in Neuroscience.	Psychological Science or Biology may apply no more than six hours of major or minor course work in these areas to the minor in Neuroscience.
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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 Department of Psychological Sciences developed PSYS 362 to give students an opportunity to be engaged with neuroscience in a lab setting. The proposed change will allow students who want to have this experience to complete the course within the neuroscience minor. Also, a statement restricting the number of credits that students can count toward this minor and the Psychological Science major or Biology major is being removed because it is redundant. Students must earn 48 unduplicated hours between their major and minor programs, so the statement that has been struck out is not needed.

5. Proposed term for implementation and special provisions (if applicable): Fall 2017

6. Dates of prior committee approvals:

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

January 20, 2017

**Ogden College of Psychology 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: 440
- 1.2 Current program title: Minor in Psychological Science
- 1.3 Credit hours: 22 hours

2. Identification of the proposed program changes:

- Addition of PSYS 362 as a possible course that students can complete in the Learning, Cognition, and Biopsychology category (B) of restricted electives.
- Minor edit of description of electives required for minor

3. Detailed program description:

<p>Current Program: The minor in Psychological Science provides graduates with a broad overview of the discipline as well as exposure to the foundations of the discipline. The Psychological Science minor focuses students on becoming more engaged and critical consumers of the science underlying psychology through courses informed by current research and practice in the scientific study of individual and collective behavior, the physical and environmental bases of behavior, and the analysis and treatment of behavioral problems. This minor might appeal to students who are in a pre-professional track (e.g., pre-med) or to students majoring in disciplines where psychological science can inform research and practice (e.g., biology, computer science, philosophy, religious studies, nursing, communication disorders, management, etc.).</p> <p>The minor requires a minimum of 22 credit hours. The following 7 hours are required: PSYS 100 or PSYS 160, 210, and 211.</p> <p>Students must select 3 hours from the following Individual Differences and Social Processes (Category A) courses: PSYS 350, , or PSYS 440. Another 3 hours must be selected from Learning, Cognition, and Biopsychology (Category B)</p>	<p>Proposed Program: The minor in Psychological Science provides graduates with a broad overview of the discipline as well as exposure to the foundations of the discipline. The Psychological Science minor focuses students on becoming more engaged and critical consumers of the science underlying psychology through courses informed by current research and practice in the scientific study of individual and collective behavior, the physical and environmental bases of behavior, and the analysis and treatment of behavioral problems. This minor might appeal to students who are in a pre-professional track (e.g., pre-med) or to students majoring in disciplines where psychological science can inform research and practice (e.g., biology, computer science, philosophy, religious studies, nursing, communication disorders, management, etc.).</p> <p>The minor requires a minimum of 22 credit hours. The following 7 hours are required: PSYS 100 or PSYS 160, 210, and 211.</p> <p>Students must select 3 hours from the following Individual Differences and Social Processes (Category A) courses: PSYS 350, or PSYS 440. Another 3 hours must be selected from Learning, Cognition, and Biopsychology (Category B)</p>
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<p>courses: PSYS 331, PSYS 333, PSYS 360, or PSYS 363. Students must select 3 hours from the following Developmental Processes (Category C) courses: PSYS 220, PSYS 321, or PSYS 423. Six additional upper-level credit hours of PSYS courses are required. These hours can include the above restricted elective courses that were not taken to meet the requirements of Categories A, B and C. These hours can include no more than 3 credit hours of PSYS 490.</p>	<p>courses: PSYS 331, PSYS 333, PSYS 360, PSYS 362, or PSYS 363. Students must select 3 hours from the following Developmental Processes (Category C) courses: PSYS 220, PSYS 321, or PSYS 423. Six additional upper-level credit hours of PSYS courses are required, which can include These hours can include the above restricted elective courses that were not taken to meet the requirements of Categories A, B and C or any other upper-level PSYS hours. These hours can include no more than 3 credit hours of PSYS 490.</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 changes are meant to clarify the requirements for the program and will add another possible course that students can take in order to satisfy the Category B restricted elective.

5. Proposed term for implementation and special provisions (if applicable): Fall 2017

6. Dates of prior committee approvals:

Department of Psychological Sciences

January 20, 2017

Ogden College Curriculum Committee

Undergraduate Curriculum Committee

University Senate

**Ogden College of Psychology 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: 37-49 hours

2. Identification of the proposed program changes:

- Addition of PSYS 362 as a possible core course that students can complete
- Addition of PSYS 362 to Applied and Clinical concentrations
- Addition of PSYS 353 to Applied, Clinical, and Social concentrations
- Removal of PSY 422 from the Developmental Science concentration
- Addition of quantitative psychology concentration

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 37 credit hours and a minor or second major is required. The second option requires a minimum of 49 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. 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 Bases of Behavior and Mental Processes, Research Methods and Statistics, and Integrative Science in Psychology. To complete the Concentration requirement, students will select</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 37 credit hours and a minor or second major is required. The second option requires a minimum of 49 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. 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 Bases of Behavior and Mental Processes, Research Methods and Statistics, and Integrative Science in Psychology. To complete the Concentration requirement, students will select</p>
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courses from one or two of the six thematic concentrations or they may design a custom concentration (subject to approval by their advisor). Students in the 37-hour option will complete 12 credit hours from one thematic concentration, or design a custom concentration by selecting 12-24 hours from courses not used to satisfy their Core requirement. Students choosing the 49-hour option will complete 21-24 credit hours from two concentrations.

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.

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 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 360, PSYS 363, PSYS 370, PSYS 433, PSYS 473, PSYS 481, PSYS 490, PSYS 499, PSY 340, PSY 355, PSY 412, PSY 470.

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, PSYS 210, PSYS 211, PSYS 313, PSYS 380 or PSYS 481 or PSYS 490

Concentration Courses

Required: PSYS 363

courses from one or two of the six thematic concentrations or they may design a custom concentration (subject to approval by their advisor). Students in the 37-hour option will complete 12 credit hours from one thematic concentration, or design a custom concentration by selecting 12-24 hours from courses not used to satisfy their Core requirement. Students choosing the 49-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 49-hour option with the quantitative psychology concentration must complete MATH 136 or MATH 142.**

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.

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**,

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

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 363, PSYS 210, PSYS 211, PSYS 313, PSYS 380 or PSYS 481 or PSYS 490.

Concentration Courses

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

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 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.

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 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

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.

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.

Developmental Science. This addresses the physical, emotional, intellectual, social,

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, PSY 422.

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

Core Courses

PSYS 100 or PSYS 160, PSYS 220 or PSYS 321, PSYS 331 or PSYS 333, PSYS 350, PSYS 360 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 433, PSYS 440, PSYS 450, PSYS 451, PSYS 453, PSYS 483, PSYS 490, PSYS 499, PSY 412.

Custom Concentration. This concentration allows students, with help from their advisor, to design an individualized theme.

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 363, PSYS 210, PSYS 211, PSYS 313, PSYS 380 or PSYS 481 or PSYS 490.

Concentration Courses

Select 12-24 hours of electives from courses not used to satisfy Core requirements.

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, ~~PSY 422~~.

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

Core Courses

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.

Concentration Courses

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.

Custom Concentration. This concentration allows students, with help from their advisor, to design an individualized theme.

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

Select 12-24 hours of electives from courses not used to satisfy Core requirements.

	<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><u>Core Courses</u> 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><u>Concentration Courses</u> 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>
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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 Department of Psychological Sciences recently created two new courses, PSYS 353 Psychology of Prejudice and PSYS 362 to Behavioral Neuroscience with Lab. The proposed revision will incorporate these two courses into the Psychological Science major. PSY 422 is being removed from the developmental concentration because a recent change in the course to make it equivalent with FACS 422 has made it possible for course credentialing to fall outside the discipline of psychology.

The proposed quantitative psychology concentration will create new opportunities for students to gain advanced statistical training in the context of their major program courses. Students who complete this concentration will select PSYS concentration course so that they can tailor their experience toward their own interests in psychological science (e.g., development, social psychology, biobehavioral psychology, etc.) and thus be able to apply their advanced statistical training to projects that they are completing while at WKU. The computer science and statistics courses that the students complete will enhance their data management and analysis skills, possibly increasing a student's competitiveness for graduate study or employability in industry.

5. **Proposed term for implementation and special provisions (if applicable):** Fall 2017

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

Department of Psychological Sciences

January 20, 2017

Ogden College Curriculum Committee

Undergraduate Curriculum Committee

University Senate
